UNIVERSIDAD
DE GRANADA

FACULTY OF EDUCATION SCIENCES

DEPARTMENT OF DIDACTICS OF LANGUAGE AND LITERATURE

DOCTORAL THESIS

THE ROLE OF ONLINE TEACHING PLATFORMS IN ENHANCING STUDENTS' ENGAGEMENT AND ACADEMIC PERFORMANCE LEVELS: AN ANALYTIC STUDY IN UNIVERSITIES OF PALESTINE

DOCTORAL STUDENT

AYAT HASAN TARAZI

DIRECTOR OF THESIS: PROF. RAÚL RUIZ-CECILIA

DOCTORAL PROGRAM IN EDUCATIONAL SCIENCES

GRANADA, 2023

UNIVERSIDAD DE GRANADA

THE ROLE OF ONLINE TEACHING PLATFORMS IN ENHANCING STUDENTS' ENGAGEMENT AND ACADEMIC PERFORMANCE LEVELS: AN ANALYTIC STUDY IN UNIVERSITIES OF PALESTINE

EL PAPEL DE LAS PLATAFORMAS DE ENSEÑANZA EN LÍNEA PARA MEJORAR LOS NIVELES DE COMPROMISO Y RENDIMIENTO ACADÉMICO DE LOS ESTUDIANTES: UN ESTUDIO ANALÍTICO EN LAS UNIVERSIDADES DE PALESTINA

AYAT HASAN TARAZI

DOCTORAL THESIS SUPERVISOR

PROF. RAÚL RUIZ- CECILIA

Editor: Universidad de Granada. Tesis Doctorales
Autor: Ayat Hasan Tarazi
ISBN: 978-84-1195-021-3
URI: https://hdl.handle.net/10481/84509

El doctorando / The *doctoral candidate* **[Ayat Tarazi]** y los directores de la tesis / and the thesis supervisor/s: **[Raúl Ruiz Cecilia]**

Garantizamos, al firmar esta tesis doctoral, que el trabajo ha sido realizado por el doctorando bajo la dirección de los directores de la tesis y hasta donde nuestro conocimiento alcanza, en la realización del trabajo, se han respetado los derechos de otros autores a ser citados, cuando se han utilizado sus resultados o publicaciones.

/

Guarantee, by signing this doctoral thesis, that the work has been done by the doctoral candidate under the direction of the thesis supervisor/s and, as far as our knowledge reaches, in the performance of the work, the rights of other authors to be cited (when their results or publications have been used) have been respected.

Lugar y fecha / Place and date:

Granada, a 2 de mayo de 2023

Director/es de la Tesis / *Thesis supervisor/s;* Doctorando / *Doctoral candidate*: Ayat Tarazi

Firma / Signed Firma / Signed

ACKNOWLEDGEMENTS

The completion of this Ph.D. would not have been possible without the guidance and support of my supervisor, Professor Raúl Ruiz-Cecilia. My most profound appreciation goes to him for his time, effort, and understanding in helping me succeed in my project. His vast wisdom and wealth of experience have inspired me throughout my studies. I'd like also to express my gratitude to Professor José Luis Ortega, my esteemed tutor for all the guidance, support, and instruction he provided me throughout my doctoral studies. In addition, I want to give a special thanks to Prof. Cristina Perez Valverde for her generosity and encouragement. My time spent studying and living in Spain has been truly rewarding. I would like to thank Prof. Eva Olmedo and everyone in the Faculty of Educational Sciences at the University of Granada for providing me with the resources to pursue graduate study in the Didactic of Languages and their Literature Department. Furthermore, I acknowledge the collaboration of all participants and people involved in data collection. I'd also like to thank my father and mother for their endless love and encouragement. I'd like to thank my sister Ibtihal; it would have been impossible to finish my studies without her unwavering support over the past three years. To conclude, I'd like to thank God, my sisters, my family, and my friends for their constant support. Also, I'd like to thank everyone who has been there for me emotionally and intellectually as I've worked on my project.

إهداء

الحمد لله الذي بنعمته تتم الصالحات , لك الحمد حتى ترضى, ولك الحمد والشكر بعد الرضى , ولك الحمد والشكر إذا رضيت, أهدي رسالة الدكتوراة هذه إليكما يا قدوتي ونبراسي الذي ينير دربي , إليكما يا من اعطيتموني ولا زال عطاؤكما بلا حدود, فمهما وصفت فيكم فلن ولن أوفيكما حقكما, فأنتما رحمة الله لي في هذه الحياة, أبي الحبيب بسمة حياتي سندي وفخري, أمي الحبيبة جنتي وقرة عيني أسأل الله أن يحفظكما لي.

إلى مهجة القلب الروح إلى من كانوا لي سندا في مسيرتي إلى نجوم سمائي أخواتي الغاليات.

إلى مشرفي الغالي البرفيسور رؤول على دعمه اللامتناهي خلال رحلة من جدَ وجدّ وصاحب الفضل الكبير والمؤثر.

إلى جامعتي الحبيبة, جامعة غرناطة, وأساتذتي الأفاضل شكرا لكم من القلب على كل ما بذلتموه من مجهود وعطاء في سبيل نجاحي.

إلى وطني الغالي فلسطين.

إلى العائلة و الأصدقاء وكل من دعمني وساندني خلال مسيرتي لكم خالص حبي وتقديري.

DEDICATIONS

I dedicate this doctoral thesis to the joy of the heart, my parents.

To those who supported me in my journey, to the stars in my sky, my dear sisters.

To my dear supervisor, for his endless support during three long years, finding Professor Raúl Ruiz-Cecilia one of the luckiest moments in my life. Thank you so much for everything!

To my beloved university, the University of Granada, and my distinguished professors, thank you for all your efforts and contributions to my success.

To Palestine, my dear homeland.

To all my family, friends, and everyone else who has supported me during my journey, you have my sincere love and appreciation.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AAU	Arab American University
ANNU	An- Najah National University
ANOVA	Analysis of Variance
AOL	Asynchronous Online Learning
AQOU	Al Quds Open University
DE	Distance Education
DECs	Distance Education Centers
DF	Difference of Frequency
EFL	English Foreign Language
ELT	English Language Teaching
ERL	Emergency Remote Learning
HEIs	Higher Education Institutions
ICT	Information Communication Technology
LMS	Learning Moodle System
MOOCs	Massive Open Online Courses
N	Number
OCL	Online Collaborative Learning
PTUK	Palestine Technical University Kadoorie
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
SOL	Synchronous Online Learning

STMCP	Students Test and Measurement Course Preform
TAM	Technology Acceptance Model

RESUMEN

Los principales objetivos de la presente tesis doctoral eran: determinar el papel de las plataformas de enseñanza en línea en la mejora del aprendizaje y la enseñanza según la percepción de los estudiantes de licenciatura de la especialidad de inglés y sus instructores; examinar la asociación entre el compromiso de los estudiantes y su rendimiento académico durante el aprendizaje en línea; y explorar los obstáculos que dificultan la eficacia del aprendizaje en línea en las universidades palestinas.

Se utilizó un enfoque descriptivo de método mixto para la recopilación de datos e incluyó cuatro métodos: una encuesta de estudiantes, una encuesta de instructores, una encuesta de preguntas abiertas y entrevistas con gerentes y miembros de centros de E-Learning en tres universidades palestinas (ANNU, AAU y AQOU) durante el año académico 2021-2022.

Los principales resultados revelaron que los estudiantes en general tenían actitudes moderadas hacia el papel de la plataforma de enseñanza en línea en la mejora del nivel de compromiso de los estudiantes, un bajo nivel de acuerdo hacia el papel de la plataforma de enseñanza en línea en la mejora del rendimiento académico de los estudiantes, y un nivel moderado de acuerdo sobre el papel de sus profesores durante la enseñanza en línea. En cuanto a los profesores, el grado general de percepción y actitud de los profesores hacia el papel de la plataforma de enseñanza en línea en la mejora del aprendizaje de los estudiantes durante las clases en línea fue bajo. Según el equipo de e-learning, los principales obstáculos que impiden que el e-learning sea útil son tres: la preparación de la infraestructura, la situación política y la falta de formación y experiencia.

Los resultados de esta tesis influirán en la enseñanza superior para que adopte la enseñanza en línea de forma que se maximice la participación de los estudiantes y la presencia del profesorado, especialmente en Palestina.

Palabras clave: plataformas de enseñanza en línea; compromiso en línea; rendimiento académico; enseñanza superior; centros de aprendizaje electrónico; universidades.

ABSTRACT

The main aims of the present doctoral thesis were: determining the role of online teaching platforms in enhancing learning and teaching as perceived by bachelor students of English specialization and their instructors; examining the association between students' engagement and their academic performance during online learning; and exploring obstacles that hinder the effectiveness of e-learning at Palestinian universities.

A mixed-method descriptive approach was used for data collection and included four methods: a students' survey, an instructors' survey, an open-ended question survey, and interviews with managers and members of E-Learning centers at three Palestinian universities (ANNU, AAU, and AQOU) during the academic year 2021–2022.

