Deanship of Graduate Studies

Al-Quds University

Investigation into the Digital Applications Utilized by EFL Instructors in Online Environments in Times of Crises at Palestinian Universities: Reality, Advantages and Challenges

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M.Sc. Thesis

Jerusalem– Palestine

1446 / 2025

Investigation into the Digital Applications Utilized by EFL Instructors in Online Environments in Times of Crises at Palestinian Universities: Reality, Advantages and Challenges

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A thesis Submitted in Partial fulfillment of the requirements for the degree of Master of English Language teaching method\Teaching method Faculty of Educational Science\ Al-Quds University

1446 / 2025

Al-Quds University

Deanship of Graduate Studies

Department of Education

Thesis Approval

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Master thesis submitted and accepted, Date 29/1/2025

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1446-2025

Dedication

I would like to dedicate my work:

To the honorable people of Gaza, to the heroes who write a history of resilience, to those who remain unbroken despite all challenges, to the souls of the martyrs, their mothers, and their families, to every child, woman, and man in steadfast Gaza.

To the soul of my beloved grandmother.

To my beloved parents, who have been my source of inspiration and gave me strength when I thought of giving up. Thank you for teaching me to believe in God, in myself, and in my dreams.

To my brothers (Alaa, Mohammed, Khalil, Ahmad, Laith) and sisters (Samah, Abrar), for their endless encouragement and love. Your support has helped me overcome every challenge along the way.

To the little angels who gave me emotional support, all the dear children of my family.

To my dear (Seham), and all my friends, who have stood by me through thick and thin. Your friendship has made this journey brighter and more meaningful.

To the hand that gave me love, granting me strength, determination, and support from a sincere heart, I am deeply grateful for your presence by my side today.

Rimah Al-Shawamrih

Declaration

I certify that this thesis submitted for the master degree is the result of my own work in design and research, except where otherwise acknowledged, and this study or any part of the thesis has not been submitted for a higher degree to any other universities or institutions.

Signed: **Remah Shawamrih**

Name: Rimah Ibraheem Khaleel Al-Shawamrih

Date: 29/1/2025

Acknowledgements

My Grateful thanks to Allah, the Almighty, for granting me knowledge and the strength to finish this work**.**

I would like to deeply thank my supervisor, Dr. Mahmoud Itmeizeh, for his valuable notes and support throughout the whole thesis preparation.

Also, I would like to thank the internal examiner Prof. Ibrahim Moh'd Arman and the external examiner Dr. Naem Salah for their remarks and comments**.**

Lots of appreciation is to my instructors: Dr. Mohsen Adas and Dr. Ibtisam Irjan for the fruitful knowledge they provided me with.

I would like to express my gratitude to the referees' committee for their remarkable

comments.

I am enormously thankful to all who answered the interviews' questions, filled in the questionnaire and helped me in conducting my thesis.

Abstract

This study aims at investigating the digital applications utilized by EFL instructors in online environments in times of crises at Palestinian universities: reality, advantages and challenges.

The researcher employed the descriptive analytical approach. A questionnaire and a semi-structured interview were used as instruments for data collection (mixed method approach). The questionnaire was distributed to (82) English language instructors in four Palestinian universities (Al-Quds University, Palestine Ahliya University, Palestine Polytechnic University and Hebron University).

The results showed that the instructors at the Palestinian universities relied heavily on "Zoom" with a usage percentage of (28.0%) followed by "Google Meet" at (23.2%), followed by "Google Classroom" (18.3%), followed by "Moodle" (15.9%) and "WhatsApp" (14.6%). The results showed that the degree of reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities was high level, additionally, the results showed that there were no statistically significant differences between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises due to the (gender, academic qualification, university, years of experience). And the results showed that the degree of the perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities was high, also the results showed that there were no statistically significant differences between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments during crises at Palestinian universities due to the (gender, academic qualification, university, years of experience). And the results showed that the degree of the perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities was high, also the results showed that there were no statistically significant differences between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the (gender, academic qualification, university, years of experience). Based on the study's main findings, the researcher provided several recommendations including promoting the use of digital applications for teaching English and assessing students, as well as training novice English instructors on how to use digital applications effectively.

Keywords: Digital applications, online environment, synchronous learning, asynchronous learning.

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Chapter One:

Introduction:

1.1.Background:

Since the beginning of the third millennium, the use of technology in education has become a central topic in many studies and research. This field has seen significant developments, especially with the emergence of major crises that can radically affect the education system. Among the most prominent of these crises in recent years are the war on Gaza in October 2023 and the COVID-19 pandemic that swept the world in 2020. Both events have had a profound impact on various aspects of Palestinian life, with the education sector being significantly affected. It witnessed a radical change in the way lessons were delivered and in the shift to distance learning.

Palestinian students faced many struggles and a significant challenge in accessing to health safety and safe education. While Palestinian universities were operating traditionally, relying on face-to-face teaching methods, the difficult political and social conditions in the West Bank forced a radical change in the form of education. It became impossible for professors and students to commute to universities due to military checkpoints, closures, and movement restrictions caused by the security situation. (UNICEF report.2024)

With the ongoing war in Gaza, Palestinian universities were under significant pressure to transition education to a safe and sustainable digital environment. As a result, most Palestinian universities made a swift decision to switch to electronic education using digital platforms and technological applications to ensure the continuity of education despite the crises.

Considering these circumstances, it became essential for Palestinian universities to adapt to the new reality imposed by the war and the COVID-19 pandemic. The shift to digital education was the ideal solution to continue the educational process during these challenging times. Universities were forced to adopt electronic platforms and educational applications to deliver content in a digital format.

However, this transition was not easy. Instructors faced significant challenges in using these new applications and software. One of the main challenges was the lack of adequate training for instructors on how to use digital applications for teaching, as well as the weakness of some technological infrastructures in certain Palestinian areas. Additionally, some students did not have the necessary devices or good internet connections, which affected their ability to engage with the educational content (Al-Bakry. G, et all.,2020).

Nevertheless, the benefits of the shift to online environment were not limited to solving mobility issues. It also had a positive impact on increasing the flexibility of education and expanding access to it. Students were able to attend their classes at anytime and anywhere, which allowed them to continue their education despite the crises.

On the other hand, English language instructors at Palestinian universities had to deal with additional challenges. The circumstances forced them to use teaching tools and techniques they were not adequately prepared for. The use of digital applications in teaching English was not widely known or practiced among them, which required providing technical and training support. (Elhawa .H, et all.,2024).

In this context, the role of English language instructors in adopting these digital applications is crucial. Digital applications have helped improve the learning experience for students, whether through the variety of educational content or through interaction between students and instructors in online environment. as online learning offers many services to both students and faculty, such as sharing educational files and videos, desktop sharing, and simultaneous chat (Sultana et al., 2020). However, at the same time, these applications have raised numerous challenges, ranging from technological issues, such as poor internet connectivity or instructors limited skills in using these tools, to psychological challenges faced by students due to the sudden change in the learning environment.

In this complex context where war and the COVID-19 pandemic intersect, several challenges arise for English language instructors in utilizing digital applications for online environment. Because of the lockdown that accompanied the onset of the pandemic, educational materials in many universities were delivered through virtual classrooms, which is the most popular online learning field (Chowdhury, 2020). Despite these challenges, there are also numerous benefits that can positively impact the educational process, such as improving communication between students and instructors, increasing access to educational resources, and familiarizing students with the electronic learning environment. This is because it is online learning environment, that is easily accessible via the Internet at a reasonable price, and this environment is flexible (Alhawiti ., 2017).

1.2. Statement of the Problem

English as a Foreign Language (EFL) instruction in Palestinian institutions has been greatly impacted by the quick transition to online learning during emergencies like the COVID-19 pandemic despite the promise for digital applications to improve teaching and learning, little is known about how useful these technologies are in emergency situations. It is urgently necessary to look into the digital applications that EFL instructors are using, how they are incorporating them into their lesson plans, and what advantages and challenges they see in online learning settings.

To developing methods to maximize the use of digital resources, improve educational results, and get ready for future changes in the educational landscape requires an understanding of these elements (Hodges et al., 2020; Kearns, 2021).

The teaching methods of English as a Foreign Language (EFL) instructors in Palestinian universities have been profoundly impacted by the quick transition to online learning environments, which has been hastened by recent worldwide crises (Al-Fuqaha &

Khraisha, 2020). Even while digital tools and software are becoming a necessary component of contemporary education, it is still unknown how much EFL instructors are using them, especially in emergency situations. Specifically, there is still a lack of thorough research on the advantages and challenges these instructors have when incorporating digital applications into their lesson plans (Garrison & Anderson, 2003).

The Palestinian colleges have struggled to properly utilize digital learning tools due to infrastructure issues, insufficient resources, and sociopolitical instability (Rafiq & Al-Debei, 2019). Despite the fact that many instructors have had to swiftly adjust to online teaching platforms, not enough research has been done on the usefulness and engagement of these resources in EFL instruction during emergencies (Murphy, 2020). By examining the particular digital tools used by EFL instructors, evaluating their influence on instructional strategies, and recognizing the benefits and drawbacks of their use, this study aims to close this gap (Richards, 2015; Tien, 2018).

To improve education quality, ensure learning continuity, and solve the particular obstacles presented by such circumstances, it is essential to comprehend how digital technologies are used in EFL instruction at Palestinian institutions during times of crisis (Korkmaz & Sözbilir, 2020). In order to shed light on the tactics, advantages, and obstacles that impact teaching and learning outcomes in these exceptional situations, this study intends to explore the reality of digital application use by EFL instructors in online teaching environments during crises (Phillips, 2015).

1.3. Objectives of the study

This study aimed to achieve the following objectives:

1. Investigating the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities.
2. To identify the differences in the perceptions of English instructors about the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience).
3. Investigating the perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities.
4. Identifying the differences in the perceptions of English instructors about the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience).
5. Investigating the perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities.
6. Identifying the differences in the perceptions of English instructors about the challenges of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience).

1.4. Questions of the Study

In accordance with the objectives of the study, it addresses the following questions:

The first question: What is the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities?

The second question: Are the perceptions of English instructors about the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?
The third question: What are the perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities?
The fourth question: Are the perceptions of English instructors about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?
The fifth question: What are the perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities?
The sixth question: Are the perceptions of English instructors about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?

1.5.Hypotheses of the Study

The researcher has converted the second, fourth and sixth questions into the following null hypotheses:
The first null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the gender variable.
The second null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the academic qualification variable.
The third null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the academic university variable.
The fourth null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the years of experience variable.
The fifth null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the gender variable.
The sixth null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the academic qualification variable.
The seventh null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the academic university variable.

The eighth null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the years of experience variable.
The ninth null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the gender variable.
The tenth null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the academic qualification variable.
The eleventh null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the academic university variable.
The twelfth null hypotheses: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities due to the years of experience variable.

1.6. Significance of the Study:

The significance of the study stems from exploring the reality of the use of digital applications, their advantages and the challenges faced by English language instructors in Palestinian universities in times of crises. It is also expected to help English language instructors employ various teaching methods while using digital applications in their lectures, whether they are presented electronically or not. It will also make EFL instructors more aware of the reality, challenges and Advantages of using digital applications effectively. The results of this study can provide EFL instructors with useful tools to maximize the use of digital apps, therefore empowering them. In resource-constrained environments, such as Palestinian universities during times of war, where instructors may encounter several obstacles in providing high-quality instruction, this empowerment is especially important. Finally, the data that is hoped to be collected in this study, may be useful for educators in general and EFL instructors in particular in addition to Palestinian universities and researchers who are interested in knowing the feasibility of the use of technology in education during crisis time.
The results of this study may assist the relevant authorities in restructuring and redesigning online courses in the event of an emergency or crisis. In addition, this may ensure an in-depth understanding of the actual use of these digital applications in English language teaching and learning that can improve the quality of EFL teaching in Palestine. The research conclusions are supposed to have a significant impact on language program coordinators, instructors who teach in similar emergency scenarios, online language course designers, and second language learners who seek to identify the best conditions for teaching and learning.
It will also serve to document important experts' perspectives on the utilization of digital apps in English language teaching and learning. Recommendations and results of this study may encourage many researchers to conduct further studies on other aspects and domains regarding the use of technology in teaching and learning. Moreover, this study may serve curriculum designers in designing curricula that aim at improving the ways of

using digital applications and developing them and knowing the features that distinguish them from other applications.
However, the need for in-depth studies remains to explore the current reality of using these applications, investigate the obstacles instructors may face in using these tools, and how to overcome them. This highlights the importance of this study, which aims to gain a deeper understanding of the appropriate and successful use of digital applications in online environments under similar circumstances, and to investigate the reality, benefits, and challenges related to the use of digital applications by English language instructors in Palestinian universities.

1.7.Limitations of the Study

The limitations of the present study are shown below:

1. Human limitation: The sample was selected from English language instructors in four Palestinian universities.
2. Locative limitation: This study addressed only the Palestinian universities located to the south of the West Bank.
3. Temporal limitation: The researcher conducted this study during the first semester of the academic year (2024-2025).
4. Conceptual limitation: The study focused on the reality of using digital technologies, their benefits and challenges in times of crisis**.**

1.8.Definitions of terms

The study contains the following keywords (digital applications, online environment, synchronizes learning, a synchronizes learning), so all of thesis's keywords will be defined operationally and conceptually in the following:

Digital applications

The conceptual definition: Esmond (2013, p. 13) defined the digital application as "a computer program designed to run on smartphones, tablet computers, and other mobile devices. It is a new term in the world of technology, and it specifically describes those programs provided by web developers".
The operational definition: They are any technology-driven tools, apps or platforms that are employed by EFL instructors at Palestinian universities to enhance the learning process, improve student engagement, and provide efficient methods for managing and delivering educational content in online environments during crises using both synchronous and asynchronous modes.