The main results revealed that students generally had moderate attitudes towards the role of online teaching platforms in enhancing their engagement. They also demonstrated a low level of agreement towards the role of online teaching platforms in improving their academic performance levels. Moreover, results showed that the students had a moderate level of agreement on their professors' role and skills in online teaching. In regard to instructors, results illustrated that the overall degree of instructors' perceptions and attitudes towards the role of the online teaching platform in enhancing students' learning during online lectures was low. Additionally, results from the e-learning team proved that the main barriers preventing e-learning from being useful are three major themes: infrastructure readiness, political conditions, and insufficient background and experiences.

Based on these results, future studies that focus on teacher training and online learning systems to embrace online teaching in a way that maximizes student engagement and faculty presence are recommended.

Keywords: online teaching platforms; online engagement; academic performance; higher education; e- learning centers; universities.

INTRODUCTION AND THEORETICAL BACKGROUND

1. Introduction and Theoretical Background

1.1 Online Teaching and Blended Learning at Higher Education Institutions

E-learning is a new information technology–based online learning paradigm (Moore, Dickson-Deane, & Galyen, 2011). It is an online synchronous or asynchronous learning experience in which students can connect with their classmates and instructors from any location using various communication and information technology tools. For instance, the e-learning system in a higher education institution combines digital technology with instructional techniques as a significant educational innovation through improving technology-enabled platforms (Eze, Chinedu-Eze, Okike & Bello, 2020).

Higher education institutions worldwide have integrated online courses as an integral part of their curricula with the help of various online platforms. Thus, the number of institutions adopting an e-learning paradigm is increasing nowadays (Salloum, Al-Emran, Shaalan, & Tarhini, 2019). On the other hand, e-learning has never been acknowledged as a substitute for traditional learning (Mahajan & Kalpana, 2018).

Online learning needs to be adaptable to give students autonomy, options, and collaboration opportunities (Sumuer, 2018), where students can participate in multiple ways. One example is synchronous online learning (SOL) where students learn and interact simultaneously and from the same platform. SOL also allows for actual interaction and enables prominent participation between students and instructors physically separated by distance (Lee et al., 2021). Asynchronous online learning (AOL), on the other hand, refers to e-learning modalities where students are at the center of their learning through adopting platforms without the guidance of professors. Hence, AOL makes learning accessible and attainable whenever and wherever it is

requested (Berestok, 2021). Likewise, according to Pang and Jen (2018), asynchronous learning allows flexibility since students are not required to be connected at the same time. Still, Watts (2016) argued that SOL is currently gathering more attention than AOL because the former, with advanced technology, increases students' feeling of connection to instructors and other students. Another form of online learning is blended learning, a combination of two instructional models—the conventional face-to-face and e-learning instructional systems—that incorporate synchronous and asynchronous learning (Agbi & Yuangsoi, 2022). Blended learning provides exceptional student engagement, excitement, motivation, and productivity when compared to alternative models of online learning (Donkin, Askew & Stevenson, 2019; Schlenz et al., 2020; Soltanimehr et al., 2019; and Wang & Liu, 2019).

Many learning theories, particularly constructivism, emphasize the significance of interaction between students, teachers, and content. In this regard, Phillips (2005) and Hung, Looi, and Koh (2004) claimed that students are regarded as active rather than passive learners in an online learning system. The learning focus is on the students, with the teachers acting as facilitators, counsellors, and advisers. They believe that learning should be contextual; hence online courses should incorporate learning activities that let students contextualize the material. Thus, online learning can make learning processes more student-centered (Dwivedi, Dwivedi, Bobek & Zabukovšek, 2019). Online teaching should also be an active process and foster high levels of engagement by giving students stimulating tasks and asking them to apply them in real-life situations (Smaldino, Russell, Heinich & Molenda, 2005). Additionally, Rudes & Guterman (2011) linked social stimuli to constructivism by considering them as the vital factors impacting the effectiveness of online learning, such as breakout rooms, discussion boards, forums, wikis, and resource-sharing systems that stimulate students' engagement.

1.2 Student Online Engagement

Students' desire, motivation, needs, and the necessity to participate in and succeed in their learning processes are referred to as *student engagement* (Gangwani & Alfryan, 2020) or the mental state in which they are engaged when learning (Barkley & Major, 2020). Student engagement in online learning settings is affected by time, effort, and resources invested in enhancing experiences, learning outcomes, and performances.

There are three critical types of student engagement in online learning systems: behavioral, emotional, and cognitive. The first type of engagement holds that for students to be engaged in learning, they must follow behavioral norms and avoid any disturbing or improper behavior. Students that engage in positive behavior will thus attend online classes and actively engage in the learning process. The second type, emotional engagement, pertains to students' enthusiasm and interest in an online learning environment. Finally, cognitive engagement encourages students to go above and beyond what they have learned to perform effectively (Li et al., 2021).

Various aspects influence students' engagement. For instance, online instructors should incorporate technology-based pedagogy to increase students' interest in online learning (Zhu, 2018). Then, since the lack of social presence contributes to unsatisfactory student engagement (Dwivedi, Dwivedi, Bobek & Zabukovšek, 2019), tasks that promote interaction would make students more engaged.

Online engagement might become a challenge for many educators. According to Dumford and Miller (2018), one of the difficulties with online education is that different students interact with online courses in various ways. Hence, to ensure productive online engagement, a careful plan to support the interactions necessary for successful online learning is recommended (Hodge, Wright & Bennett, 2017). Therefore, the level of online engagement depends on effective

interaction between teachers and students. Dwivedi, Dwivedi, Bobek & Zabukovšek (2019) have highlighted the significance of the teacher's role in this context, which would favorably influence the students' desire for learning. Effective online instructors encourage student engagement with timely, active, continuous support that promotes their personal connection (Rose Sr., 2018; Stone & O'Shea, 2019). The teacher's support through connection and engagement also significantly impacts online student engagement (Stone & O'Shea, 2019).

1.3 Correlation between Student Online Engagement and Academic Performance

Academic engagement is the effort put forth to actively participate in course learning activities (Ben-Eliyahu , Moore, Dorph & Schunn, 2018; Halverson & Graham, 2019), whereas academic performance refers to the successful course fulfillment, grades, and improved knowledge and comprehension of students in an online learning environment (Francescucci & Rohani, 2019).

The engagement and academic performance of students are significantly influenced by the online learning platform. According to Goh et al. (2017), using an e-learning platform resulted in better learning performance and satisfaction. Tick (2019) argued that students who are using e-learning platforms in their learning are generally more engaged in the lesson, which significantly affects their academic achievement.

Thus, monitoring online student engagement can help instructors and students change in their teaching and learning methods based on how motivated, engaged, and interested the students are (Mandernach & Dailey-Hebert, 2011). Academic problems, cooperative learning, institutional communication, and supportive learning settings are the four criteria used to measure students' involvement (Mahmood, 2021). Lee, Song & Hong (2019) also reported different measurements for student engagement, such as emotional motivation, collaborative learning, cognitive problem-solving, and engagement with teachers and classmates. Gelan et al. (2018) determined the level of

online engagement by counting the times students logged into the virtual learning environment to attend a lecture.

Moreover, Almutairi and White (2018) stated that the most conventional method for evaluating students' online participation would be through self-reports. In contrast, Akcaoglu and Lee (2016) demonstrated that discussion groups could improve student-student interaction in online courses and provide information about students' progress. Likewise, the lack of direct communication and engagement with an instructor in an online setting can foster student group work (Hearn Moore, Head & Griffin, 2017). Student social engagement and academic achievement are enhanced by online discussion (Schindler, Burkholder, Morad & Marsh 2017; Schneider & Preckel, 2017). Similarly, higher participation in online discussion boards and active engagement are associated with improved course performance (Kent, Laslo & Rafaeli, 2016). According to Strang (2013), encouraging students to perform online tasks like self-assessment tests boosts their learning and engagement and leads to better outcomes. Hence, effective learning outcomes, course success, and satisfaction are the prominent consequences of online student engagement (Kahu, Stephens, Leach & Zepke, 2015).

Furthermore, students' academic performance and course satisfaction can be evaluated using the online education method of videoconferencing (Roth, Pierce & Brewer, 2019). Alqurashi (2019) argued that it is crucial to monitor online feedback in online courses because there is no face-to-face interaction. Similarly, instructors believe that feedback is the best method to ensure that assignments have the greatest possible beneficial impact on students' growth and achievement (Rosario et al., 2019).

The difficulty of maintaining academic success, achievement, and engagement at higher education institutions (HEIs) remains on a global level. Hence, studies that investigate the

relationship between students' engagement and academic performance in online learning settings should be emphasized (Muir et al., 2019). High levels of engagement allow students to achieve better academic results and use their obtained knowledge in the real world. Students' achievement in higher education depends on their engagement. According to Kahu & Picton (2019), students' self-efficacy affects their interest, satisfaction, and behavioral engagement.