Online Environment

The conceptual definition: The online environment is "Designing activities which foster students' abilities to search for, analyze, interpret, critique and summarize information helps them to develop important graduate attributes."(Benson & Brack, 2010).
The operational definition : The definition describes digital applications and platforms that Palestinian EFL instructors use via local networks or the internet to engage in tasks such as communication, teamwork, and information retrieval for teaching and learning. These online environments can include websites, social media, online forums, virtual classrooms, video conferencing tools, and other internet-based applications, enabling remote work without physical presence.

Synchronous Learning

The conceptual definition: It happens when "students learn at the same time by attending a face-to-face class. Asynchronous communication allows equal participation, especially for people who are reluctant to interact with face-to-face communication." (Harasim, 1996).

The operational definition: It's an educational approach in which instructors and students engage in learning activities at the same time, but not necessarily in the same physical space. It involves real-time interaction, where participants are actively involved in discussions, lectures, or collaborative tasks simultaneously.

Asynchronous learning

The conceptual definition: It is the concept of students learning and interacting with the instructor or among other students at different places and times. (Tarmuchi, Mohamed & Ismail, 2015).

The operational definition: It is an educational approach in which students engage with learning materials, complete assignments, and participate in activities at their own pace, without real-time interaction with instructors or peers. This mode of learning allows flexibility in terms of time and location, as students are not required to be present at the same time as others.

Chapter Two:

Theoretical Framework and Related Studies:

2.1. Introduction:

This chapter is organized into two main sections: the theoretical framework and previous studies. It begins by exploring the concept of digital applications and their role in teaching English as a Foreign Language (EFL). The chapter then delves into various factors that may influence the use of digital applications in EFL instruction, followed by an examination of specific examples of digital applications commonly used in educational settings. It also discusses the integration of digital applications in online environments, particularly during crises, highlighting the realities, advantages, and challenges of their use. By covering these areas, the chapter provides a comprehensive understanding of how digital applications are shaping EFL teaching and learning in contemporary educational contexts.

2.2. Digital applications

Digital technologies, including specific applications, have become an integral part of daily life and have changed the way we interact with the world, especially in terms of reading and writing.

2.3. Definition

The term "digitalization" is a concept with vast potential and diverse interpretations. In the book Practical Knowledge Digital Transformation by Wallmüller (2017), digitalization is depicted as the process of capturing, editing/using, and saving analogue information on digital data storage devices, a transformation that holds promise for the future. Digital

transformation, on the other hand, is seen as the application of digital technologies, a tool for progress.

The International Energy Agency (IEA) states that digitalization describes the growing application of ICT and can be seen as the convergence between the digital and the physical worlds (Weigel & Fischedick, 2019). Digital applications' definitions vary depending on users and how they are used. For example, digital applications in engineering can be considered "computer programs, procedures, and possibly associated documentation and data about the operation of a computer system, all or part of the programs, procedures, rules, and associated documentation of an information processing system program or set of programs used to run a computer" (Rehmann et al., 2022).

On the other hand, Al-Fadil (2016, p. 42) defined a digital application as "a computer application or program that can be accessed and used through a web browser, or via a network such as the Internet or an intranet. Web applications are programmed using descriptive programming languages supported by most modern web browsers, such as HTML, JavaScript, Java, AJAX."

According to the viewpoint that looks at digital applications for education, digital learning is the ability to use technology effectively to find and evaluate information, connect and collaborate with others, produce and share original content, and use the Internet and technology tools to achieve many academic and professional goals (Dardjito, 2021).

While Hori et al. (2024) defines digital applications through mobile devices as the use of mobile technology to acquire knowledge or skills, anytime, anywhere. However, Dancsa et al. (2023) defined online digital applications as software, tools, technologies, plug-ins, add-ons, or websites that are accessible via an internet connection and enhance learners' ability to conduct a thorough literature review and master the knowledge they need to learn. Online digital tools help learners learn more effectively, become more aware of language errors, and collaborate with their peers.

The term is also related to other terms like:

1. The Digital pedagogy: which was defined as the approach and practice of teaching that incorporates technology (Zhang & Yu, 2021).
2. The Digital technology: They are tools, services, and applications that electronically create, store, process, transmit, and display information. Examples include personal computers, mobile phones, robots, and virtual learning environments (Tulinayo, 2018)
3. The Emergency Remote Teaching: The temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances, using remote solutions until the crisis ends and instruction can return to its original format (Bishop, 2021).

2.3.1 Using digital applications in teaching English as a foreign language

In recent decades, digital technology has rapidly evolved and become an integral part in the education process. These technologies, including tablets, educational apps, e-books, learning management software, and augmented reality and virtual reality technologies (Herawan et al.,2023), have been applied in education to not only improve the quality of learning but also to create a more interactive and engaging learning experience for students.

While mobiles and tablets are among the most popular digital technology devices in the education environment, their use also presents some challenges. For instance, students may get distracted by non-educational content or face issues with internet connectivity.

However, these devices also offer significant benefits. Students use their tablets to access digital learning materials, such as e-textbooks, video tutorials, and interactive learning applications (Isrokatun et al., 2022). Thus, they can conduct online research, complete assignments, and collaborate with classmates on group projects. The device features a touchscreen, making it quite easy to use, even for children.

Educational apps, a diverse range of software, are a fascinating addition to the teaching-learning process. They are designed not only for learning basic skills, such as math's and reading, but also for more complex topics, such as coding and science (Nisfah & Nurroh, 2020). This versatility makes them a valuable tool for educators and students alike, offering a dynamic and engaging learning experience.

Li (2018) proposed five principles which must be noticed when instructors consider integrating technology in ESP which also relevant to be applied for English subject in general such as:

1. Perceiving the significances and the role of technology in achieving the pedagogical goals.
2. Connecting technology to fulfill language learners' needs.
3. Integrating technology as tools to achieve pedagogical goals rather than adding it into the existing instructions.
4. Deliberating the role of teacher.
5. Facilitating authentic language exposure and real-life tasks.

Also, Demir & Akpinar (2008) points out the design of mobile learning as following:

1. Creating quick and simple interactions.
2. Preparing flexible materials that can change according to the needs of learners.
3. Designing access of device and interaction by considering the different devices and standards.
4. Contributing to the learning experience using the characteristics and constraints of mobile devices.
5. Using mobile technologies as a learning facilitator not a tool for only distributes learning contents.
6. Designing materials with a learner-centered approach.

2.3.2 Digital Tools Requirements

Utilizing digital applications in learning requires that learners have equal access to digital tools as follows: (Dancsa et al., 2023; Haleem et al. 2022)

1. Learning management systems: They are tools that support the management of educational courses. They are also known as virtual learning environments. Most notably, they are known as the primary tools for distance learning. They can also be used as a teaching tool to supplement traditional face-to-face teaching.
2. Video conferencing tools: They bridge the geographical gap, allowing participants to connect and communicate via the Internet. These tools not only record and transmit audio and video but also foster a sense of connection and engagement among the participants.
3. Digital exam assessment tools: They provide a convenient way to create and assess digital exams. These tools, which can take the form of multiple-choice tests or problem-solving games and simulations, offer a comfortable and user-friendly experience for both educators and learners.

4. Data exchange and cloud systems: They ensure the secure exchange of all types of data. The beauty of these systems lies in their accessibility, which is not stored locally on a hard drive but in logical pools in the cloud. This distributed storage allows data to be accessed, modified, or deleted from anywhere, at any time, by anyone with the appropriate end devices, promoting flexibility and convenience.
5. Document collaboration tools: They allow several people to work on the same or different documents at the same time. The goal is to produce a final version of a document or file together. This makes it easier to involve all the people involved in the project or work and shortens decision-making time, as everyone is usually present.
6. Game-based learning tools: They harness the popularity of video games to make learning interactive and motivating for 21st-century learners. Learning content is combined with game elements to achieve a didactic effect.
7. The digital library and database tools: They store electronic media centrally on a data server. The stored resources are accessible at any time via the Internet or, in special cases, via the organization's intranet. These databases may include e-books, digitized books, electronic journals, audio files and films.
8. Virtual and remote laboratory tools: They allow experiments to be carried out remotely. Virtual laboratories translate real-world experiments into the virtual world. In this virtual world, experiments can be carried out, and a computer simulation calculates the results.
9. Digital whiteboard devices: They allow users to transfer the familiar whiteboard used in class into the digital world. On the one hand, a distinction needs to be made between the devices used, e.g., video conferencing software and the physical digital whiteboard/chalkboard used in the classroom.
10. Digital notebooks: They are used by instructors to record activities in class and to store assignments and their grades. In the digital notebook, users can view their timetable.

2.3.3 Guidelines and principles for using digital applications:

Mobile devices, such as smartphones and tablets, which are used by digital applications, facilitate better communication between faculty and students. This improved communication fosters a sense of community, as access to course material using mobile devices is more readily available, and the ability of students to directly communicate with faculty is not restricted to office hours or a designated location on campus. In addition, it increases the effectiveness of ‘student to student’, student to staff’, staff to student’ and ‘university to student’ communication (Nevarez & McGovern, 2018)

Furthermore, the influence of peers and friends embracing the use of digital applications and the integration of examples of e-learning into the coursework, such as using mobile devices for research or collaborative projects, increase students’ ability and confidence (Yeap et al., 2016)

In addition to exploring strategies for integrating digital technology into language learning, it is essential to consider the various influencing factors, such as the belief that technology can enhance language acquisition, acceptance of technology, and its integration. The process of incorporating digital tools into language teaching and learning is complex and challenging. Consequently, both pre-service and in-service instructors must possess a comprehensive understanding of fundamental technological skills, pedagogical principles, and content knowledge. Furthermore, they should maintain a

positive attitude and belief in the potential of digital devices or applications to enrich their pre-, during-, and post-instructional activities. (Voogt et al., 2015).

Incorporating digital technology into language teaching requires several essential aspects to be considered. These include instructors' beliefs, their acceptance of digital technology, and their knowledge and ability to integrate technological elements into their subject matter without neglecting the pedagogical aspects (Sari, 2021).

2.3.4 Digital applications utilized in English Language teaching and learning

As Palestine Ahliya University uses paid Zoom for its virtual classes and paid Moodle for its e-classes to upload the material and course resources, Hebron University uses the free Google Classroom to upload the content of the courses and to assess the students' performance and it uses Google Meet for virtual meetings, Palestine Polytechnic University uses free Google Meet for its e-Classes and Google Forms to design tests to assess its students' performance, while Al-Quds University uses Zoom and Moodle as an E-Class. Considering this fact, the researcher believes that these different applications used by different universities should either negatively or positively influence EFL instructors' use of these digital applications, here is an explanation of some digital applications:

1. Google Classroom

Google Classroom (GC), as one of the learning management systems (LMS's), was developed by several members of Google's G Suite for Education Program and launched in 2014 to help educational institutions to go paperless system. In 2018, Al-Maroof and Al-Emran (2018), adopting the Technology Acceptance Model (TAM), reported that the two features (usefulness and ease) significantly affect the chosen sample of undergraduates' intention as (GC) works as a facilitator to develop their learning activities.

As a result, (GC) can be a potential tool for teaching and learning and receives positive satisfaction in access, communication and interaction, providing that both instructors and students understand how to use it (Megawati & Astutik, 2018).

2. WhatsApp

Another digital tool that people become more accustomed to using is a mobile messenger application. WhatsApp Messenger is the most popular messaging application, with 1.5 billion users in 180 countries (Iqbal, 2020).

There are also some collaborative features, such as multimedia, group chat, and cross-platform engagement. Despite the wider use of WhatsApp, the expansion of its use as a learning tool is commonly known, and the evidence shows its effectiveness. WhatsApp for teaching has helped to mediate teacher reflection in classroom practice, improving critique writing skills and writing skills in general, pursuing learning activities in a blended learning integration, and supporting learning outside language classrooms (Barhoumi, 2020).

Additionally, this mobile messenger application has supported teacher candidates in higher education in achieving course goals, increasing motivation to write, and improving vocabulary and English communication skills (Hamad, 2017).

3. ZOOM

ZOOM, as a widely recognized application supporting online learning, has become a popular tool for instructors to interact directly with their students. In the education field, ZOOM is often used for presentations or speaking activities, allowing instructors and students to engage in discussions without being physically present in a classroom. This platform facilitates virtual meetings effectively. However, online learning introduces new challenges for both instructors and students. Instructors face the difficulty of making lessons engaging, while students struggle to adapt to the new teaching methods. To enhance the learning experience, it is essential for instructors to become proficient in utilizing all ZOOM features, ensuring that online lessons are as dynamic and interactive as traditional classroom settings (Nuraziza et al., 2021).

The features of Zoom provide English instructors with opportunities to explore and assess the four language skills through dynamic interactions with medical students. Beyond screen sharing, Zoom encourages instructors to annotate shared screens, enhancing lesson interactivity. Instructors can record their sessions either to the Cloud or locally, and, if permitted, medical students can also control the recording, turning it on and off as needed during the lesson. Recorded lessons serve as valuable tools for both assessment and reflection; instructors can review recordings to evaluate students' strengths and areas for improvement, while learners can use them for self-assessment. Additionally, medical students can track their progress over time by watching recordings sequentially. To further refine teaching strategies and evaluate student development, English instructors can share recorded lessons with trusted colleagues for constructive feedback (Guzacheva, 2020).

4. Model

Moodle (Modular Object-Oriented Dynamic Learning Environment) is a widely used open-source software that is highly versatile and easily scalable to meet various needs, ranging from single-course applications to accommodating the demands of large universities. It enables the effective implementation of modern distance education technologies through its advanced tools for interactive dialogue and communication between students and instructors. Additionally, Moodle supports knowledge assessment at various stages of the distance learning process and offers complete localization through language packs (Samigulina & Shayakhmetova, 2015).

Moodle typically fulfills functions referred to as E-Administration: Facilitating teacher authentication for courses and student registration. E-Content Management and Delivery: This allows the upload, organization, and distribution of learning materials and will enable students to download and store them. E-Learning: Promoting interaction, collaboration, and communication among tutors, students, and learning content. E-Assessment: Providing tools for assessing, grading, and reporting student performance (Koneru, 2017).

Microsoft Teams

Microsoft Teams refers to a digital cloud app hub that puts together discussions, meetings, files, and applications in a single LMS (Learning Management System). The functional domains required in using Microsoft Teams could be grouped into affective, cognitive, and psychomotor. The Microsoft Teams platform is used for acquisition of knowledge and, the final domain, psychomotor, covers instructors and students' motor skills as well as their ability to coordinate them for efficient Microsoft Teams' engagement. The nature of

appraisal and engagement with these functional aspects of the Microsoft Teams platform could significantly inhibit or enhance remote learning (Olugbade & Olurinola, 2021).

2.4. Reality of using digital applications:

In Palestine, especially in the educational sector, the usage of digital applications has grown significantly, especially during times of crisis like the COVID-19 pandemic. However, the actual use of digital applications in Palestine is complicated and impacted by a number of technological, sociopolitical, and infrastructure variables. Like many other institutions in the region, Palestinian universities have become more and more dependent on digital applications to support education. However, issues like poor internet access, power outages, and political unrest frequently make these applications less effective (Rafiq & Al-Debei, 2019). Notwithstanding these difficulties, digital applications are now essential for communication and distant learning, particularly during lockdowns and other restrictions (Al-Fuqaha & Khraisha, 2020). Also, all higher education institutions in the West Bank encompassing over 138,800 students shifted to remote learning starting October 9, 2023 (Hammad, 2024).

Within this framework, it is important to highlight that mobile applications promote the development of digital competencies by combining literacy practice with technology. These digital programs allow content and activities to be tailored to students' individual needs. By providing immediate feedback and interactive activities, a personalized approach tailored to each student's pace and level is offered, thereby increasing motivation and commitment to literacy (Zhyhadlo, 2022).

In times of instability many Palestinian instructors and students have resorted to online learning environments like Zoom, Google Classroom, and Moodle. However, the availability of dependable internet services—which can be irregular in some areas of the West Bank and Gaza Strip—is crucial to the effectiveness of these platforms (Murphy, 2020). Furthermore, particularly in rural and marginalized regions, the infrastructure—such as reliable internet connections—necessary to adequately support digital education is frequently inadequate (Korkmaz & Sözbilir, 2020). These elements produce an unequal digital learning environment in which some instructors and students have easy access to digital tools while others encounter major obstacles.

Mobile applications offer a wide range of resources and educational materials to promote literacy, including digital books, dictionaries, vocabulary activities, and grammar exercises. These aim to broaden access to educational material in different formats and enrich students' learning experiences (Yu et al., 2023).

While there have been many prospects for progress as a result of the incorporation of digital applications into Palestinian education, the full potential of these technologies in the Palestinian context requires addressing issues with access, digital literacy, and infrastructure. These applications can provide visual, auditory, and tactile support that facilitate the learning and practice of reading and writing skills, offering a more inclusive and personalized environment (Vander & Power, 2021).

2.4.1. Using digital applications in Online Environments during Crises

With the rapid shift to Emergency Remote Teaching (ERT) during COVID-19, instructor digital competency, digital applications and an online environment became a necessity for everyone.

In response to unprecedented challenges, universities quickly expanded digital services and transitioned teaching, learning, and support into online formats (Webb et al., 2021). The rapid and extensive response to the situation put considerable pressure on the teaching and digital skills of educators across all education sectors. Although some universities were more prepared than others, the unexpected shift to digital education led to teaching strategies and methods that were implemented precisely when needed or as a rapid, on-the-spot response to the sudden shift to digital education. These methods utilized and enhanced skills through local support systems such as peer learning and mentorship as well as collaborative initiatives and resource sharing within the broader higher education community (Crawford et al., 2020).

Despite the challenges, the education system managed to maintain continuity, which is a testament to its resilience. However, this period also brought to light the disparities in access to digital technologies and varying levels of digital competence among both instructors and students (Webb et al., 2021).

Digital applications need an online environment to work. The potential of online learning to make learning and teaching more accessible and convenient is unprecedented and breathtaking. While the current situation may not resemble a well-planned everyday teaching process in the classroom or online teaching as usual, the future of online learning holds promise (Amin & Sundari, 2020).

Even while online learning was first introduced as a last resort, it also offers a huge chance to change how education is delivered in the future. Online learning became an essential resource for maintaining educational continuity during emergencies like the COVID-19 epidemic. But this change also gave educators, professionals, legislators, and students a chance to consider and shape the long-term course of educational practices. A turning point in education was reached when traditional teaching techniques gave way to digital platforms, which sparked conversations regarding the use of technology in education. Consequently, the idea of emergency remote teaching (ERT) was born. According to Hodges et al. (2020), ERT is a brief change in the way education is delivered when urgent, crisis-related situations force instructors to switch to alternate teaching strategies. Although online learning is frequently included into long-term plans, ERT emphasizes the urgent nature of this change, stressing its short-term and flexible nature, which is intended to meet urgent demands rather than long-term planning. This distinction lays the foundation for future conversations on the use of technology into education while also highlighting the special potential and problems that come with using digital platforms in a crisis. (Shakya et al., 2020).

2.5. Advantages

With the rapid development of digital applications, instructors can implement teaching and advancement based on the use of computers or digital applications. This approach has the potential to significantly improve students' understanding and attract their interest in learning. The level of use of digitalization practices among students can be influenced and encouraged by this academic growth (Aziah & Taufik, 2016).

The effectiveness of digital learning implementation is shown when the student is willing to give full attention and follow the learning actively. Digital learning methods that use interactive media, such as simulations, virtual reality, and gamified learning platforms, are characterized as methods that suit the needs of 21st-century teaching and learning (Becker et al., 2017).

The application of online-based learning with digital technology provides opportunities for students to generate interest and increase student competence to communicate, entertain, and learn the latest news and obtain a lot of broad information that encourages different perspectives of knowledge (Jobirovich, 2021).

On the other hand, Ostrovska, et al. (2023) determined that positive consequences of using digital technologies in education include: enthusiasm in learning, keen observation of the lesson and expansion of educational opportunities through updating the educational content with accessible educational materials, quick obtaining and updating of information.

Besides, digital technologies facilitate the development of online libraries and e-books. They create a space with open educational content for shared use, which significantly saves instructors' time when creating and updating educational material (Haleem et al., 2022).

On another hand, a study conducted on school students. It was found that this digital application can easily access various learning resources, realize personalized learning, and provide real-time feedback to comprehensively improve primary school students' reading, writing and information comprehension skills. Moreover, digital technology provides wide access to various learning resources, such as e-books, educational videos, and interactive applications that can be customized to the individual needs of students. These technologies not only enrich teaching materials but also make teaching methods more interesting and interactive. (Hardiansyah. et al., 2024)

In general, Technology plays a pivotal role in the learning process by enabling quick and real-time feedback and assessment. Classroom management applications and online learning platforms empower educators to provide immediate feedback, analyze student performance, and tailor teaching methods to individual needs (Mliless & Boulaid, 2023).

Digital application also advances in learning analytics provide educators with a strong support system, allowing for more careful monitoring of student progress. This support helps to identify areas that require more attention and provides the right support at the right time. By offering sophisticated assessment tools, technology ensures that the learning process is not just about acquiring information but also about understanding, applying, and evaluating it (Omboto et al., 2022).

Moreover, Instructors can also find learning tools and resources and innovative educational applications to provide students with richer and more engaging learning experiences in the context of inclusive education. Mobile technology has opened opportunities for students with special needs. Applications and mobile devices can be customized to support learning for people with learning disabilities or physical difficulties. By using mobile technology, education becomes more personalized and accessible to all individuals regardless of boundaries (Kuyini et al., 2020).

Finally, from study conducted by Rahayuni et al. (2023) found that the positive effects of digital applications and mobile technologies on learning are as follows:

First, mobile technology has broken down geographical and physical barriers to accessing learning. The ability to access learning materials and educational resources via mobile devices has opened the door to distance learning and self-study. Students can now study anywhere, anytime, increasing the flexibility of the learning process.

Second, mobile technology enables the use of interactive and engaging learning applications and platforms. Many educational apps available online offer innovative learning methods such as educational videos, educational games and interactive quizzes.

Third, this helps increase student engagement and interest in the learning process, which has a positive impact on their motivation and academic performance. In addition, mobile technology enables more effective collaboration and communication between students, instructors and parents.

Fourth, communication apps and online learning platforms can help instructors provide real-time feedback, strengthen teacher-student relationships, and facilitate parental involvement in their children's academic development. However, this summary also highlights some of the challenges and concerns that need to be addressed when learning to use mobile technology.

2.6. Challenges

There were many challenges pointed out that issues such as unequal access to technology, the potential for distracting concentration due to distracting devices, and the importance of student data security and privacy need to be carefully considered. (Rahayuni et al., 2023)

On the other hand, Meyer (2020) noted that although this approach was initially perceived as a creative means of education, it has been criticized as "impractical and elitist".

During this period, existing inequalities associated with various socioeconomic factors (Income inequality, Access to education, Digital divide and Living conditions) became more pronounced due to: (Outhwaite, 2020)

1. A lack of adequate facilities and infrastructure, including reliable internet access and educational technologies.
2. Insufficient physical environments for families in disadvantaged situations, particularly those lacking the essential skills to support home-based learning.

To mitigate potential adverse effects, educational institutions should draw upon their prior experiences with online learning, viewing it as distinct from a mere information delivery model (Teräs et al., 2020).

2.6.1. Infrastructure Challenges

In many developing countries, the adoption of e-learning in higher education faces significant challenges. These challenges are often rooted in inadequate infrastructure, both in terms of Information and Communication Technology (ICT) and educational resources. For instance, a lack of robust ICT infrastructure and insufficient management and training have been identified as key barriers to the successful integration of e-learning (Elzoghbi & Khashkhush, 2013). Moreover, the absence of comprehensive strategies and policies for e-learning makes it difficult for institutions to effectively implement these systems. In addition to these structural issues, limited resources, outdated technologies, and a shortage of technical expertise further hinder the successful deployment of e-learning systems in many educational institutions (Ramadan et al., 2019). These barriers often result in unsuccessful e-learning initiatives due to poor planning, resistance to change, and high costs of delivery.

Furthermore, the challenges are not only external but also internal. Factors like low ICT literacy among educators, a lack of motivation and awareness, and insufficient technical support play a significant role in the failure of e-learning adoption (Al-Azawei et al., 2016). Rural areas, in particular, face even more pronounced issues, including unreliable internet services, inadequate training, and the absence of necessary hardware and software (Idris & Osman, 2017). These obstacles must be addressed to ensure that e-learning can be successfully integrated into higher education systems in developing countries, enabling students and institutions to benefit from modern educational technologies.

2.6.2. Technical Challenges

The lack of technical expertise presents a significant barrier to the effective implementation and efficiency of e-learning systems. Therefore, policymakers and e-learning advocates must prioritize addressing and mitigating technical challenges. For instance, students encounter issues with Learning Management Systems such as computer shortages and limited internet access, which, if unresolved, can adversely impact their engagement with online resources. Moreover, shortages of technical staff reduce the efficiency of technical support, facility maintenance, and daily operations.

According to Hadullo (2018), technical staff often lack adequate training and support from institutional management, which compromises the quality of services they can provide to students using e-learning systems. This limited support prevents them from fully maintaining systems or offering sufficient assistance to students.

Komani. (2021) further highlighted insufficient support at both organizational and service provider levels, citing issues such as limited customizability and software incompatibility. These shortcomings hinder faculties from tailoring e-learning systems to meet their specific technological needs, reducing their adaptability and overall effectiveness.

2.6.3. Digital literacy

The term digital literacy itself became popular around 2005. Digital literacy is defined as the ability to relate to hyper-textual information in the sense of disorganized computer-aided reading. The term digital literacy was used in the 1980s when computing technology began to be used to support everyday life. Furthermore, digital literacy is the ability to be creative, collaborate, communicate more effectively, and understand how and when digital technology is good to use to support the process. Students who have this ability tend to be open and able to adapt quickly to change (Rini et al., 2022).

Digital literacy challenges like a Lack of proficiency in the use of learning management system (LMS) applications for specific purposes; a lack of proficiency in the use of specific communicative interface options, and lack of proficiency in the use of digital applications for collaboration, and a lack of proficiency in the use of mobile versions of e-learning platforms, tools and services, used in FLE workflow. On the other hand, the effectiveness of using digital literacy the study results indicate that raising students' digital literacy has a positive impact on their academic achievement in language acquisition as well as their capacity to navigate digital settings. (Makhachashvili & Semenist, 2021).

2.7. Related Studies

2.7.1. Previous Arabian studies:

All studies emphasize the different method of digital applications uses in online learning and studied the impact of digital learning on education. Also, all studies explain the advantages and disadvantages of using digital applications on online leaning outcome.