Furthermore, Barba, Kennedy & Ainley (2016) stated that students who demonstrated higher levels of behavioral engagement were more likely to succeed and even get better grades. Additionally, higher student participation can lead to more in-depth learning (Hodge, Wright & Bennett, 2017). Students' performance also improves with increased interaction and participation in online discussion forums (Kent, Laslo & Rafaeli, 2016). For instance, in the study of Goh et al. (2017), university students' academic performance is influenced by their e-learning experiences.

According to Hsu et al. (2019) and Naji et al. (2020), online learning self-efficacy during the COVID-19 epidemic was found to be a significant factor for students' learning satisfaction and had an impact on their performance levels. Furthermore, students' achievement in their online classes is determined by their interaction, motivation, and management of their own learning (Kilgour et al., 2018).

1.4 Benefits of Online Teaching Platforms

Online instruction is a reality that offers students better options regarding when, where, how, and from whom they learn, as well as challenges and opportunities for higher education institutions (Mehrotra, Hollister & McGahey, 2001). Different researchers discussed the significance of online platforms in the teaching-learning process. For instance, according to Jumareng et al. (2021), learning platforms strongly emphasized the transition from teacher-centered to learner-centered learning. Therefore, the instructor must know how to use ICT tools

effectively to use interactive strategies to improve engagement and communication in online education. Therefore, rather than simply presenting the material, online teaching and learning should aim to support the students' needs and expectations.

According to Luan et al. (2020), an online learning platform can positively impact students' educational development. Additionally, it can improve students' capacity for independent learning. Studies also showed that the increased number of students using e-learning implied that their performance improved significantly through online learning platforms (Kumar & Sharma 2021).

On the other hand, Qays, Ketabi, Pirnajmuddin & Amirian (2022), indicated that students' participation and experiences in an online learning environment needed improvement. Therefore, students are encouraged to use social media, digital tools, and programs to enhance their learning opportunities. Holzweias et al. (2014) claimed that students' impressions of online learning related to their best learning experiences through activities that permitted them to reflect and share knowledge with others. Also, the learning platform in higher education needs to be adjusted to the theories and procedures of e-learning environments, encouraging independent learning and collaboration with teachers via communication channels and learning activities.

Furthermore, some researchers suggest that the innovative use of online platforms can enhance students' engagement and learning. Nowadays, universities use technology and ICT tools to reduce students' weaknesses and strengthen their engagement. It is also argued that online collaborative learning can foster the quality of teaching in large classes. Accordingly, educators need to keep exploring strategies for strengthening students' engagement and participation in university courses, including online teaching and learning platforms. This system is important as

students' engagement and participation significantly affect their academic performance (Altinay, 2017).

Simmons, Baron, Knicely & Richardson (2002) posited that there must be a perception of the major benefits of online learning platforms for students and instructors. For students, online learning overcomes time frames and geographical boundaries. There are no constraints in terms of time or distance. Students participate in asynchronous online learning, where they can access the online courses anywhere at any time, whereas synchronous online learning allows students and instructors to communicate directly. Students can also use online platforms to get up-to-date and relevant learning materials and to engage with field experts of interest. Knowledge acquisition is facilitated, as they can take the courses at work or at home and personalize their learning. For instructors, tutoring can be done at any time and location. Online learning materials can be updated accordingly, and the students can access them immediately. It is simpler for students to access online materials when they have a connection to them, but it is the responsibility of the instructors to guide them to the proper knowledge based on their needs.

1.5 How Do Teachers' and Students' Perceptions of the Challenges of Online Education Help Reduce Them?

Going fully online imposed many challenges on educational institutions worldwide. Hence, examining the learners' and teachers' perspectives is vital. Also, because online learning brought a myriad of challenges, it becomes essential to explore the readiness and acceptance of students and faculty to online learning (Al-Tarawneh, Al-Nasa'h & Awwad, 2021; Calaguas & Consunji, 2022). Students' online learning satisfaction requires advanced teaching pedagogies and technological know-how to garner students' attention and instruction delivery (Baber, 2020; Hsu

et al., 2019). Furthermore, the success of e-learning system depends on students' willingness and acceptance to use this system (Almaiah, Khasawneh & Althunibat, 2020).

Meanwhile, previous research has also shown that faculty who teach online have a more positive perception of online instruction than those who do not (National Communication Association, 2019). Higher education teachers' perceptions of their readiness for online teaching imply a multifaceted problem (Martin, Wang and Sadaf, 2018). Therefore, understanding the teachers' views toward online education is necessary so that their concerns may be properly addressed (Farhan, Razmak, Demers & Laflamme, 2019). Also, understanding why teachers do or do not adopt new online teaching practices is necessary (Bruggeman et al., 2021). Teachers' perceptions of their readiness and that of their institution relate to beliefs about their preparedness to teach online (Martin, Wang and Sadaf, 2018).

According to Martin, Wang and Sadaf (2018) and Rapanta et al. (2020), online teacher presence emphasizes teachers' responsibilities for the design, organization, facilitation, and instruction in the online learning space. In line with this, Rapanta et al. (2020) viewed that behaviors related to feedback, clear instruction, and assessment were found to relate to teachers' perceptions of high teaching presence. Bolliger, Shepherd & Bryant (2019) implied that higher education teachers report limited support to design, implement, and sustain online teaching programs, so it is important to examine faculty perceptions in terms of their skill, knowledge, and the readiness of their universities.

1.6 Rationale for Undertaking the Study at Palestinian Higher Education Institutions

Even though there have been significant investments made in establishing e-learning systems at universities for more than 15 years, Palestine's current political and economic issues

are considered the key obstacles preventing the further growth of e-learning. Developing countries still face difficulties implementing e-learning systems because of digital gaps (Eltahir, 2019).

Recently, higher education systems in Palestine have undergone a significant transformation and shifted their emphasis to online education, where university teaching is continuously shifted into online teaching, whether completely or partially utilizing online platforms like Moodle and Zoom. For example, Al-Quds Open University, which is regarded as the leading university in introducing open education system initiatives in the Palestinian context since 2008, An-Najah National University, which has been promoting online teaching and learning since 2012, and Arab American University, the largest private university in Palestine, have introduced e-learning since 2018. Thus, as higher education systems of these universities are increasingly urged to improve their ability to ensure students' presence in online learning and improve graduation rates, higher education authorities should also consider the changing aspects of online learning environments as top of their priorities, including students' engagement, students' academic performance, and instructors' presence in terms of their roles and skills in online teaching. However, creative and effective online education requires extensive planning and critical analysis of digital skills that could help educators create interactive tasks, encourage students to engage actively during online lectures, deepen their understanding of the topics covered, and increase the interaction between the different agents of the course in and after the online lecture. Thus, universities are advised to continue developing their digital resource repositories (Garcia Aretio, 2017).

1.7 Justification and Investigation of the Problem

Palestine is a country located in the Middle East, and it is unstable with few natural resources. Since future education will be dominated by online teaching platforms, educators,

especially in Palestine, should be aware that education can, at any time, become fully synchronized as a result of unstable conditions. Teachers should therefore employ innovative strategies and methods to enhance their students' online engagement.

Therefore, the current doctoral thesis's main argument is that online learning's effectiveness primarily depends on the level of student engagement, which plays an important role in stimulating online learning today.

Despite the potential value of online engagement in e-learning, general problems hinder students and instructors from sustaining active engagement during online lecture. In the following figure, the researcher addresses the doctoral thesis problem by suggesting a conceptual diagram of hypothesized relationships between four dimensions that may affect the success of online teaching.

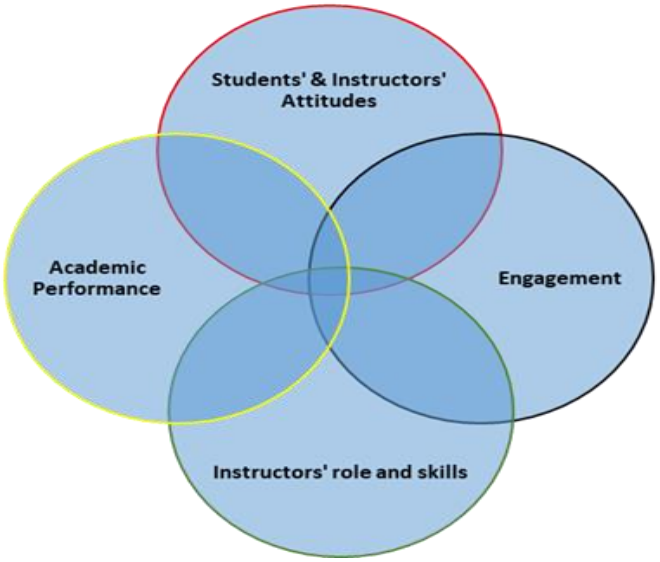

Figure 1. Conceptual Diagram Hypothesized Relationships

To address the problem with students' engagement and academic performance in e-learning, the researcher studied and controlled different aspects, such as the instructors' presence in terms of their roles and skills in online teaching, students' online engagement and academic performance, the attitudes of instructors, members of e-learning centers, and bachelor students, toward utilizing online platforms in learning online English courses at selected universities in

Palestine, and the obstacles that hinder the success of online teaching at Palestinian universities, as perceived by members of e-learning centers.

The present doctoral thesis is divided into three studies. ***Study 1*** focuses on students' attitudes toward online teaching platforms, how effective these platforms are for enhancing student engagement and academic performance, and how students perceive the role of the teacher in online learning settings. ***Study 2*** focuses on instructors' attitudes toward the online teaching platform, their roles and expertise in online teaching, and their perceptions of how the online platform affects students' performance during online lectures. ***Study 3*** explores the pros and cons of online teaching platforms, as perceived by e-learning members, challenges that hinder the usefulness and success of e-learning at Palestinian universities, and suggested recommendations.

1.8 Questions of the Study

The following two main questions of the present doctoral thesis were developed to guide the researcher in obtaining results:

1. What is the role of online teaching platforms in enhancing Palestinian university students' learning according to the students' points of view?
2. What is the role of online teaching platforms in enhancing teaching and learning in Palestinian universities according to the instructors' perceptions?

The results of this doctoral thesis were derived from the following interview sub-questions:

1. What are the pros and cons of the online platform that instructors use for teaching online English courses?
2. What are the different online tools and strategies instructors use to improve students' performance during online lectures?

3. What kind of online platform is used by your university? Describe the pros and cons of this platform.
4. What are your attitudes toward utilizing online platforms in university teaching?
5. What are the obstacles that hinder the usefulness of e-learning at your university?
6. What are the recommendations do you think are important to adopt to ensure a high quality of online learning at Palestinian universities?

1.9 Hypotheses of the Study

The following hypotheses were developed to guide the researcher in finding out the role of online teaching platforms in enhancing online teaching and learning from the point of views of students and instructors at Palestinian universities.

1.9.1 Hypotheses of the First Study

1. There are no statistically significant differences at $\alpha \leq 0.05$ in the role of online teaching platforms in enhancing students' learning from their point of view due to year(s) of study, university, and online course variables.
2. There is a positive relationship at $\alpha \leq 0.05$ between students' engagement and their academic performance levels.
3. There is a positive relationship at $\alpha \leq 0.05$ between students' attitudes toward online teaching platforms and their engagement.
4. There is a positive relationship at $\alpha \leq 0.05$ between students' perspectives toward the instructor's role in online learning and their engagement.
5. There is a positive relationship at $\alpha \leq 0.05$ between students' perspectives toward the instructor's role in online learning and their academic performance levels.

1.9.2 Hypotheses of the Second Study

1. There are no statistically significant differences at $\alpha \leq 0.05$ in the instructors' perceptions of online platforms' role in enhancing teaching and learning due to university, academic rank, years of experience, and a number of online English course variables.
2. There is a positive relationship at $\alpha \leq 0.05$ between instructors' roles and skills in online teaching and their attitudes toward online teaching platforms.
3. There is a positive relationship at $\alpha \leq 0.05$ between instructors' roles and skills in online teaching and their perceptions toward the role of online teaching platforms in enhancing students' learning during online lecture.

1.10 Aims of the Study

This doctoral thesis aimed to determine the role of online teaching platforms in enhancing learning and teaching, as perceived by bachelor students of English specialization and their instructors; examine the association between students' engagement and their academic performance during online learning; and explore the obstacles that hinder the effectiveness of e-learning in Palestinian universities.

The results of this doctoral thesis are organized into three studies based on the following specific objectives:

Study 1 (Bachelor students)

1. Identify students' attitudes toward online teaching platforms.
2. Find out the role of online teaching platforms in enhancing students' engagement level.
3. Examine the association between students' online engagement and their academic performance levels.
4. Determine the correlation between students' perspectives toward their instructors' role in their online learning and engagement.

Study 2 (Instructors)

1. Determine instructors' perceptions toward the role of online teaching platforms in enhancing students' learning during online lectures.
2. Study instructors' roles and skills in online teaching.
3. Find out instructors' attitudes toward online teaching platforms.
4. Compare students' and instructors' perspectives regarding instructors' roles and skills in delivering online lectures.
5. Investigate the pros and cons of the online teaching platforms used in teaching online English courses.
6. Explore the different online tools and strategies instructors used during online lectures to improve students' engagement and academic performance.

Study 3 (E-learning members)

1. Gain insights into the pros and cons of teaching platforms used in Palestinian universities, as perceived by e-learning members.
2. Investigate e-learning members' attitudes toward utilizing online platforms in university teaching.
3. Delve into the obstacles that hinder the usefulness of e-learning.
4. Provide practical recommendations and suggestions for the higher ministry of education to ensure continuity in developing their digital resource repositories and e-learning systems at Palestinian universities with high standards.

REVIEW OF RELATED LITERATURE

2. Review of Related Literature

In this part, the researcher reviewed the available literature and structured the review of related studies into three sections. ***Section 1*** is related to students' experiences in e-learning, their satisfaction with online learning systems, their perceptions and attitudes towards online education, and student online engagement. ***Section 2*** is focused on instructors' experiences in e-learning, their perceptions of the role of online teaching platforms in enhancing students' learning during online lectures, and their attitudes towards online teaching platforms. ***Section 3*** presents the challenges and solutions of using online teaching platforms at higher education institutions.

2.1 How Do Students View E-learning?

2.1.1 Student Experience in E-learning

This section is focused on the students' experiences in online learning, the relationship between motivation, digital pedagogy, and engagement on their perceptions toward online learning and the methodologies used in their online English course, their attitudes toward enrolling in online programs, satisfaction with the organization of online teaching process, and the impact of online learning media on students' engagement and academic achievement.

Students need to acquire specific knowledge and skills that will allow them to integrate new skills into their online courses. In this sense, Sørum (2022) conducted a mixed-methods study at a higher education institution in Norway based on the students' collaboration, communication, and experiences in online learning. Based on the students' experiences in e-learning classes, they are highly motivated during the online live lectures they have taken, and only 10% have experienced using breakout rooms to a large extent. Also, the findings revealed that their lecturers had a good experience carrying out online lectures, but they did not encourage the students to turn

on their cameras or ask questions using the microphone. The students learned through interaction with themselves, teachers, other students, and the online learning environment, which allowed them to be at the center of the learning process.

Lei and Medwell (2021) explored students' experience in Online Collaborative Learning (OCL) at a Chinese higher education institution (HEI). The results showed that the students expressed their loneliness, developed a sense of autonomy, increased their self-efficacy, allowed shared rehearsal of learning activities, increased their motivation for learning, and offered them new insights into teaching methods. The results also demonstrated that the students experienced the flexibility of OCL, access to materials, the ability to get feedback online from peers and the teacher, and the opportunity to work at their own pace. On the other hand, some students identified some disadvantages of employing OCL, including difficulties in developing initial contact between students, challenges in maintaining group participation, problems in accessing the internet, and economic background problems.

While students' experiences in blended learning have been introduced into the educational system and have changed ways of acquiring, sharing, engaging, accessing, and consolidating knowledge. For instance, Warren, Reilly, Herdan, & Lin (2021) investigated students' experiences, self-efficacy, and performance in blended learning. The results showed that the blended approach increases academic self-efficacy and enhances students' experiences. Also, results proved that the discussion forum allowed students to master technical skills in the private and stress-free environment provided by the online platform and to access social resources in the classroom setting. Furthermore, Chen et al. (2020) investigated students' experiences with online learning platforms, analyzing students' experiences on seven major Chinese online educational platforms before and after COVID-19. The findings revealed that, before the pandemic, students were

concerned about the platform's access speed, reliability, and timeliness of video information transmission, and their experience on the Zoom platform was the best. And after the pandemic, the students focused primarily on the platform's course management, communication and interaction, learning, and technical support services, with the students' learning experience being the most important. Based on these results, the Zoom platform needs to improve its communication and interaction, teaching functionalities, and student status management. Furthermore, Chaoxing Learning app, which is a mobile learning platform that provides electronic course learning and group discussion functionalities, had the lowest overall student experience, and DingTalk, which is a mobile office software, performed the best, but it is still deficient in communication and interaction.

As the number of students enrolled in online education increases, it is critical to investigate how students' experiences based on the number of online courses taken affect their online engagement. Dumford and Miller (2018) investigated the effects of students' online course learning experiences on their engagement. The findings showed a significant link between student engagement and the number of online courses taken. Furthermore, first-year students who took more online classes reported lower levels of collaborative learning, fewer diverse discussions with classmates, and lower-quality interactions. On the other hand, the proportion of online courses taken by a first-year student positively affected the amount of time spent engaging in quantitative reasoning activities. This means that more online courses were associated with higher levels of engagement. Senior students, on the other hand, demonstrated that the effectiveness of teaching practices, student-faculty interaction, quality of interactions, and collaborative learning were lower when they took more online courses. In summary, results showed that the higher the percentage of online courses a student took, the lower the amount of collaborative learning in which a student

was engaged. Furthermore, a positive relationship was discovered between the percentage of online courses taken and cooperative learning, implying that the higher the percentage of online courses students take, the less cooperative learning they are engaged in. Support from institutions and teachers, course design, skill development, and various assessment methods all play a role in developing online students' engagement experiences. According to Farrell and Brunton (2020), a successful online student engagement experience is influenced by various psychosocial and structural factors, such as peer groups, stimulating online teachers, and self-belief on the one hand, and the design of an interactive online course structure and balancing life commitments on the other.