2.7.1.1. The Impact of Digital Applications on Learning Outcomes

The use of digital applications in education, especially during the COVID-19 pandemic, has been widely studied across various contexts. In a study conducted by Alazwari (2024) at Umm Al-Qura University in Saudi Arabia, the impact of smartphone apps as an educational tool was explored. The study focused on how the ease of use and usefulness of these apps influenced students' learning goals and outcomes. Using a mixed-methods approach, the results revealed that the perceived ease of use and usefulness of smartphone apps significantly contributed to students' adoption and improved learning outcomes. Gender differences were also observed, with females being less likely to feel that apps were integrated into learning goals, although they still showed greater adoption of these apps.

Similarly, Qaderi (2024) examined the use of digital applications among students of the Intensive Education Institute for Languages at El Oued University. The study found that the use of educational digital applications significantly enhanced the students' English language proficiency. The research utilized a qualitative approach through an electronic questionnaire and revealed that students were actively using digital tools to support their language learning.

2.7.1.2. Distance Learning Advantages and Challenges

In a different context, Almangi et al. (2022) discussed the transition to distance learning in the Sultanate of Oman during the pandemic. Their findings highlighted both the advantages, such as flexibility and innovative learning methods, and the challenges, like inadequate preparation and technological limitations. The study also discussed various educational applications, including administrative systems and virtual classrooms, used in distance learning.

2.7.1.2.1. Advantages of Digital Applications in Education

The flexibility and accessibility that digital programs offer is one of their main advantages in the classroom. As seen during the COVID-19 pandemic, these technologies enable students to continue learning in spite of interruptions. According to a study by Rasheed (2024), digital platforms provided distant access to educational resources, enabling continuous education. This made it possible for students to continue their education even if they were not physically present in courses.

The capacity to customize educational experiences is an additional significant benefit. Digital apps can customize instructional content to fit the needs of each individual learner, especially those that use artificial intelligence (AI). Institutions in the Arab world, like Hamad Bin Khalifa University in Qatar, have used AI-driven learning systems to develop

curricula that adapt to students' learning styles and development, according to Al-Fanar Media (2024). Both learning outcomes and student engagement are improved by this individualized approach.

Additionally, digital apps can make education more affordable. E-learning platforms lower the cost of education for both institutions and students by lowering the costs of printed materials, physical infrastructure, and transportation. According to Qasim (2023), e-learning models have played a significant role in lowering cost barriers, enabling more students from all socioeconomic backgrounds to receive high-quality education.

2.7.1.2.2. Challenges of Digital Applications in Education

Despite these advantages, several challenges hinder the effective implementation of digital applications in education. One significant barrier is the lack of sufficient technological infrastructure. Many Arab countries face issues such as weak internet connectivity, outdated digital systems, and inadequate technical support, making it difficult for students and instructors to fully utilize digital tools. A study by Alfelaij (2016) in Kuwait highlighted that slow internet speeds and insufficient investment in technology have created obstacles in the adoption of digital learning solutions.

The digital divide is another major concern, as economic disparities result in unequal access to digital resources. Students from low-income backgrounds often struggle to afford devices and internet services required for online learning. Al-Fanar Media (2024) reported that in Palestine and Jordan, many students faced difficulties accessing AI-powered learning tools due to financial constraints and logistical challenges, limiting the potential benefits of digital education.

Moreover, teacher preparedness plays a crucial role in the successful integration of digital applications into education. Many educators lack the necessary training to effectively use technology in their teaching practices. Research conducted in Saudi Arabia by Alharbi et al. (2019) found that instructors often experience difficulties in incorporating digital tools due to limited training and institutional support. Without adequate professional development programs, educators may struggle to maximize the potential of digital applications in the classroom.

2.7.1.3. The Role of Online Applications and Social Media in Education

In Palestine, Itmeizeh and Farrah (2021) explored the effectiveness of online applications in EFL teaching at Palestine Ahliya University and Hebron University. The study found that while instructors agreed that online applications aligned well with learning benchmarks, students showed moderate satisfaction. The study also found that instructors' perceptions were more positive than students', particularly in terms of "Student Support."

Similarly, Abu Sara (2022) investigated the role of social networking sites (SNSs) in ensuring the continuity of distance learning during the pandemic in Palestine. The study showed that SNSs, particularly Facebook and Instagram, were widely used by students, contributing significantly to distance learning continuity.

Finally, Elshahawy (2020) focused on the perceptions of English Language students at a Saudi University, finding that students were highly motivated to use digital devices to improve their English language skills, particularly in reading, writing, and comprehension. These studies collectively illustrate the growing impact of digital tools and applications on

education across various regions, highlighting both the potential and challenges of integrating technology into learning environments.

2.7.2. Previous foreign studies:

The integration of digital applications in education has been widely studied, particularly in the context of language learning and teaching. Various researchers have explored the implementation, effectiveness, and challenges of using digital tools in different educational settings.

2.7.2.1. Implementation and Challenges of Digital Applications in EFL Assessment

Zahira (2024) conducted a study to investigate the implementation of digital applications by EFL instructors when assessing students' assignments. Using a qualitative case study method, data were collected through observations, documents, and interviews. The study focused on an EFL teacher in a private school in Kota Jambi, Indonesia. Findings indicated that the implementation of digital applications followed a structured process: pre-activity (question preparation and selection of digital tools), while-activity (instructional guidance and time management), and post-activity (student evaluation and grading). The study also identified significant challenges, such as technical difficulties in operating digital platforms and troubleshooting issues. Despite these challenges, the study concluded that digital applications contribute positively to student assessments, though instructors require further training and support to overcome technological barriers.

2.7.2.2. Effectiveness of Digital Applications in Foreign Language Learning

Chikovani (2023) examined the effectiveness of digital applications in foreign language learning through a quantitative study involving 60 first-year students in a General English course at a higher education institution in Georgia. Using an online questionnaire, the study explored students' perceptions of digital platforms, their learning purposes, and the language skills enhanced through digital applications. Findings revealed that digital applications significantly improve language learning by facilitating accessibility, engagement, and overall skill development. Students used these applications for various learning purposes and reported noticeable progress in all language skills, reinforcing the effectiveness of digital platforms as educational tools.

2.7.2.3. Impact of Emergency Remote Teaching on Digital Technology Usage in K-12 Education

Hartwell (2023) investigated the influence of emergency remote teaching (ERT) during the COVID-19 pandemic on digital technology adoption among K-12 instructors. Data were collected through online questionnaires, semi-structured interviews, document reviews, and analytic memos. Using Cultural Historical Activity Theory (CHAT) as an analytical framework, the study revealed that many digital technologies introduced during

ERT remained in practice post-pandemic. Instructors reported increased digital literacy and continued technology integration when it benefitted student learning. Additionally, findings highlighted a disparity between technological access and institutional support, leading to limitations in digital tool utilization. The study identified three key themes: (a) the incorporation of digital pedagogy in K-12 instruction, (b) factors influencing technological changes, and (c) the benefits and challenges emerging from ERT.

2.7.2.4. Students' Preferences and Perceptions of Digital Learning Platforms

Amin & Sundari (2020) explored students' preferences and perceptions of digital learning platforms during remote teaching. The study surveyed 140 EFL students from universities in Jakarta and Aceh using a questionnaire-based evaluation. Descriptive and thematic analysis revealed that Cisco Webex Meetings, Google Classroom, and WhatsApp were the most preferred platforms, with high scores in authenticity, meaning focus, and language learning potential. Among these, WhatsApp was favored for its accessibility and practicality. However, findings indicated that students generally preferred face-to-face learning over a fully digital learning experience, suggesting that digital platforms, despite their benefits, could not fully replace in-person interactions.

Jeong (2017) examined university students' attitudes towards using mobile applications for English learning. The study involved 60 university freshmen in Korea enrolled in a compulsory General English course. Data were collected through TOEIC pre- and post-tests, online questionnaires, and semi-structured interviews. Findings indicated that students had a positive attitude towards mobile learning, reporting increased motivation and convenience compared to traditional instructional methods. The study highlighted key advantages of mobile learning, such as accessibility, portability, flexibility, interactivity, and improved English proficiency.

2.7.2.5. Advantages of Digital Applications in Education

Digital applications support personalized learning, allowing students to progress at their own speed. Many online learning platforms use artificial intelligence to adapt course material based on individual performance, providing targeted exercises and feedback (Abhyaas, 2024). This adaptability enables students to focus on areas where they need improvement, making education more effective.

With digital applications, students can access educational content from any location and at any time, making learning more flexible. This feature proved particularly valuable during the COVID-19 pandemic, when many schools shifted to online learning. Studies indicate that digital platforms played a crucial role in ensuring continuity in education during disruptions (Wall Street Journal, 2023).

Another major advantage of digital applications is their ability to assist students with disabilities. Technologies such as speech-to-text software, text-to-speech readers, and AI-based learning tools provide additional support for students with learning difficulties. Research has shown that these tools can significantly enhance reading and writing skills among students with dyslexia and other learning disabilities (AP News, 2023).

2.7.2.6. Challenges of Digital Applications in Education

While digital applications offer many benefits, they can also become sources of distraction. The presence of non-educational content, such as social media, entertainment platforms, and online games, often reduces students' focus during lessons (Abhyaas, 2024). Managing these distractions remains a challenge for both educators and students.

Despite the growing reliance on digital tools, not all students have equal access to the necessary technology and internet connectivity. Socioeconomic differences create disparities in digital access, often referred to as the "digital divide." According to a report by The Guardian (2024), some students struggle to complete their assignments due to a lack of internet at home, forcing them to rely on public Wi-Fi. These inequalities hinder the effectiveness of digital learning for many students.

The use of digital applications raises concerns about data privacy and cybersecurity. Many online platforms require users to share personal information, which can be vulnerable to breaches if not adequately protected. Studies have emphasized the need for strong security measures to ensure that students' data remains safe from unauthorized access (Abhyaas, 2024).

Successful integration of digital applications into education depends on educators' ability to use them effectively. Many instructors lack adequate training in using technology for instructional purposes. Without proper guidance and professional development, educators may struggle to maximize the benefits of digital tools in the classroom (Abhyaas, 2024).

2.8. Summary:

The researcher reviewed several studies conducted in both Arab and foreign communities. These studies were diverse, and the review revealed the following:

The current study aligns with the studies by Qaderi (2024), Amin & Sundari (2020), and Jeong (2017), which aimed to explore the reality of using digital applications. It also aligns with the objectives of Zahira (2024) and Hartwell (2023), which examined the use of digital applications and the challenges faced by instructors.

In contrast, it differs from the study by Almangi et al. (2022), which investigated the differences between distance learning and learning in emergency conditions, and from Abu Sara's (2022) study, which focused on the use of social media and its impact on learning continuity. It also diverges from Chikovani (2023).

The study aligns with Zahira (2024) and Hartwell (2023), which were conducted on instructors, but differs from studies by Qaderi (2024), Almangi et al. (2022), Abu Sara's (2022), Elshahawy (2020), Chikovani (2023), Amin & Sundari (2020), and Jeong (2017), which were applied to samples of university and school students.

The study is consistent with Qaderi (2024), Almangi et al. (2022), Abu Sara's (2022), Elshahawy (2020), Chikovani (2023), and Jeong (2017), all of which adopted the descriptive-analytical methodology. However, it differs from Zahira (2024) and Hartwell (2023), which followed the qualitative methodology (observation and interviews).

This study complements previous research, as it investigated the use of digital applications in education, aligning with the themes explored in prior studies. However, the current study is distinguished by the unique emergency conditions and the timing of its application.

Chapter Three:

Methodology and Procedures:

3.1. Introduction

In this chapter, the researcher describes the procedures, population, sample, the instruments as well as the variables and statistical methods employed for data analysis**.**

3.2. Methodology

This study adopts a mixed-approaches design, combining quantitative and qualitative approaches. It employs a descriptive-analytical approach and utilizes a questionnaire for data collection, as it is a conveniently allows the researcher to study a phenomenon or problem without interference. (see appendix 1)

As a qualitative instrument, the researcher used semi-structured interviews to gather additional data to complement the data obtained from the questionnaire. Mixed-methods design was employed to provide a comprehensive understanding of the phenomenon and to effectively addresses the research questions.

The interview consisted of (7) questions designed to answer the fourth research question and elaborate on other themes related to the areas covered by the questionnaire. (see appendix 2)

3.3. Population

The population of the study consisted of all EFL teaching English in the Palestinian Universities for the 2024/2025 academic year.

The total population of this study was (122) male and female instructors.

3.4. Sample

The sample of the study included all English language instructors from four Palestinian universities in the southern West Bank: Palestine Ahliya University, Hebron University, Palestine Polytechnic University, and Al Quds University.

The sample was selected using a stratified random sampling technique based on the University. The following table shows the distribution according to the four main independent variables: gender, academic qualification, university, and years of experience.

Table (3.1): Sample Distribution by Gender, Academic Qualification, Years of Experience and University

Variables	Number	Valid percent
Gender		
Male	41	%50
Female	41	%50
Academic qualification		
MA	55	67.1%
PHD	27	32.9%
Years of experience		
Less than 5 years	20	%24.4
5-10 years	23	%28.1
More than 10 years	39	%47.5
University		
Hebron University	19	23.2%
Polytechnic University	23	28.0%
Al- Quds University	24	29.3%
Palestine Ahliya University	16	19.5%

For the qualitative part, the sample consist of (18) English language instructors selected using convenience sampling, which involves choosing participants accessible to the researcher.