2.1.2 A Window into Student Satisfaction with E-learning

When shifting from face-to-face to online learning, it is urgent to incorporate a technology acceptance approach to increase students' experiences and satisfaction. Tarhini et al. (2017) asserted that e-learning systems that ensure a positive student experience positively influence student satisfaction with e-learning. The success of e-learning is determined by the students' satisfaction with online learning systems (Aparicio, Bacao & Oliveira, 2017). Cidral, Oliveira, Di Felice & Aparicio (2018) investigated the determinants of students' satisfaction with e-learning by conducting an empirical study at higher education institutions in Brazil. The research measured students' satisfaction with e-learning by examining the quality of the information, the e-learning usability of the system, the instructor's attitude toward e-learning, diversity in evaluation, and the students' willingness to participate. The study's findings demonstrated that the quality of collaborative efforts influences students' use of e-learning systems. Consequently, providing additional collaboration capabilities and improving existing ones will increase the impact of e-learning on students' satisfaction. The findings also revealed that instructor attitudes toward e-

learning, diversity assessment, and learners' perceived interactions with others contributed to the students' satisfaction levels with the e-learning systems studied. Moreover, results showed that students' satisfaction affects their use of e-learning systems.

Students' satisfaction with online courses was also found to be influenced by online teaching strategies. Different studies attempted to examine the relationship between pedagogical strategies and content with students' satisfaction with online courses. For example, Sabbah Khan and Yildiz (2020) emphasized that an effective online course design will enhance students' satisfaction, performance, knowledge, and skills. Demuyakor (2020) explored the importance of incorporating modern pedagogies to improve student satisfaction with e-learning. Yasin, Al-Tarawneh, El-Issa and Al-Zoubi (2022) used a descriptive cross-sectional survey to examine Jordanian students' satisfaction and self-efficacy toward an online course before and after COVID-19. The results showed that students' responses were at a high level. This indicates that online learning positively affects students' technical writing competencies and self-efficacy. Also, the results showed a positive correlation between students' online self-efficacy and their progress in their e-course. For instance, the students stated that they could understand, analyze, elaborate, and apply concepts taught in the online technical writing course. Based on these findings, the instructors are advised to prioritize self-efficacy when designing online courses to make their online teaching more effective. Indeed, the quality of the instructor, course design, and feedback significantly enhance students' satisfaction and performance in online classes (Gopal, Singh & Aggarwal, 2021).

Furthermore, in the Kingdom of Saudi Arabia, Almusharraf and Khahro (2020) evaluated the level of postgraduate students' satisfaction with the online learning platform and their experiences during the COVID-19 pandemic. Quantitative results indicated that the students were

extremely satisfied with the chosen method for enhancing their online learning outcomes. Additionally, the students were satisfied with PowerPoint presentations and projects that fostered their participation opportunities in the rapid shift to online teaching during the pandemic. The results also illustrated that the students were satisfied with their instructors' support in terms of course activities, assessment, teaching pedagogies, and delivery of online lectures. Moreover, it was observed that the majority of students were satisfied with the support provided by their university in terms of IT support, academic advising, and online workshops and seminars. Despite this, the results showed that students did not prefer a complete transition to online learning but had favorable perceptions of a blended learning shift. Lastly, the findings presented that students were more satisfied with Google Hangouts as a course delivery tool and Moodle as a medium for assessments and course management.

Students' satisfaction is an important predictor of their academic experience in online learning (Virtanen, Kääriäinen, Liikanen, & Haavisto, 2017). In line with this, Rajabalee and Santally (2021) investigated the relationship between student satisfaction and engagement in an online course. According to the findings, there was a significant positive correlation between student satisfaction and engagement. The students reported problems such as the lack of instructor support and technical concerns in all groups; however, regardless of these issues and the students' performance levels, they were satisfied with the online learning development model. Aristovnik et al. (2020) studied the impact of online teaching methods on higher education student satisfaction. The study's results displayed that the students were most satisfied with real-time video conferences, followed by video recording, submitting presentations, and written communication, while they were the least satisfied with audio recording. In addition, the students were very satisfied with the organization of the three parts of the teaching process (lectures, tutorials,

seminars, and mentorships) and that it was almost the same. The students also agreed that lecturers had prepared frequent assignments or coursework, followed by responding appropriately to posted questions and being open to helpful hints from students. On the other hand, the students' responses to workload before and during the pandemic revealed that 30.8% reported that their study workload had decreased, while most students stated that their workload had increased. But 57.6% of the students expressed that they were satisfied with the support of the teaching staff. Finally, the results showed that deficient computer skills and the perception of a higher workload prevented the students from perceiving their own improved performance in the new teaching environment.

In the synchronous mode of online teaching, web video conference is considered an effective online tool for maintaining students' interaction and increasing their social presence. Fatani (2020) evaluated undergraduate medical students' satisfaction with the teaching quality of case-based discussions conducted through a videoconference at King Abdul-Aziz University in Saudi Arabia. The results revealed that students were satisfied with the teachers' presence despite challenges with technical problems, and they expressed high satisfaction with the sessions' quality. The majority of participants agreed that the classes were intellectually demanding and the instructors were active and inspired the students to participate. On the contrary, the results showed no statistically significant correlation between student satisfaction and technical issues.

Pham et al. (2019) discussed evidence from Vietnam about students' satisfaction with e-learning service quality, having found that e-learning service quality perceived by e-learning students includes three factors: e-learning system quality, e-learning instructor and subject materials quality, and e-learning support and administrative service quality. The study found that overall e-learning service quality influences e-learning student satisfaction, which in turn affects e-learning student commitment.

The TAM model is used by the researchers to study the students' acceptance and use of online learning platforms. Alfadda and Mahdi (2021) investigated the relationship between the variables of the technology acceptance model (TAM) and Saudi undergraduate students' usage of Zoom. The findings indicated an association between computer self-efficacy and perceived ease of use, attitude, and behavioral intention. Furthermore, the results emphasized a positive relationship between computer self-efficacy, perceived use of technology, and use of the Zoom application, and a negative relationship between students' gender and their acceptance of using Zoom for language learning. Lastly, the findings revealed a positive relationship between students' experiences and their acceptance of using the Zoom application for language learning. In a similar study, Gallego-Gómez, De-Pablos-Heredero & Montes-Botella (2021) analyzed students' acceptance of remote teaching and learning systems based on the Technology Acceptance Model (TAM). They distributed an online survey to public and private Spanish universities' students. The results pointed out a significant positive relationship between attitude and intention of use, attitude and advantages, satisfaction and usefulness, and satisfaction and intention. The findings also reported that 30.7% of students had improved their views of online education. On the other hand, 49.9% of students do not believe that, in the long term, face-to-face teaching and learning will be replaced by virtual education. Thus, the researcher of the current doctoral thesis agrees with adopting the TAM model when there is a need to rapidly migrate from face-to-face to online teaching and learning processes.

Acceptance of technology implies students' willingness to use technology regularly. Aguilera-Hermida (2020), for example, used a mixed-methods approach to investigate college students' use and acceptance of emergency online learning and how their attitude, motivation, self-efficacy, and technology use influence cognitive engagement and academic performance. In terms

of attitudes toward educational delivery methods, the findings revealed that the students preferred face-to-face learning over online learning. There was also a moderately significant correlation between preferring face-to-face instruction and difficulty adapting to online learning. In terms of student motivation, the results showed that students were statistically significantly more motivated before the stay-at-home order than after it. Also, the students reported using learning technology more frequently after the stay-at-home arrangement compared to before the stay-at-home arrangement. They also stated a decline in their ability to complete assignments on time, succeed in classes, discuss topics with colleagues, and manage their time well. The participants showed no difference in grade levels and a moderately negative correlation between favoring face-to-face learning and cognitive engagement. Self-efficacy and cognitive engagement have a strong positive relationship; however, the findings also revealed a weak positive relationship between the use of technology and self-efficacy prior to COVID-19.

2.1.3 Perceptions and Attitudes towards Online Education

Students' perceptions and attitudes are some of the most important factors influencing the success of the transition to online education. However, to progress with online education, it is critical to determine whether students are responsive to and ready to take various types of online courses. Different studies explored students' perception of online learning. For example, Aderibigbe (2020) investigated the role of online discussion forums on strengthening students' engagement in the social sciences department at North American Public University by measuring students' perceptions toward online learning, particularly in terms of engagement, motivation, and satisfaction with the organization of online teaching process. Researcher found that the students' engagement level through the online discussion forum in the courses was very high. Also, the students felt engaged in the courses through online discussions when reading their colleagues'

posts and responding to their comments. On the other hand, the results showed that a few students could not engage in the courses as expected. Also, some students indicated that they felt distant and did not have any experience in the online discussion.

Within the same context, perceptions of students toward online learning were studied by different researchers in Spain, for example, in a case study conducted by Vega-Carrero, Alejandro-Pulido & Ruiz (2017), who explored students' perspectives toward the methodologies used in the online learning environment to learn English as a second language at the University of Colombia. The researchers demonstrated that most students affirmed that the main reasons for enrolling in online English courses were the flexible schedule and the ability to do coursework at home. In addition, only 14% of students affirmed that they used Blackboard, and only 41% used Moodle. Also, the majority of the students confirmed that they utilized audio, and 41% said that they used video streaming. Moreover, students' familiarity with computer technology was rated the highest. On the other hand, there was a slight decrease in the improvement of the quality of interactions with students and with the instructor. Regarding the students' perception of how e-learning helped them improve their EFL skills, the results highlighted that they believed that online learning helped them enhance their vocabulary skills, followed by listening and reading, writing, and spelling and grammar. On the other hand, pronunciation and speaking skills seemed to decrease. Finally, results showed that 70% of the students considered technology-related problems to have a great impact on the learning process. And the students rated the instructors' technology knowledge as having a great impact on the success of the online learning process.

The importance of integrating digital applications in teaching online English courses as a foreign language is also emphasized by the experimental study of Tarazi & Ruiz-Cecilia (2022), who examined the effect of using the NAVIO application on enhancing Palestinian students'

competence in linguistic communication, cultural awareness and expression, cooperative learning, oral and written production, and digital competence. The researchers discovered that the use of the NAVIO application produces an interesting course that stimulates students' interest in learning and mastering English skills according to their levels and needs. The use of the NAVIO method in foreign language online classes also creates a relaxed and fun environment that motivates students to acquire the foreign language and take part in classroom activities with great enjoyment. It is worth mentioning that the results showed that using the NAVIO application has positive effects on enhancing students' performance levels within the four English skills.

Hervás-Gómez, Díaz-Noguera, De la Calle-Cabrera & Guijarro-Cordobés (2021) recently investigated Spanish higher-education students' perceptions of online learning at Seville University. According to the findings, students' motivation scored higher than autonomy and digital pedagogy in their ability to adapt to online learning. The findings also revealed that students' perceptions of motivation for the subject matter were higher than their perceptions of autonomy and digital pedagogy. In terms of the conceptual framework for digital pedagogy, the findings showed that all the items have a medium-low starting point. In terms of motivations, the findings revealed that approximately 70–80% of the students completely agreed that the material in the subjects was useful and interesting. In terms of student autonomy, the results pointed out that more than 60% of students preferred online learning.

Likewise, Maican and Cocoradă (2021) examined Romanian university students' perceptions of online foreign language learning during the pandemic and discovered no statistically significant differences in students' achievement based on gender or study program. Moreover, there were no statistically significant differences in students' attitudes toward completely or partially online foreign language (FL) learning by gender, study program, or

achievement level. Also, they discovered that the stress factors, behavior problems, and feelings negative associated with online FL learning during the pandemic did not differ statistically by gender. Other findings revealed that lower-achieving students had a higher level of pleasure.

Students' perceptions toward synchronous and asynchronous e-learning in the English Language Teaching (ELT) department at the University of Pamulang in Indonesia were also explored by Friska (2021), who found that most of the students have a positive perception of applying e-learning to assist their learning process and have a positive attitude toward e-learning in general, either synchronously or asynchronously. Researchers also discovered that only half of the students thought synchronous lecturing was more efficient than asynchronous lecturing and more than half of students thought the material provided in the Learning Moodle System (LMS) was quite complete, and they had no problem accessing the material for learning. The results also showed that 79.6% of students preferred lecturing synchronously through video-conferencing, they had high motivation and enthusiasm to attend lectures synchronously, and most of them agreed to be disciplined on time when lecturing. Finally, results displayed that about 74.8% of the students preferred e-learning, especially in synchronous English classes.

A further study looked at students' attitudes toward synchronous online discussions. Rinekso and Muslim (2020), who discovered that the synchronous online discussion method of teaching was effective and should be used during a pandemic. The majority of the students also actively participated in the online sessions. Also, the findings revealed that some students believed that instructors played an important role in the success of the teaching process when using synchronous online discussions, and live-chat discussions helped them improve their writing skills, including grammar and spelling accuracy.

An investigation about the impact of personality traits on students' perceptions regarding online synchronous and asynchronous learning at Canadian higher education institutions was carried out by Borg et al. (2021), who demonstrated that students reported high levels of comfort using computer technology, as well as high familiarity with online collaboration tools such as Google Docs, Google Slides, and Prezi, and some familiarity with Google platforms. Results also showed that online synchronous was used significantly more frequently than both in-person and online asynchronous, while in-person was used significantly more than online asynchronous. In addition, in-person teaching was perceived as more effective than both online synchronous and online asynchronous teaching. Online synchronous, on the other hand, was perceived to be significantly more effective than online asynchronous.

Although students were generally satisfied with their academic performance and achievement, they still preferred the face-to-face mode of teaching. In this respect, Hussein, Daoud, Alrabaiah, & Badawi (2020) investigated students' attitudes toward emergency online learning at one of Dubai's universities. The results illustrated that the most frequently mentioned positive aspects of the emergency online learning experience were cost and time effectiveness, safety, convenience, and improved participation. On the other hand, distraction and reduced focus, heavy workload, problems with technology and the internet, and insufficient support from instructors and colleagues were the most recurrent negative aspects.

In digitally developed countries, e-learning can be effective (Basilaia & Kvavadze, 2020). However, it is indeed ineffective in Pakistan. Toward that end, Adnan and Anwar (2020) studied Pakistani higher education students' attitudes toward mandatory electronic university courses in the middle of the coronavirus. According to the study's findings, online learning cannot produce desired results in undeveloped countries such as Pakistan, where most students struggle to access

the internet due to technical and economic problems. Additionally, the findings indicated that the lack of face-to-face interaction with the instructor, fast response, and traditional classroom social conditioning was among the other obstacles recognized by higher education students.

Cranfield et al. (2021) performed an international, comparative, and quantitative study that investigated and explored higher education students' perceptions of emergency online learning during the COVID-19 pandemic across three universities in three different countries: Hungary, South Africa, and Wales. The majority of South African students agreed that the emergency online education provided during the pandemic improved their independent learning, while only half of Welsh students and less than half of Hungarian students agreed. Findings also revealed that in South Africa, many students only have access to digital equipment at their university. This university responded by providing each student who lacked the necessary resources with a purchased and discounted laptop, and free but limited data bundles were included in the package deal provided to these students. Mobile service providers in South Africa also allowed students to access university websites free of charge. Besides this, the differences in student attitudes in the online environment may be explained by cultural diversity. Hungarian students preferred online learning more than South African students. The Welsh students, on the other hand, preferred face-to-face teaching. Hungarian students, on the other hand, found it easier to interact with their classmates and professors during online lectures than students from Wales and South Africa.

Due to the significance of the matter, which is highly related to the success of the online learning and teaching experience, Hussein Hakeem Barzani (2021) used a mixed method to investigate Kurdish EFL university students' perceptions of online versus on-campus education. In accordance with the results, many students had a negative attitude toward online education and chose and recognized on-campus education as more effective. Similarly, 81.2% of students believe

they will not continue their studies virtually the following semester. It was also discovered that the majority of students were dissatisfied with online education because of external and internal factors.

Higher education institutions should shape students' perceptions, prepare them to learn through various types of online learning, and expand their use of distance education forms as online learning becomes more popular. Fidalgo, Thormann, Kulyk & Lencastre (2020) conducted a pilot study that compared three countries that do not offer extensive distance education–accredited programs—Portugal, the United Arab Emirates, and Ukraine—to examine undergraduate students' perceptions of distance education and willingness to enroll in this type of course. According to the findings, the three countries' students' primary concerns about taking distance education courses were similar. Time management, motivation, and English language skills were among the issues raised. However, this did not completely hinder the participants' interest in taking online courses, particularly Ukrainian students. Besides, much more advancement of Distance Education (DE) courses at higher education institutions in countries such as Portugal, the UAE, and Ukraine has excellent potential. Considering this, many researchers have focused on adopting e-learning in higher education and students' perceptions of the usefulness of this type of learning. Coman et al. (2020) studied Romanian university students' perceptions of online learning, their ability to assimilate information, and their utilization of e-learning platforms. According to the findings, universities, teachers, and students were unprepared for the abrupt shift to entirely online learning and teaching. In addition, 69.4% of the respondents reported regularly encountering technical problems such as connecting to the platform, signal degradation, postponed viewing of messages, and sound troubles. Furthermore, the findings highlighted that some students lacked the necessary advanced technologies to participate in online learning, such as a poor internet

connection and the lack of laptop computers. The findings also showed that teachers lacked the technical skills required to properly interact with students in an online environment and maintain high teaching standards. Truly, 86.4% of the students reported that teachers frequently used a limited number of e-learning platform tools. Besides this, 22.5% of students stated that the main issue they encountered was a lack of adaptation of the teaching style to the online environment, which hindered their ability to assimilate and comprehend the subjects taught during the courses.