Table (3.1) above shows the sample distribution across several demographic and academic variables in the study examining the use of digital applications by EFL instructors in Palestinian universities regarding gender, the sample is evenly distributed between male and female instructors, with (49.4%) males and (50.6%) females, indicating no significant gender bias in the terrors of the academic qualification, most instructors hold a master's degree (67.1%), while (32.9%) hold a PhD.

Regarding the Years of Experience (48.8%) of instructors have more than 10 years of experience, indicating that a substantial portion of the sample is highly experienced. Additionally, (28.7%) have between (5 and10) years, while (22.5%) have less than 5 years of experience, indicating a good distribution of experience levels across the sample.

Regarding the university, the instructors are fairly distributed across four universities: Al Quds University (29.3%), Polytechnic University (28.0%), Hebron University (23.3%), and Palestine Ahliya University (19.5%). This distribution reflects abroad representation from various academic institutions.

The sample is well-distributed across key demographic variables, ensuring a balanced representation of gender, academic qualifications, years of experience, universities, and

commonly used digital applications. This diversity in the sample characteristics enhances the generalizability and relevance of the study's findings.

3.5. Instruments

The researcher has adopted two different types of data collection instruments to investigation the digital applications utilized by EFL instructors in online environments during times of crises at Palestinian universities focusing on their perspectives, the challenges they face of the application advantages. These instruments were:

3.5.1. The questionnaire for the study

The instructor's questionnaire was developed after reviewing the relevant previous literature, which aimed to determine the extent to which English as a Foreign Language (EFL) instructors integrate the digital applications in their teaching practices.

The design of the questionnaire was also based on the researcher experience in teaching English, in addition to ideas and views collected from instructors about digital applications using in the process of teaching and learning English.

The questionnaire consisted of (37) items based on a (5-point) Likert scale ranging from (1 = strongly disagree) to (5 = strongly agree), and was divided into three main domains: (The reality of using digital applications), (the advantages of using digital applications), and (the challenges faced by instructors while using digital applications in the educational process).

3.5.2. Validity of the Questionnaire

The researcher used the Pannel of Jury and the internal consistency validity as follows:

3.5.2.1. The Pannel of Jury

The questionnaire was reviewed by some Jury ELT experts who are specialists in EFL instruction (Appendix 3). The referees suggested some comments, recommendations and notes regardly of the questionnaire content, items' suitability, meaning, clarity and comprehensiveness. The researcher considered all comments and recommendations into account before coming up with the final version of the questionnaire.

3.5.2.2.The Internal Consistency

The internal consistency reflects the scores correlation of each item compared to the total items score. To verify the questionnaire's internal consistency, the researcher calculated Pearson's correlation coefficient between each item's score and the items' total score as show in table (3.2) below.

Table (3.2): Pearson's Correlation Coefficient

N	Person correlation	Sig.	N	Person correlation	Sig.
1	**0.318**	**0.004**	**19**	**0.443**	**0.000**
2	**0.376**	**0.001**	**20**	**0.412**	**0.000**
3	**0.418**	**0.000**	**21**	**0.505**	**0.000**
4	**0.507**	**0.000**	**22**	**0.349**	**0.001**
5	**0.376**	**0.001**	**23**	**0.303**	**0.006**
6	**0.485**	**0.000**	**24**	**0.401**	**0.000**
7	**0.485**	**0.001**	**25**	**0.464**	**0.000**
8	**0.248**	**0.025**	**26**	**0.248**	**0.025**
9	**0.254**	**0.022**	**27**	**0.292**	**0.008**
10	**0.464**	**0.000**	**28**	**0.420**	**0.000**
11	**0.268**	**0.015**	**29**	**0.407**	**0.000**
12	**0.318**	**0.004**	**30**	**0.383**	**0.000**
13	**0.383**	**0.000**	**31**	**0.466**	**0.000**
14	**0.332**	**0.002**	**32**	**0.372**	**0.001**
15	**0.360**	**0.001**	**33**	**0.494**	**0.000**
16	**0.376**	**0.001**	**34**	**0.284**	**0.010**
17	**0.556**	**0.000**	**35**	**0.426**	**0.000**
18	**0.511**	**0.000**	**36**	**0.463**	**0.000**

Table (3.2) above shows that all the questionnaire's items are Pearson's correlation coefficients between each individual item score and the total score of all items in the questionnaire. The values in the "Person correlation" column represent the strength and direction of the relationship between the item scores and the total score, with the significance level (Sig) indicating the statistical validity of these correlations.

Additional, Correlations most of the items show a positive correlation with the total score, with values ranging from (0.172 to 0.556), indicating a moderate to strong relationship between individual item scores and the overall score.

Furthermore, significance the significance values for all items are below ($\alpha \leq 0.05$), which means that these correlations are statistically significant. This suggests that the items are consistently measuring the same underlying construction (internal consistency).

To conduct table (3.2) demonstrates good internal consistency across all items of the questionnaire, as evidenced by the generally high and statistically significant Pearson's correlation coefficients.

3.5.2.3. Reliability of the Questionnaire

The researcher used Cronbach's Alpha test to check the reliability of the instrument. The questionnaire was distributed to a piloting sample of 18 participants distinct from the original study sample. The result of the Cronbach Alpha test was (0.80).

3.5.3. The Semi-Structured Interview

To thematically analyze the responses, the researcher used **Braun and Clarke's (2006)** framework for thematic analysis provides a systematic and rigorous approach to analyzing qualitative data, emphasizing the identification of meaningful themes that reflect participants' experiences. It allows for a thorough exploration of complex data and is a valuable tool in qualitative research across disciplines. A widely accepted approach for identifying, analyzing, and reporting patterns (themes) within qualitative data. Below, the

researcher will outline the theoretical framework and the thematic analysis approach specific to the interview questions.

The following are the procedures the researcher followed to thematically analyze the participants' responses to the interview questions:

1. Transcription: The researcher collected and transcribed the answers to the interview questions.
2. Coding: The researcher coded the data collected based on Braun & Clark's (2006) approach.
3. Theme Identification: The researcher grouped codes under related themes.
4. Theme Validation: The researcher double checked the appropriateness of the classification of themes based on the participants' answers.
5. Reporting: The researcher presented themes with illustrative quotes connecting them to the participants' responses to the questions.

Then the researcher divided the questions of the semi-structured interview into several themes as follows:

Theme One: reality of digital apps utilization which included three of the interview questions:

- To what extent do you currently use the digital applications in your EFL online teaching during crises and how do you integrate them into your teaching practices?
- In your experience, how effective are these digital applications in achieving learning outcomes during online lectures?
- How would you evaluate the institutional support and digital infrastructure provided by your university during crises? What improvements do you think are necessary?

Theme Two: advantages of digital apps utilization that include the participants' responses on this question:

- What advantages have you perceived while using these digital applications?

Theme Three: challenges of digital apps utilization which include the participants' responses on this question:

- What challenges have you perceived while using these digital applications?

3.5.3.1. Validity of the Semi-Structured Interview Questions

Construct validity: The interview questions were designed based on the researcher's experience in English language teaching, through a comprehensive literature review and experts' feedback. This process ensures that the questions accurately captured the theme of investigating the digital applications utilized by EFL Instructors in online environments during times of crises at Palestinian universities.

The interview covered most relevant topics related to digital applications in teaching English as a Foreign Language at Palestinian universities. Minor adjustments and changes were made based on the Jury's feedback.

3.5.3.2. Reliability of the Semi-Structured Interview

To ensure the reliability of the interview, the researcher ensured that all respondents understood the questions asked in English and that their answers were also reported in English. All questions were consistently related to the research core questions. A standardized interview protocol was used to ensure consistent data collection across all interviews. This happened by introducing the researcher to the purpose of the interview

assuring confidentiality and obtaining consent from the participants, thanking the participants for their time, starting with warm-up questions, then main questions, and closing by thanking the participants for their valuable insights and finally offering them an opportunity to add any additional comments or suggestions.

3.6. Variables of Study

This study consists from dependent and independent variables. And are listed as follows :

3.6.1. Independent variables:

1. Gender (male and female).
2. Academic qualification (MA and PhD).
3. University (Palestine Ahliya University, Hebron University, Palestine Polytechnic University and Al Quds University).
4. Years of experience (less than 5 years, 5- 10 years, more than 10 years).

3.6.2. Dependent variables:

1. Reality of utilization digital applications by EFL instructors in Palestinian universities.
2. Advantages of utilization digital applications by EFL instructors in Palestinian universities.
3. Challenges of the utilization of digital applications by EFL instructors in Palestinian universities.

3.7. Data analysis

After collecting the necessary data via the questionnaire and the semi- structured interviews, the researcher analyzed the data collected from these two instruments. For the questionnaire, the researcher used the Statistical Package for Social Science (SPSS) by using and applied the analytical and descriptive statistics such as means, frequency, percentages, standard variation, independent t-test, One-Way ANOVA, Cronbach's Alpha .
For the semi-structured interview, qualitative data use collected underwent thematic analysis to identify patterns, themes, and meanings relevant to the research questions. Thematic analysis is a flexible and widely used qualitative method which that is suitable for exploring complex phenomena and interpreting participants 'perspectives (Braun & Clark, 2006).

3.8. Procedures of the Study

1. Reviewing the theoretical background and previous studies related to the topic of the thesis to gain thorough and comprehensive and understanding of the phenomenon investigated and then to gather items and domains for the instruments to be used in the study.
2. Designing the proposal of the study by identifying the aims, statement of the problem, the importance of the study, the instruments of the study, and limitations of the study based on the obstacles that the researcher faced during data collection and the relevant literature reviewed.
3. Administering the proposal to the university academic committee for review. After receiving their approval, along with some suggested alterations, the final copy of the proposal was prepared.

4. Designing the study's instruments (a questionnaire and a semi-structured interview) and checking their validity with a panel of experts and the internal consistency by using Pearson equation. Reliability was assured by using Cronbach's Alpha coefficient.
5. Collecting the quantitative and the qualitative data through instructors' semi-structured interviews and the questionnaire.
6. Analyzing the data gathered using SPSS package for the social sciences through which means, percentages, frequencies, ANOVA, standard deviations, T-test were applied.
7. Collecting the qualitative data, notifying it down and analyzing it thematically .
8. Discussing the results and stating the recommendations.

3.9. Mean's Range Key

The key to the arithmetic means' range with respect to the scale value is stated in table (3.3) below:

Table (3.3): Mean's Range Key:

Levels	**Average**
Low	**$x \leq 2.33$**
Medium	**$2.33 < x \leq 3.66$**
High	**$3.66 < x$**

The table (3.3) above showed that if the mean of the question was below or equal (2.33) that considered there is a low level of tested question, while the mean ranged from (2.33 to 3.66) revenue there is a medium range of the tested question. Finally, if the mean above (3.66) that consider the question has a higher level of tested question.

Chapter Four:

Results and discussion of the Study:

4.1 Introduction

In this chapter, the researcher presents the results of the investigation into the digital applications utilized by EFL instructors in online environments during times of crises at Palestinian Universities. The finding from the questionnaire and the interviews were discussed in detail.

4.2 Results of the Study Questions

4.2.1 Results Related to First Question:

What are the most frequent digital applications used by EFL instructors in their teaching during time of crises at Palestinian universities?

To answer this question, the total scores were calculated about the most frequent digital applications used by EFL instructors in their teaching in time of crises at Palestinian universities as shown in the table below.

Table (4.1): Numbers and valid percentages of the most frequent apps utilized.

Digital applications frequently utilized	Number	Percentage
Zoom	23	28.0
Google Meet	19	23.2
WhatsApp	12	14.6
Moodle	13	15.9
Google Classroom	15	18.3
Total	**82**	**100%**

These results indicate that instructors at Palestinian universities rely heavily on various digital applications to maintain the educational process during crises. The table shows a

significant use of applications that enable direct communication, such as "Zoom" with a usage percentage of (28.0%) and "Google Meet" at (23.2%). This suggests that instructors prefer these applications as they provide for their ability to facilitate visual and audio interaction with students, enhancing effective communication in remote learning environments. As for other applications like "WhatsApp" (14.6%), "Moodle" (15.9%), and "Google Classroom" (18.3%), they were used relatively less compared to the other applications.

4.2.2 Results Related to Second Question:

What is the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities?

To answer the second question, researcher extracted means, standard deviation, of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities, so as presented in the following table (4.2).

Table (4.2): Means and Standard Deviations of the Reality of the Utilization of Digital Applications by EFL Instructors In their Teaching during Time of Crises at Palestinian Universities

Item	Statement	Mean	SD	Degree
q1	I easily use the digital applications provided by the university.	4.51	0.74	High
q3	I use digital applications to upload, send, and receive educational materials and course-related files.	4.21	0.81	High
q4	Through digital applications, I observe students' engagement in online discussions.	3.93	0.90	High
q11	I use digital applications to enhance students' understanding of the material.	3.85	1.02	High
q6	I use digital apps to improve EFL students' technological abilities.	3.85	0.81	High
q5	I incorporate some animations, links, and multimedia when creating digital resources (e.g., presentations).	3.85	0.95	High
q7	I use digital applications to detect copied and plagiarized students' work.	3.84	0.85	High
q9	I integrate digital applications into the EFL curriculum at my teaching.	3.79	0.92	High
q10	I use digital apps to monitor students' progress in online meetings.	3.72	0.97	High
q2	I communicate with students through social media apps (WhatsApp, Messenger, Instagram etc.)	3.62	1.25	Medium
q8	I use artificial intelligence applications in teaching English to students.	3.51	0.95	Medium
	Total degree	3.88	0.44	High

Table (4.2) above shows that the degree of reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities was high (M= 3.88, St=0.44). The highest responses were for items number (1, 3 and 4) Which

were in order: (I easily use the digital applications provided by the university) (M= 4.51, St=0.74), I use digital applications to upload, send, and receive educational materials and course-related files (M= 4.21, St=0.81), and Through digital applications, I observe students' engagement in online discussions (M= 3.93, St=0.90).