In contrast, an empirical study was conducted in the National Capital Territory of Delhi, India, to examine university students' perceptions of e-learning. According to the findings, the students had positive attitudes toward and acceptance of the e-learning system. It has also demonstrated the importance of e-learning during COVID-19 as a new approach to enhancing the learning process. The study also showed that students had positive attitudes toward e-learning, which enables them to communicate with their peers and instructors while engaging with their course materials. Accordingly, e-learning tools facilitate information access, leading students to develop a favorable attitude toward them. Moreover, even though the students view e-learning as equivalent to face-to-face learning, the study demonstrated a similar experience of being educated through traditional teaching (Khan et al., 2020).

2.1.4 Student Online Engagement

A careful planning of how to support a meaningful interaction is recommended to maintain online engagement. In this regard, a sequential mixed methods study was conducted in Lebanon and India’s higher education institutions to examine students’ perceptions of different engagement strategies. The results showed that the students perceived student-content engagement strategies, such as screen sharing, summaries, and class recordings, as significantly more effective than student-teacher strategies, such as screen sharing, summaries, and class recordings, and student-

student strategies, such as group chat and collaborative work (Abou-Khalil et al., 2021). More relevantly, several indicators of student engagement emphasize active and self-directed learning as independent student learning, as well as highlighting and sustaining collaborative learning. Lee, Song & Hong (2019) created an instrument to assess Korean students' engagement in e-learning environments. The findings revealed that six factors contributed to student engagement in e-learning: psychological motivation, collaboration, cognitive problem-solving skills, and interactions with instructors, supportive environments, and learning management. First, the psychological motivation factor represents the students' perceptions or emotions about e-learning, such as interest, anticipation, and enthusiasm. Second, the group collaboration factor refers to activities in which the students discuss knowledge and solve issues collaboratively. Third, cognitive problem-solving is the method of learning, fully understanding, and transferring knowledge. Fourth, communications with instructors demonstrate the behavioral engagement with which an online student interacts with the instructor. Fifth, the community engagement factor is related to the students' psychological condition, such as the investments or feeling of belonging founded within and between students enrolled in the same online courses. Sixth, behavioral engagement is emphasized in teaching management, in which students control their own learning while actively participating in online courses. This factor, however, is associated with active and self-directed learning activities for students in an independent educational process. Similarly, there are different factors underlying the perceived importance of online engagement strategies, as perceived by teachers and students, such as peer, instructor, multimodal, and self-directed. Also, the relationship between these factors is not strong. However, these factors contributed to engagement in online learning environments (Bolliger & Martin, 2021).

Enhancing students' engagement in online synchronous classes is still a main challenge for educators. However, to overcome difficulties in enhancing students' engagement in EFL synchronous learning in the Palestinian context, Tarazi and Ortega-Martin (2023) examined the role of the mentimeter platform in enhancing EFL students' engagement in synchronous classes. Based on educators' experiences using the Mentimeter platform in different educational settings, the findings revealed that educators had favorable attitudes toward using the Mentimeter platform in synchronous education. The findings also showed that nearly all educators thought the Mentimeter presentation techniques had a significant impact on enhancing student participation in online synchronous sessions, reducing the possibility of boredom among students, and encouraging them to actively participate in online synchronous sessions. In the same vein, Sweetman (2021) also emphasized the importance of online engagement and examined student engagement by providing synchronous learning sessions. The study's results indicated how the selection of video conference platforms affects student engagement in terms of sharing video and audio of teachers and students, virtually raising hands, screen sharing, holding small group discussions, and stimulating chat capabilities. Furthermore, the researcher highlighted the relevance of establishing norms, providing expectations for the students during class sessions, and creating a framework within which students perceive group work to enhance student engagement and increase their performance. Enhancing students' engagement in online synchronous classes is still a main challenge for educators.

Interestingly, Ramaha and Karas (2021) examined using an interactive avatar to maintain students' motivation during asynchronous e-learning settings. Thus, the researchers suggested an architecture for asynchronous e-learning systems that can detect students' motivation and maintain their engagement, provide the students with feedback, reward their performance, provide them

with different levels of difficult tasks, praise their efforts, ask them to continue with the task, and help them. The results of the experimental study showed statistically significant differences in the students' motivation during asynchronous e-learning in favor of the experimental group.

Francescucci and Rohani (2019) explored the impact of synchronous online learning on students' engagement and found that students' engagement levels appeared to demonstrate differences in means between the control and experimental groups. In general, depending on the instructor and semester, the face-to-face control group appears to be more engaged. The results displayed that while the control group appeared to have higher levels of expected attendance and participation, the experimental group appeared less engaged at the end of the semester. On the other hand, a systematic literature review was carried out between 2004 and 2020 to compare synchronous and asynchronous online learning. The review's findings revealed that researchers are still divided on which learning method to use because there are always benefits and drawbacks to using each method of e-learning. Thus, the professor can decide how to blend synchronous and asynchronous learning in online learning settings based on the setting and situations (Amiti, 2020).

Students' abilities to engage in online or blended courses improve with the support of two types of communities, according to the academic communities of engagement framework: the course community and the personal community. The framework identifies that, within their own skills and abilities, both community types are likely to provide specific support elements, trying to associate them with the various types of student engagement required for academic success (Borup et al., 2020). Conijn, Van den Beemt & Cuijpers (2018) investigated how different Massive Open Online Courses (MOOCs) measurements, such as MOOC completion, frequency of activities, and past performance, can be used to identify MOOC improvement opportunities. According to the findings, students' participation in a MOOC is positively related to their MOOC completion. They

also discovered that all MOOC activities were positively related to final grades within the on-campus course. When the past performance was controlled, activity frequencies were not significantly related to the final exam grade. Besides, some activities showed a negative correlation for students with poor prior performance. As a result, being more active in a MOOC does not always positively impacts the final exam grade, especially when students have had poor performance in the past. The fact that participation in a MOOC generally leads to improved course performance does not provide much insight into MOOC redesign. Findings also pointed out that adding specific course item frequencies and the order of activities might offer additional knowledge about MOOC improvement and student performance. Also, students were not confident enough in their work to use the forum and assumed it was the teacher's responsibility to respond to questions. However, only the students with high prior performance decided to post on the forum.

It is critical to understand how students access, attend, and participate in online classes to improve their performance and academic success. Nieuwoudt (2020) investigated the role of class attendance in improving students' academic success and interaction in two online courses from an Australian regional university, discovering a significant relationship between final grades and the number of hours students spent on the Learning Management Systems (LMS). Students in the "science" subject had a higher mean than those in the "Managing Your Studies" subject. Also, there was a significant relationship between attending synchronous virtual classes and final grades and between watching recorded classes and final grades. On the other hand, there was no difference in final grades between students who attended synchronous virtual classes and students who watched recorded virtual classes. Attendance at synchronous virtual classes and watching recorded virtual classes significantly predicted final grades in the "Managing Your Studies" subject, with

watching recorded classes with the highest significant difference. Attending synchronous virtual classes, on the other hand, did not significantly influence final grades in the science subject nor did watching recorded classes. In the "Managing Your Studies" subject, there was a significant relationship between students' final grades and the number of times they viewed the PDF guide. Even though it does not make much difference whether students attend synchronous virtual classes or recorded virtual classes, it is important that students attend classes.

Dumford and Miller (2018) analyzed how the degree of online course exposure evaluated by the percentage of classes a student attends online contributes to engagement. The study's findings demonstrated that first-year students who take more classes online report lower levels of collaborative learning in their courses, fewer diverse discussions with others, and lower interaction quality. The percentage of online courses taken by first-year students, on the other hand, positively affected the amount of time spent engaging in quantitative explanation activities. Moreover, for senior students, the strongest relationship was discovered between the percentage of online courses taken and collaborative learning, suggesting that the higher the percentage of online courses a student takes, the less collaborative learning the student engages in.

Previous studied have explored the influence of technology dependence and digital literacy on students' achievement during the COVID-19 pandemic. For example, a descriptive correlational study from a Ghanaian university reported that there was a significant positive correlation between technology stress and the students' academic achievement. A significant positive correlation also existed between age and techno-stress, while no statistically significant differences existed in academic levels or gender. On the other hand, techno-stress had a significant negative relationship with academic achievement, and there was an inverse effect of techno-stress and techno-uncertainty on students' academic productivity. Also, there was a statistically

significant difference between students with 0–10 years of experience and students with more than 10 years of experience regarding their experience with Information Communication Technology (ICT). Thus, students with low ICT experience had more significant technology-induced stress and techno-complexity (Essel et al., 2021). In addition, an experimental study conducted at the Universidad Autonoma de Madrid by Gonzalez et al. (2020) analyzed the influence of COVID-19 confinement on students' achievement. Their study revealed a significant positive effect of COVID-19 confinement on students' performance. There were also statistically significant differences between the experimental and control groups in students' performance in confinement compared with their performance in the previous two years. In summary, students' performance can be increased independently if the learning strategies are followed by teachers, additional e-learning tasks are imposed on the students, theoretical lessons are replaced with written documents, and multimedia classes are given as additional material.