The lowest one was item (8): I use artificial intelligence applications in teaching English to students (M= 3.51, St=0.95) and its moderate degree, and the next one paragraph was (2): I communicate with students through social media apps (WhatsApp, Messenger, Instagram etc.) (M= 3.62, St=1.25).

4.2.3 Results Related to the Third Question:

Are the perceptions of English instructors about the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?

To answer the previous question the researcher, check every Hypothesis:

The first null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the gender variable.

To make sure if these means are significant or not, a (t).test was used, and the result is shown in (4.3) table.

Table (4.3): Arithmetic of Mean, standard Deviation and (t)- value attributed to Gender.

Gender	Number	Mean	Std. deviation	Degree of Freedom	(t)- value	Sig.
Male	41	3.86	0.46	80	0.056	0.955
Female	41	3.87	0.40			

Table (4.3) shows that the calculated significance level for this variable was (0.955), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the gender variable

The second null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the academic qualification variable.

To make sure if these means are significant or not, a (t).test was used, and the result is shown in (4.4) table.

Table (4.4): Arithmetic of Mean, standard Deviation and (t) - value attributed to academic qualification.

Academic qualification	Number	Mean	Std. deviation	Degree of Freedom	(t) - value	Sig.
MA	55	3.90	0.45	80	0.812	0.419
PhD	27	3.82	0.41			

Table (4.4) shows that the calculated significance level for this variable was (0.419), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the academic qualification variable.

The third null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the academic university variable.

Researchers calculate the means and standard deviation for instructors answer about the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities attributed to their university, and the result show in (4.5) table:

Table (4.5): Number of Mean, standard Deviation of Lecturers answers according to university

University	Number	Mean	Std. deviation
Hebron University	19	3.89	0.52
Polytechnic University	23	3.76	0.31
Al- Quds University	24	3.82	0.44
Palestine Ahliya University	16	4.10	0.44

The table (4.5) above shows differences in average means of perceptions of Lecturers about the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities attributed to their university.

To check these differences, one way ANOVA was applied in using test data as shown in the table (4.6).

Table (4.6): Results of one-way ANOVA test for the scores of responses of Lecturers about the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities attributed to their university.

Source of variance	Sum of squares	Degree of Freedom	Mean squares	f- value	Sig.
Between groups	1.153	3	0.384	2.060	0.112
Within groups	14.560	78	0.187		
Total	15.714	81			

Table (4.6) shows that the calculated significance level for this variable was (0.112), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the reality of the utilization of

digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the university variable.

The fourth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the years of experience variable.

Researcher calculate the means and standard deviation for instructors answer about the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities attributed to their years of experience, and the result show in (4.7) table:

Table (4.7): Number of Mean, standard Deviation of Lecturers answers according to years of experience

years of experience	Number	Mean	Std. deviation
Less than 5 years	18	3.87	0.30
5-10 years	23	3.93	0.43
More than 10 years	39	3.86	0.50

The table (4.7) above shows differences in average means of perceptions of Lecturers about the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities attributed to their years of experience. To check these differences, one way ANOVA was applied in using test data as shown in the table (4.8).

Table (4.8): Results of one-way ANOVA test for the scores of responses of Lecturers about the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities attributed to their years of experience.

Source of variance	Sum of squares	Degree of Freedom	Mean squares	f- value	Sig.
Between groups	0.073	2	0.0365	0.182	0.834
Within groups	15.393	79	0.200		
Total	15.466	81			

Table (4.8) shows that the calculated significance level for this variable was (0.834), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching during time of crises at Palestinian universities due to the years of experience variable.

4.2.4 Results Related to Fourth Question:

What are the perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments during time of crises at Palestinian universities?

To answer the Fourth question researcher extracted means, standard deviation, of the advantages of using digital applications by EFL instructors in online environments during time of crises at Palestinian universities, so as shown in Table (4.9) below.

Table (4.9.A): Means and Standard Deviations of the Advantages of using Digital Applications by EFL Instructors in Online Environments during Time of Crises at Palestinian Universities

	Statement	Mean	SD	Degree
q1	Using digital applications in my EFL classes enhances student engagement and participation.	4.16	0.74	High
q5	Recorded lectures in digital applications help students to revisit the material whenever needed.	4.00	0.87	High
q2	Using digital applications in my teaching helps me manage my time more effectively.	3.95	0.68	High
q4	The integration of new technologies has a positive impact on learners' communicative skills.	3.89	0.81	High
q6	The use of digital applications develops my students' skills in using technology.	3.87	0.79	High
q3	Digital applications effectively support the development of my students' English language skills.	3.85	0.77	High
q8	Digital applications help in maintaining educational continuity in times of crises.	3.84	0.97	High
q10	Digital applications provide access to a wide range of learning materials and resources that are otherwise unavailable.	3.83	0.92	High

Table (4.9.B): Means and Standard Deviations of the Advantages of using Digital Applications by EFL Instructors in Online Environments during Time of Crises at Palestinian Universities

	Statement	Mean	SD	Degree
q12	Using digital applications enhances autonomy learning.	3.68	0.92	High
q7	Digital applications help in obtaining immediate feedback from students during teaching.	3.66	0.90	Medium
q11	Digital applications make it easier to monitor and assess student progress in real time.	3.63	0.96	Medium
q9	Digital applications utilized meet EFL students' learning styles.	3.62	1.00	Medium
q13	Digital applications facilitate collaborative learning.	3.37	1.02	Medium

Table (4.9.A, B) above shows that the degree of the perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments during Time of Crises at Palestinian universities was high (M= 3.79, St=0.50). The highest responses were for items number (1, 5 and 2) Which were in order: (Using digital

applications in my EFL classes enhances student engagement and participation) (M= 4.16, St=0.74), Recorded lectures in digital applications help students to revisit the material whenever needed (M= 4.00, St=0.87), and Using digital applications in my teaching helps me manage my time more effectively (M= 3.95, St=0.68).

The lowest one was item (13): Digital applications facilitate collaborative learning (M=3.37, St=1.02) and its moderate degree, and the next one paragraph was (9): Digital applications utilized meet EFL students' learning styles (M= 3.62, St=1.00).

4.2.5 Results Related to the Fifth Question:

Are the perceptions of English instructors about the advantages of using digital applications by EFL instructors in online environments during time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?

To answer the previous question the researcher, check every Hypothesis:

The fifth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments during time of crises at Palestinian universities due to the gender variable.

To make sure if these means are significant or not, a t- test was used, and the result is shown in (4.10) table.

Table (4.10): Arithmetic of Mean, Standard Deviation and t- value attributed to Gender.

Gender	Number	Mean	Std. deviation	Degree of Freedom	t- value	Sig.
Male	41	3.79	0.52	80	0.124	0.901
Female	41	3.77	0.46			

Table (4.10) above shows that the calculated significance level for this variable was (0.901), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable

The sixth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic qualification variable.

To make sure if these means are significant or not, a t- test was used, and the result is shown in (4.11) table.

Table (4.11): Arithmetic of Mean, Standard Deviation and t- value attributed to Academic Qualification.

Academic qualification	Number	Mean	Std. Deviation	Degree of Freedom	t- value	Sig.
MA	55	3.84	0.51	80	1.364	0.176
PhD	27	3.68	0.46			

Table (4.11) shows that the calculated significance level for this variable was (0.176), which is greater than the statistical significance level (α≤0.05). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic qualification variable.

The seventh null hypothesis: There are no statistically significant differences at the significant level (α≤0.05) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic university variable.

Researchers calculate the means and standard deviation for instructors answer about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their university, and the result show in (4.12) table:

Table (4.12): Number of Mean, Standard Deviation of Lecturers answers According to University

University	Number	Mean	Std. deviation
Hebron University	19	3.80	0.58
Polytechnic University	23	3.67	0.32
Al Quds University	24	3.75	0.55
Palestine Ahliya University	16	4.02	0.48

The table (4.12) above shows differences in average means of perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their university.

To check these differences, one way ANOVA was applied in using test data as shown in the table (4.13).

Table (4.13): Results of one-way ANOVA test for the scores of responses of Lecturers about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their university.

Source of variance	Sum of squares	Degree of Freedom	Mean squares	f- value	Sig.
Between groups	1.274	3	0.425	1.743	0.165
Within groups	19.002	78	0.244		
Total	20.277	81			

Table (4.13) above shows that the calculated significance level for this variable was (0.165), which is greater than the statistical significance level (α≤0.05). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the university variable.

The eighth null hypothesis: There are no statistically significant differences at the significant level (α≤0.05) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the years of experience variable.

Researchers calculate the means and standard deviation for instructors answer about the advantages of using digital applications by EFL instructors in online environments in time

of crises at Palestinian universities attributed to their years of experience, and the result show in (4.14) table:

Table (4.14): Number of Mean, standard Deviation of Lecturers answers according to Years of Experience

years of experience	Number	Mean	Std. deviation
Less than 5 years	20	3.72	0.43
5-10 years	23	3.73	0.48
More than 10 years	39	3.85	0.52

The table (4.13) above shows differences in average means of perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their years of experience. To check these differences, one way ANOVA was applied in using test data as shown in the table (4.15).

Table (4.15): Results of one-way ANOVA test for the scores of responses of Lecturers about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their years of experience.

Source of variance	Sum of squares	Degree of Freedom	Mean squares	f- value	Sig.
Between groups	0.292	2	0.146	0.589	0.558
Within groups	19.074	79	0.248		
Total	19.366	81			

Table (4.15) shows that the calculated significance level for this variable was (0.558), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the years of experience variable.

4.2.6 Results Related to sixth Question:

What are the perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities?

To answer the sixth question researcher extracted means, standard deviation, of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities, so as shown in Table (4.16).

Table (4.16): Means and standard deviations of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities.

	Statement	Mean	SD	Degree
q1	The use of digital applications reduces my ability to assess my students' higher order thinking skills.	4.00	1.12	High
q4	Unstable internet connectivity is a significant barrier to using digital applications in EFL instruction.	3.98	0.80	High
q7	Digital applications increase the potential for students' cheating.	3.98	0.99	High
q2	There is insufficient technical support available for instructors.	3.82	1.18	High
q12	I have concerns about the privacy and security of digital platforms.	3.74	0.94	High
q11	A lot of time is consumed ensuring that information reaches all students.	3.71	0.97	High
q9	It is difficult to administer comprehensive exams through digital applications.	3.63	0.98	Medium
q3	Instructors have inadequate digital literacy skills to effectively integrate digital applications into their EFL teaching.	3.62	0.97	Medium
q10	Students' responsiveness to the use of digital applications is weak.	3.52	1.08	Medium
q8	It is difficult to teach critical thinking skills through digital applications.	3.51	1.13	Medium
q6	Using digital applications requires more preparation time than traditional teaching methods.	3.50	1.25	Medium
q5	There is poor access to digital resources and tools necessary for effective EFL teaching.	3.27	0.99	Medium
	Total degree	3.69	0.59	High

Table (4.16) shows that the degree of the perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities was high (M= 3.69, St=0.59). The highest responses were for items number (1, 4 and 7) Which were in order: (The use of digital applications reduces my ability to assess my students' higher order thinking skills) (M= 4.00, St=1.12), Unstable internet connectivity is a significant barrier to using digital applications in EFL instruction (M= 3.98, St=0.80), and Digital applications increase the potential for students' cheating (M= 3.98, St=0.99).

The lowest one was item (5): There is poor access to digital resources and tools necessary for effective EFL teaching (M=3.27, St=0.99) and its medium degree, and the next one paragraph was (9): Using digital applications requires more preparation time than traditional teaching methods (M= 3.50, St=1.25).

4.2.7 Results Related to the Seventh Question:

Are the perceptions of English instructors about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?

To answer the previous question the researcher, check every Hypothesis:

The ninth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

To make sure if these means are significant or not, a t- test was used, and the result is shown in (4.17) table.

Table (4.17): Arithmetic of Mean, standard Deviation and t- Value attributed to Gender.

Gender	Number	Mean	Std. deviation	Degree of Freedom	t- value	Sig.
Male	41	3.68	0.62	80	0.111	0.912
Female	41	3.67	0.56			

Table (4.17) above shows that the calculated significance level for this variable was (0.912), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic means of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable

The tenth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic qualification variable.

To make sure if these means are significant or not, t- test was used, and the result shows in (4.18) table.

Table (4.18): Arithmetic of Mean, Standard Deviation and t- Value attributed to Academic Qualification

Academic qualification	Number	Mean	Std. deviation	Degree of Freedom	t- value	Sig.
MA	55	3.64	0.61	80	0.902	0.370
PhD	27	3.77	0.55			

Table (4.18) above shows that the calculated significance level for this variable was (0.370), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic qualification variable.

The eleventh null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic university variable.

Researchers calculate the means and standard deviation for instructors' answer about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their university, and the result show in (4.19) table:

Table (4.19): Number of Mean, Standard Deviation of Lecturers answers according to university

University	Number	Mean	Std. deviation
Hebron University	19	3.85	0.58
Polytechnic University	23	3.63	0.43
Al Quds University	24	3.67	0.57
Palestine Ahliya University	16	3.59	0.82

The table (4.19) above shows differences in average means of perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their university. To check these differences, one way ANOVA was applied in using test data as shown in the table (4.20).

Table (4.20): Results of one-way ANOVA test for the scores of responses of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their university.

Source of variance	Sum of squares	Degree of Freedom	Mean squares	f- value	Sig.
Between groups	0.737	3	0.246	0.687	0.563
Within groups	27.892	78	0.358		
Total	28.629	81			

Table (4.20) above shows that the calculated significance level for this variable was (0.563), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the university variable.

The twelfth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the years of experience variable.

Researchers calculate the means and standard deviation for instructor's answer about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their years of experience, and the result show in (4.21) table:

Table (4.21): Number of Mean, standard Deviation of Lecturers answers according to years of experience

years of experience	Number	Mean	Std. deviation
Less than 5 years	18	3.65	0.48
5-10 years	23	3.82	0.45
More than 10 years	39	3.60	0.68

The table (4.21) above shows differences in average means of perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their years of experience. To check these differences, one way ANOVA was applied in using test data as shown in the table (4.22).

Table (4.22): Results of one-way ANOVA test for the scores of responses of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities attributed to their years of experience.

Source of variance	Sum of squares	Degree of Freedom	Mean squares	f-value	Sig.
Between groups	0.725	2	0.363	1.053	0.354
Within groups	26.512	79	0.344		
Total	27.237	81			

Table (4.22) shows that the calculated significance level for this variable was (0.354), which is greater than the statistical significance level ($\alpha \leq 0.05$). Therefore, it is not statistically significant, and the null hypothesis is accepted, indicating that there are no statistically significant differences between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the years of experience variable.

4.2.8 Results of the semi-structured Interviews' themes

Theme 1: Reality of the use of digital applications

Six respondents that represent (60%) reported using digital applications due to their extensive use in facilitating communication, engagement, and online learning, particularly as Learning Management Systems (LMS). One respondent (10%) mentioned that during crises, digital applications become essential, especially using Zoom and WhatsApp applications. Another respondent (10%) stated that the respondent typically used PowerPoint slides to teach students. One participant (10%) explained that the respondent used digital applications depending on the class. For instance, when teaching communicative-based materials or community-based content, the respondent utilizes digital applications. Another respondent shared that when the respondent teaches linguistic functions such as directions or suggestions, the respondent posts instructional videos on these topics in class for clarification of the main class topic. One respondent (10%) said that sometimes uses Google Classroom along with smartphones.

In terms of challenges, (50%) of the total study participants conceded that the use of digital applications is low, lack and need for improvement. On the other hand, one participant (10%) mentioned that uses only a few digital applications during time limitation or in urgent situations. Another respondent felt there were insufficient changes to meet the requirements of the teaching processes. One respondent (10%) noted that the university provides sufficient internet access and necessary equipment during crises management process. Another respondent emphasized the there is a need for stronger and more reliable internet connection because citing issues are faced during coronavirus period. At the end, the last respondent said that the university must have computer lab as an excellent resource for the crises management intervention.

When the researcher discussed the effectiveness of digital applications with the respondents, the respondent found that four out of ten respondents (40%) emphasized their benefits in enhancing student engagement and interaction. While one respondent (10%) said that digital applications are fully effective if students are interested in the subject. Another (10%) of respondents mentioned that features like polls and discussion forms encourage students' engagement and effectiveness depending on user familiarity with it. Another respondent (10%) felt that digital apps may not always be sufficient but can help in certain difficult situations. One respondent (10%) acknowledged the benefits of using digital applications to communicate with students efficiently, improving daily learning

interactions and outcomes. finally, one participant (10%) said that the role of digital applications in enhancing the overall education and learning experience throughout offering more contact than traditional learning methods.

Theme 2: Advantages of using digital applications

Five respondents (50%) agreed with the time-saving and easy access as an advantage for digital applications using. While one respondent (10%) pointed out that digital applications facilitate personalized learning, offering flexibility and accessibility to students. Another (10%) concluded about the suitability of learning and development at any time. One participant (10%) emphasized how digital apps allow for easy contact with students, contributing to language skill improvement. Another (10%) realized the advantages of digital applications throughout their flexibility and making learning more accessible. One respondent (10%) raised the concept of autonomous learning, noting that digital applications enabled students to have access to different materials whenever they want.

Theme 3: Challenges of using digital applications

Five respondents (50%) stated that internet connectivity issues as a major challenge, as not all students are present during digital application usage. One respondent (10%) revealed a lack of technical support, a low learning curve, and a lot of concerns over personal privacy. Another (10%) pointed out that the infrastructure may not be adequate, and financial constraints could prevent effective implementation on digital applications usage. One respondent (10%) mentioned that some learners act as passive recipients, requiring extra motivation, while others face literacy issues. Another (10%) emphasized challenges in maintaining communication with students. One respondent (10%) noted that many students had a lack of resources they need to work effectively with digital tools.

Chapter Five:

Discussion, Conclusion and Recommendations:

5.1Introduction

In this chapter, the main questions and null hypotheses are summarized and discussed . Also, this chapter explains the findings in the context of the literature review, and it provides recommendations for ELT instructors and supervisors, curriculum designers, policy makers and future research.

5.2 Discussion of the results

5.2.1 Discussion of the result of the first question

What are the most frequent digital applications used by EFL instructors in their teaching in time of crises at Palestinian universities?

These results showed that the instructors at Palestinian universities mostly rely on "Zoom" with a usage percentage of (28.0%) followed by "Google Meet" at (23.2%) which followed by "WhatsApp" (14.6%), "Moodle" (15.9%), and "Google Classroom" (18.3%).

This result can be explained by the fact that applications such as Zoom and Google Meet are interactive tools designed to align with the nature of classroom settings. They simulate traditional face-to-face classrooms, with a teacher delivering lessons and students actively engaging with the content. These applications offer interactive features that closely resemble physical classrooms, along with additional technical capabilities, such as the ability for instructors and students to record lectures, revisit them, and participate in group discussions. These features make university instructors prefer using them over other applications.

Additionally, university policies and administration direct instructors toward the adoption of specific applications. Universities often enter agreements with these companies to provide efficient services and technical support for instructors, which can also influence their decision to use these tools.
These results differ from those of Almangi et al. (2022), who showed that social media applications were the most frequently used. And differences with Amin & Sundari (2020) which showed that application Cisco Webex Meeting were most frequently used.

5.2.2 Discussion of the result of the second question

What is the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities?
The results showed that the degree of reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities was high (M= 3.88, St=0.44). The highest responses were instructors easily use the digital applications provided by the university.
This result can be explained by the capabilities these applications provide for communication during crises and emergencies that may disrupt regular attendance or prevent students and instructors from reaching the university. In such situations, digital applications become essential and must be utilized.
Furthermore, this result can also be attributed to the support these applications offer instructors, enabling them to continue the teaching process effectively. They allow for conducting meetings and discussions on the course material, ensuring the continuity of educational activities despite challenging circumstances.
This result can also be explained by instructors' professional commitment and willingness to adopt technology and digital applications to ensure the continuity of teaching under all circumstances and emergencies. The universities' provision of technical support, infrastructure, training, and the necessary digital applications supports this commitment. These factors collectively contribute to the high scores observed in the study, reflecting the effective integration of these tools into the teaching process.
This result is consistent with Qaderi's (2024) and Chikovani (2023) findings, which demonstrated the effective use of digital applications. It also aligns with the study by Abu Sara (2022), which showed a high usage level.

5.2.3 Discussion of the result of the third question

Are the perceptions of English instructors about the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?
To answer the previous question the researcher, check every Hypothesis:
The first null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the gender variable.
The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the gender variable.
The researcher interprets this result by emphasizing that using digital applications requires instructors to possess specific technological skills acquired through practice and training.

Instructors also recognize the benefits of these applications through the teaching process, feedback, and student assessment. As a result, all instructors evaluate the use of digital applications in teaching similarly, with no significant differences in their assessments.

This result differs from the findings of Alazwari (2023), which showed gender-based differences in the use of digital applications. At the same time, the current study found no significant differences in evaluating digital applications among instructors.

The second null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the academic qualification variable.

The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the academic qualification variable.

The researcher explains this result by highlighting the nature of university teaching, which follows a similar structure for all instructors, regardless of their academic qualifications. The teaching process typically involves planning, delivering lectures, and assessment. These steps remain consistent even when digital applications are used, meaning that the use of these tools does not significantly differ based on the instructor's academic background. Therefore, the teaching process remains largely uniform across instructors, with no noticeable differences tied to their qualifications.

The third null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the academic university variable.

The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the university variable.

The researcher interprets this result in light of the nature of teaching in Palestinian universities and the Ministry of Education and Higher Education regulations, which dictate the mechanisms and systems for education during emergencies. Specifically, the Ministry suspends traditional in-person university education in such situations and mandates a transition to online learning. Consequently, universities, instructors, and students must rely on digital applications. This necessity explains the uniformity in responses among instructors from various universities, with no significant differences observed.

The fourth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the years of experience variable.

The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the reality of the utilization of digital applications by EFL instructors in their teaching in time of crises at Palestinian universities due to the years of experience variable.

The researcher explains this result by pointing to the training programs organized by universities for both instructors and students on how to use digital applications. Additionally, prompt technical support in case of any issues ensures that instructors are able to utilize these tools effectively. This combination of training and support contributes to a consistent evaluation of digital applications, with instructors reporting similar

perspectives on their advantages and the challenges they face without significant differences.

5.2.4 Discussion of the result of the fourth question

What are the perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities?

The results showed that the degree of the perceptions of Lecturers about the advantages of using digital applications by EFL instructors in online environments in Time of Crises at Palestinian universities was high [M= 3.79, St=0.50]. The highest responses were: Using digital applications in my EFL classes enhances student engagement and participation.

The researcher explains this result by highlighting the role played by the administrations of Palestinian universities and their technology departments in selecting digital applications that meet the needs of both instructors and students. These applications are designed to ensure interaction, achieve specific educational goals, and guarantee the continuity of teaching. Moreover, universities work on training instructors and students to use these applications, so they are ready for immediate deployment during emergencies.

Additionally, the features and technical advantages of these digital applications contribute to the participation of all students in lessons. For instance, accessing recorded lectures conveniently for students helps them manage their time and plan effectively. This flexibility benefits students and instructors, enabling more efficient time management and teaching processes.

In addition, instructors have observed the benefits of digital applications through students' active engagement and academic performance. This positive impact on student interaction and outcomes further explains the high evaluation of these applications and their advantages.

These results are consistent with the findings of Elshahawy (2020), which indicated that one of the main advantages of using digital applications was student participation.

5.2.5 Discussion of the result of the fifth question

Are the perceptions of English instructors about the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?

To answer the previous question the researcher, check every Hypothesis:

The fifth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

The sixth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic qualification variable.

The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital

applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic qualification variable.

The seventh null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic university variable.

The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic university variable.

The eighth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the years of experience variable.

The results showed that there were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the advantages of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the years of experience variable.

5.2.6 Discussion of the result of the sixth question

What are the perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities?

The results showed that the degree of the perceptions of Lecturers about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities was high [M= 3.69, St=0.59]. The highest responses: The use of digital applications reduces my ability to assess my students' higher order thinking skills.

These results indicate that digital applications primarily aim to ensure the continuity of the educational process and cannot fully replace face-to-face interactions between instructors and students. Instead, these applications are utilized during emergencies, crises affecting education, or when instructors and students cannot reach the university.

Overall, the results suggest that the challenges associated with digital applications largely stem from the absence of direct visual communication between instructors and students. This limitation makes it difficult for instructors to assess how well the students understand the material and to receive immediate feedback. Additionally, it raises concerns about an increased likelihood of academic dishonesty among students due to the lack of adequate supervision.

This result differs from the findings of Zahira (2024), which showed that instructors face digital challenges.

5.2.7 Discussion of the result of the sixth question

Are the perceptions of English instructors about the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities different according to the variables (Gender, academic qualification, university, years of experience)?

To answer the previous question the researcher, check every Hypothesis:

The ninth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

The results showed that There were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

The tenth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic qualification variable.

The results showed that There were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

The eleventh null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic means of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the academic university variable.

The results showed that There were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

The twelfth null hypothesis: There are no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the years of experience variable.

The results showed that There were no statistically significant differences at the significant level ($\alpha \leq 0.05$) between the arithmetic mean of the challenges of using digital applications by EFL instructors in online environments in time of crises at Palestinian universities due to the gender variable.

5.2.8 Discussions of the results of the semi-structured interviews' themes

Theme 1: Reality Theme 1: Reality of the use of digital applications

The use of digital applications in teaching was reported by 60% of respondents, highlighting their effectiveness in communication, engagement, and online learning, particularly through Learning Management Systems (LMS). Some instructors mentioned using specific applications, such as Zoom and WhatsApp, during crises, or PowerPoint for regular lessons. One respondent explained adapting digital tools based on the lesson type, using instructional videos for topics like directions or suggestions. However, challenges were noted by 50% of participants, who stated that the use of digital applications was limited and required improvement. Issues such as time constraints, inadequate

technological updates, and insufficient internet access during crises were emphasized, with some respondents also calling for better resources, like computer labs and stronger internet connections.

Theme 2: Advantages of using digital applications

The advantages of using digital applications in education were noted by several respondents, with 50% highlighting time-saving benefits and easy access to learning materials. Some participants emphasized the personalized and flexible learning opportunities that digital applications offer, with students having the ability to learn at their own pace and time. Respondents also recognized the improved communication between instructors and students, enhancing language skill development and overall learning outcomes. Additionally, digital applications supported autonomous learning, enabling students to access various materials at their convenience.

Theme 3: Challenges of using digital applications

Despite the advantages, significant challenges were identified, particularly regarding internet connectivity issues, which affected 50% of respondents. Other difficulties included a lack of technical support, infrastructure inadequacies, and financial constraints, which hindered effective implementation. Some instructors also noted issues with student engagement, as some learners became passive, requiring extra motivation. Additionally, privacy concerns and data protection issues were raised, emphasizing the need for better security measures in digital tools. Overall, while digital applications offer substantial educational benefits, addressing these challenges is crucial for improving their integration and effectiveness in Palestinian universities.

Challenges of using digital applications, this part identifies challenges that the instructors faced when using the digital applications. Respondents highlighted unstable internet connectivity as a significant barrier to effective use, particularly in times of crises. Many of them also noted the lack of adequate technical support for instructors, making it difficult to resolve any problem with the tool application. Privacy and security concerns about digital platforms were also mentioned, highlighting the need for improved data protection measures.

By correlating the responses with the sections of the questionnaire, digital applications offer numerous advantages, such as enhanced engagement, flexibility, and support for autonomous learning. On the other hand, there were many challenges may face the whole university students and lecturers such as poor internet connectivity, lack of technical support, and privacy concerns continue to hinder their effective use in teaching English at Palestinian universities. Addressing these challenges is an essential part throughout integration of digital tools in educational settings improvement.

5.3 Conclusion

This study aimed to investigate the reality of using digital applications in English language instruction at Palestinian universities during times of crises, focusing on both the advantages and challenges faced by instructors. Additionally, it explored whether there were any significant differences in the integration of these applications based on demographic factors such as gender, academic qualification, years of experience, and university.

The findings of the study revealed that digital applications are widely used in EFL instruction, offering numerous advantages, such as enhanced student engagement, accessibility to learning resources, and the ability to maintain continuity during crises. However, instructors also face several challenges, including technical issues, limited access to resources, and the need for more effective training and support in using these tools.

Analysis of the data indicated that there were no significant differences in the reality of digital application use, their perceived advantages, or the challenges faced by instructors based on gender, academic qualification, or years of experience. However, some variations were observed based on the university of instructors, indicating that institutional factors may play a role in how digital applications are integrated into teaching practices.

Overall, this study highlights the importance of digital tools in enhancing educational experience in times of crises. It also underscores the need for further support, training, and infrastructure to help instructors effectively navigate the challenges of digital integration. Future research could explore the perspectives of students, the impact of digital applications on learning outcomes, and strategies to overcome the barriers faced by instructors.

5.4 Recommendations

5.4.1 Recommendations for English instructors

1. Using digital applications for teaching English and assessing students
2. Training novice English instructors on how to use digital applications effectively.
3. Organizing workshops and training sessions for English instructors to familiarize them with digital applications, their various types, and equip them with the necessary skills to overcome the challenges they may encounter
4. know the strategies and techniques related to digital applications.

5.4.2 Recommendations for future studies

1. Studying Students' Perspectives on the Effectiveness of Digital Applications in Enhancing EFL Learning in Online Environments.
2. Examining the Integration of Digital Applications in EFL Instruction at the Primary and Secondary School Levels
3. Analyzing the Impact of Teacher Experience, Academic Qualification, and Training on the Integration of Digital Applications in EFL Classes
4. Investigating the Role of Technology in Enhancing Critical Thinking and Autonomy in EFL Students
5. Identifying the Barriers to Digital Application Integration in EFL Teaching and Proposing Solutions
6. Studying the Perspectives of EFL Supervisors on the Integration of Digital Applications in English Classes at Palestinian Universities

5.4.3 Recommendation for decision makers

1. Help the new instructors to use the digital learning in their courses.
2. Train all instructors to be ready to use the electronic learning applications to be prepared to use during time of crises.
3. Assess the instructors frequently to maintain them to have a high level of using digital applications and gaining feedback to develop using programs
4. Set training program annually or frequently for all instructors and students.
5. Set the resources to be available all the time to use by both instructors and students

5.4.4 Recommendation for textbook decisions

1. Ensure to make a digital book available in case of the crises happened
2. Include a leaflet about how to use the digital application for each scientific book may help in increase students’ resources

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Appendices

Appendix 1: The final version of the questionnaire

Deanship of Graduate Studies

Al-Quds University

Dear Prof.,

The researcher is conducting a study titled "*Investigation into the Digital Applications Utilized by EFL Instructors in Online Environments in Times of crises at Palestinian Universities: Reality, Advantages and Challenges*". Your insight into Digital Applications is crucial to facilitating this study. A self-completed questionnaire has been enclosed to investigate Palestinian university lecturers' perspectives on digital applications usage in English language teaching and learning. Please, tick (√) the appropriate box in the five-point Likert scale. Your response will be treated with utmost confidentiality. The information received from this questionnaire will be used for research purposes only. If you need further information about the study, please do not hesitate to contact the researcher.

Thank you for your help

Sincerely,

The Researcher: Rimah Ibrahim Shawamrih

Supervisor: Dr. Mahmoud Itmeizeh

Section I: General Information:

1. **Gender**: ☐ Male ☐ Female
2. **Educational Level** ☐ MA ☐ PhD
3. **Years of Experience** ☐ less than 5 years ☐ 5- 10 years ☐ more than 10 years
4. **University:** (_____)
5. **Digital applications frequently utilized:** ☐ Zoom ☐ Google Meet ☐ Moodle ☐ Microsoft Teams ☐ WhatsApp ☐ Messenger

Others…….

Section II: Questionnaire Items

Please put (✓) in the suitable choice

No	Reality of Using Digital Applications	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
A)		**(5)**	**(4)**	**(3)**	**(2)**	**(1)**
1.	I easily use the digital applications provided by the university.					
2.	I communicate with students through social media apps (WhatsApp, Messenger, Instagram etc.)					
3.	I use digital applications to upload, send, and receive educational materials and course-related files.					
4.	Through digital applications, I observe students' engagement in online discussions.					
5.	I incorporate animations, links, and multimedia when creating digital resources (e.g., presentations).					
6.	I use digital apps to improve EFL students' technological abilities.					
7.	I use digital applications to detect copied and plagiarized students' work.					
8.	I use artificial intelligence applications in teaching English to students.					
9.	I integrate digital applications into the EFL curriculum at my teaching.					
10.	I use digital apps to monitor students' progress in online meetings.					
11.	I use digital applications to enhance students' understanding of the material.					

No	Advantages	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
B)		**(5)**	**(4)**	**(3)**	**(2)**	**(1)**
1	Using digital applications in my EFL classes enhances student engagement and participation.					
2	Using digital applications in my teaching helps me manage my time more effectively.					
3	Digital applications effectively support the development of my students' English language skills.					
4.	The integration of new technologies has a positive impact on learners' communicative skills.					
5.	Recorded lectures in digital applications help students to revisit the material whenever needed.					
6.	The use of digital applications develops my students' skills in using technology.					
7.	Digital applications help in obtaining immediate feedback from students during teaching.					
8.	Digital applications help in maintaining educational continuity in times of crises.					
9.	Digital applications utilized meet EFL students' learning styles.					
10.	Digital applications provide access to a wide range of learning materials and resources that are otherwise unavailable.					
11.	Digital applications make it easier to monitor and assess student progress in real time.					
12.	Using digital applications enhances autonomy learning.					
13.	Digital applications facilitate collaborative learning.					

No	Challenges	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
C)		(5)	(4)	(3)	(2)	(1)
1.	The use of digital applications reduces my ability to assess my students' higher order thinking skills.					
2.	There is insufficient technical support available for instructors.					
3.	Instructors have inadequate digital literacy skills to effectively integrate digital applications into their EFL teaching.					
4.	Unstable internet connectivity is a significant barrier to using digital applications in EFL instruction.					
5.	There is poor access to digital resources and tools necessary for effective EFL teaching.					
6.	Using digital applications requires more preparation time than traditional teaching methods.					
7.	Digital applications increase the potential for students' cheating.					
8.	It is difficult to teach critical thinking skills through digital applications.					
9.	It is difficult to administer comprehensive exams through digital applications.					
10.	Students' responsiveness to the use of digital applications is weak.					
11.	A lot of time is consumed ensuring that information reaches all students.					
12.	I have concerns about the privacy and security of digital platforms.					

Appendix 2: The final version of the interview

Instrument No. Two: Semi-structured interview

Dear Prof.,

The researcher is conducting a study titled "Investigation into the Digital Applications Utilized by EFL Instructors in Online Environments in Times of crises at Palestinian Universities: Reality, Advantages and Challenges". Your insight into Digital Applications is crucial to facilitating this study. A semi-structured interview has been enclosed to investigate Palestinian university lecturers' perspectives on digital applications usage in English language teaching and learning. Please, answer the questions included in the semi-structured interview. Your response will be treated with utmost confidentiality. The information received from this semi-structured interview will be used for research purposes only. If you need further information about the study, please do not hesitate to contact the researcher.

Sincerely,

The Researcher: Rimah Ibrahim Shawamreh **supervisor:** Dr. Mahmoud Itmeizeh

First Domain (Reality)

1. To what extent do you currently use the digital applications in your EFL online teaching during crises and how do you integrate them into your teaching practices?
2. What purposes do you use these digital apps for?
3. How would you evaluate the institutional support and digital infrastructure provided by your university during crises? What improvements do you think are necessary?

Second Domain (Advantages):

What advantages have you perceived while using these digital applications?

Third Domain (Challenges):

What challenges have you perceived while using these digital applications?

Thank you for your help

Appendix 3: List of Validation Experts

Referee's name	Place of work
Dr. Ahmad Raba'a	An-Najah National University
Dr. Hakam Hijje	Palestine Technical University
Dr. Hazem Bader	Hebron University
Dr. Jamal Nafi'	Al-Quds University
Dr. Jamil Itmazi	Palestine Ahliya University
Dr. Khalid Dweikat	Al-Quds- Open University
Dr. Mohsen Adas	Al-Quds University
Dr. Nabil El-Gendy	Hebron University
Dr. Nabil Rumaneh	University College of Education
Dr. Nadiah Hamad	Palestine Technical University

Appendix4: Facilitating the Mission

Al-Quds University
Faculty of Educational Sciences

بسم الله الرحمن

جامعـــة القدس
كليـة العلـوم التربويـة

التاريخ: 2024/9/16

حضرة رئيس دائرة اللغة الإنجليزية – جامعة القدس / المحترم

الموضوع : تسهيل مهمة

تحية طيبة وبعد،،

تقوم الطالبة رماح إبراهيم خليل الشوامرة ورقمها الجامعي (22212736) بإجراء دراسة بعنوان

Investigation into the Digital Applications Utilized by EFL Instructors in Online Environments in Times of Crises at Palestinian Universities: Reality, Advantages and Challenges

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

شاكرين لكم حسن تعاونك

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Teaching Methods Program

نسخة/د.ع
نسخة/الملف

دراسة التطبيقات الرقمية التي استخدمها مدرسو اللغة الإنجليزية في بيئات الإنترنت أوقات الأزمات في الجامعات الفلسطينية: الواقع والميزات والتحديات.

اعداد: رماح إبراهيم خليل الشوامرة

اشراف: د. محمود طميزي

الملخص :

هدفت هذه الدراسة إلى استكشاف التطبيقات الرقمية التي يستخدمها مدرّسو اللغة الإنجليزية كلغة أجنبية في البيئات التعليمية عبر الإنترنت في أوقات الأزمات في الجامعات الفلسطينية: الواقع، المزايا والتحديات. استخدمت الباحثة المنهج الوصفي التحليلي. وتم استخدام استبيان ومقابلة شبه مقننة كأدوات لجمع البيانات. تم توزيع الاستبيان على (82) من مدرّسي اللغة الإنجليزية في أربع جامعات فلسطينية (جامعة القدس، جامعة فلسطين الأهلية، جامعة بوليتكنك فلسطين وجامعة الخليل).

أظهرت النتائج أن المدرّسين في الجامعات الفلسطينية اعتمدوا بشكل كبير على تطبيق "زووم" بنسبة استخدام بلغت (28.0%) يليه "جوجل ميت" بنسبة (23.2%)، ثم "واتساب" بنسبة (14.6%)، "مودل" بنسبة (15.9%)، و"جوجل كلاس روم" بنسبة (18.3%). كما أظهرت النتائج أن أغلب المدرّسين في الجامعات الفلسطينية يستخدمون التطبيقات الرقمية بفعالية لتدريس اللغة الإنجليزية كلغة أجنبية بمعدل عالٍ. كما أظهرت النتائج أن المدرّسين ينظرون بشكل إيجابي إلى التطبيقات الرقمية على الرغم من التحديات التي واجهوها في استخدام هذه التطبيقات في تدريس اللغة الإنجليزية كلغة أجنبية.

أخيرًا، أظهرت النتائج عدم وجود فروق ذات دلالة إحصائية بين متوسطات استجابات المشاركين حول استخدام التطبيقات الرقمية من قبل مدرّسي اللغة الإنجليزية في البيئات التعليمية عبر الإنترنت في أوقات الأزمات في الجامعات الفلسطينية بناءً على الجنس، المؤهلات الأكاديمية، الجامعة، وسنوات الخبرة. استنادًا إلى النتائج الرئيسية للدراسة، قدم الباحث عدة توصيات: استخدام التطبيقات الرقمية في تدريس اللغة الإنجليزية وتقييم الطلاب، وتدريب مدرّسي اللغة الإنجليزية المبتدئين على كيفية استخدام التطبيقات الرقمية بفعالية.

الكلمات المفتاحية: التطبيقات الرقمية، البيئة عبر الإنترنت، التعلم المتزامن، التعلم غير المتزامن.