Oguguo, Ocheni & Adebayo (2021) followed ex post facto research design and the Students Test and Measurement Course Preform (STMCP) to examine students' achievement in online tests and measurement courses in synchronous and asynchronous e-learning platforms, which revealed that students in synchronous learning achieved higher than those in asynchronous learning in online test and measurement courses. Results also showed that the male students achieved significantly higher than the female students in online tests and measurement courses under synchronous and asynchronous learning. Another study based on transactional distance theory and Bloom's taxonomy theory looked into potential factors influencing students' academic achievements and satisfaction with online learning platforms in higher education. According to the findings, the students' backgrounds, experiences, collaborations, interactions, and autonomy positively influenced their satisfaction. Furthermore, the consequences of students' application,

remembering, understanding, analyzing, and satisfaction were positively related to their academic achievement. As a result, the quantitative findings offer significant support for the interdependent relationship between transactional distance and Bloom's taxonomy theories in using online learning platforms to improve students' academic achievement and satisfaction (Abuhassna et al., 2020).

2.2 How Do Instructors View E-learning?

Online teaching has been an increasingly researched topic. However, despite a growing number of online teaching studies published in recent years, only a few studies focused on online teaching at HEIs. Therefore, the researcher structured this section around studies that delved into university teachers' perceptions, attitudes, experiences, and readiness during the implementation of online teaching.

Mellar et al. (2018) carried out a mixed-method study to examine higher education teachers' perceptions of the prevalence of cheating in online exams. They reported that with the increased use of e-assessment, most teachers predicted cheating to become a significant challenge. Although many teachers considered the challenge of ensuring successful authentication as an obstacle to expanded employment of e-assessment, it was not seen as a major problem since it was felt to be well handled through face-to-face proctored tests. Additionally, authorship verification was viewed as a big concern in all circumstances, including copying and pasting from the internet. Therefore, they recommended reducing reliance on face-to-face standardized tests and improving e-assessment quality by supporting the use of a wider range of e-assessment methods. Similarly, Canals and Al-Rawashdeh (2019) conducted a mixed-method approach to determine teachers' attitudes towards using technology for language instruction, their experiences, and challenges. The main findings showed that the faculty expressed positive attitudes towards teaching online, the

effectiveness of online language learning to practice productive skills, and the affordances it brings to practice receptive skills. Also, most teachers had positive attitudes towards technology, and its adoption for language teaching might be biased in some ways by their level of experience of teaching online versus face-to-face and the expectations of the institutions for the provision of online courses. On the other hand, faculty members were properly trained, even though a majority of them lacked any experience prior to their first online teaching experience.

Regarding Palestinian instructors' attitudes, a descriptive-analytical method was carried out by Abu Jarad, Salameh, & Norman (2022) to identify the attitudes of faculty members at Palestine Technical University Kadoorie (PTUK) toward using Massive Online Open Courses (MOOCs). The most important results are that the total degree of faculty members' attitudes toward the importance of MOOCs courses was very high. The total degree of attitudes toward obstacles faced during the adoption open online courses in the educational process was high. Moreover, 82.50% of faculty members agreed that the students lacked awareness on the advantages and benefits of MOOCs in the learning process.

A qualitative study from Istiqlal University at Palestine reported English language teachers' experiences in implementing online Emergency Remote Learning (ERL) methodologies. The study revealed that teachers faced pedagogy shock and were forced to go beyond reconfiguring their practices to reconsidering and restructuring their roles within the teaching space. Also, dedicated institutional support infrastructures, both hard and soft, were needed to support teachers' delivery of effective e-learning opportunities. Besides, teachers lacked specialized training in developing and deploying digitally mediated pedagogy (Abu Elhawa, 2021).

The in-service teachers' experiences at Fiji National University (FNU) during the second phase of the COVID-19 pandemic were examined. The main findings showed that FNU in-service

teachers faced difficulties transitioning from face-to-face to online instruction, such as poor connectivity, a lack of devices, insufficient technological skills, and the requirements of different roles. On the other hand, the advantages of online learning included enhancing students' technical skills, equipping higher education staff and systems, remaining consistent during challenging times, saving time and money, adaptability, and simplicity. According to the findings, adaptation should focus on improving courses and bridging the digital divide among in-service teachers by providing mobile-friendly, synchronous, and asynchronous activities (Ibrahim, Nath, Ali & Ali, 2022).

Cobo-Rendon et al. (2021) analyzed the teachers' technological acceptance levels at the beginning of Emergency Remote Teaching (ERT) in selected universities in Chile. One of the most important results is that there was a high level of technological acceptance by teachers regarding the use of the Canvas LMS, and on average, teachers' perceived greater ease than perceived usefulness concerning the Canvas LMS. This means that the teachers' perception of LMS's easiness is related to the percentage of educational resources their students utilize. Thus, the relationship between the teachers' acceptance and the time spent on the LMS was significant and positive.

Sun (2022) studied the effects of understanding the acceptance and adoption of synchronous online teaching by university teachers of English as a foreign language. The study purported that the actual use of synchronous online instruction by in-service EFL university teachers was influenced by social and institutional factors, perceived ease of use and usefulness, self-efficacy, and attitudes. According to the findings, perceived usefulness became a vital indicator of teachers' actual utilization of synchronous online teaching, while perceived ease of

use and perceived usefulness became non-significant reliable indicators of teachers' attitudes toward using synchronous online teaching.

Furthermore, university teaching professors in Spain have an average level of self-perception regarding attitudes, demonstrating the importance of motivating university teachers to improve their attitudes toward ICT use. The findings also revealed that teachers are aware of the significance of using ICT in all facets of the university experience, but it is still unutilized since not all of them use it regularly in their teaching (Guillén-Gámez & Mayorga-Fernández, 2020). Equally, the Afghan EFL lecturers' attitudes toward instructional technology were investigated. The findings of this study highlighted that the teachers had very positive attitudes toward instructional technology and used it moderately in their classes. The findings also demonstrated that teachers' positive attitudes were significantly related to their use of common educational and technological tools in their classrooms. Gender, educational qualification, and teaching experience were found to have no significant relationship with teachers' attitudes toward instructional technology. The findings, however, also showed a significant relationship between age, prior computer training, and teachers' attitudes toward instructional technology. The lecturers faced specific challenges that influenced their use of instructional technology in the classroom, such as a lack of computers and time to use instructional technology in class, and limited Internet access (Noori, 2019).

The academic community's attitude toward online learning was also discovered to be negative, with crisis distance teaching having no positive impact on future attitudes toward distance learning methods. Further to that, participants' perceptions of the benefits and drawbacks of online learning differ depending on their willingness to utilize distance learning in the future. Respondents with a positive attitude toward distance teaching are more likely to mention its

benefits, such as flexibility in working hours, adaptability, good accessibility, and the easy availability of this form of education. They are also less concerned with its disadvantages, which include work overload and lower quality. However, assessment of the benefits and drawbacks is convergent for participants who experience them. Regardless of professional success, participants with the same attitude toward online learning have convergent assessments of the benefits and drawbacks. The more experienced and familiar lecturers are with distance learning techniques, the more enthusiastically they express interest in continuing education for their students utilizing distance learning techniques after the national lockdown (Migocka-Patrzałek, Dubińska-Magiera, Krysiński & Nowicki ,2021).

Anthony Jnr (2021) researched blended learning implementation among faculty members at a higher education institution in Malaysia and pointed out the positive relationship between coercive and mimetic pressures and faculty members and how these pressures influence their implementation of Blended Learning (BL). The results also provided an important insight into the impact of institutional pressures on faculty members' implementation of BL at HEIs. In contrast, Castro (2019) reported that the importance of the integration of digital technology into blended learning relies on digital tools or platforms with human-to-machine interface capabilities, and intelligent tutoring systems may help to improve blended learning-teaching activities. Thus, the researcher of the current doctoral thesis agrees that by increasing students' access and supporting personality into online learning activities and providing students with a personalized learning route, their attitudes toward blended learning will improve. Similarly, Agbi and Yuangsoi (2022) pointed out that the deployment of blended learning necessitates suitable infrastructure and skilled and motivated teachers. Using mobile blended learning combined with collaborative inquiry-based learning also has the potential to improve students' abilities. Thus, a paradigm shift is required

from teaching that merely imparts specific concepts and skills to tactics that challenge and widen their perspectives and thoughts.

Tsegay, Ashraf, Perveen & Zegergish (2022) explored Chinese university teachers' online teaching experiences during the COVID-19 pandemic. They found that teachers were worried that they might not manage to teach online or engage their students properly, their concern toward online learning was lower than face-to-face or blended learning since they were not skilled enough to teach online courses, limited teachers' interaction with their students, lack of training, and lack of knowledge in online teaching affected their experiences while shifting to online teaching during COVID-19 pandemic. In addition, the results emphasized that implementing online teaching was a step forward for the development of education in China. Hence, the teachers had learned to extend their pedagogical practice by using different teaching approaches and integrating ICT into their classes. In the same context, a quantitative study of universities in Bangladesh determined the effect of faculty readiness in adopting virtual classes considering the mediating effect of technology adoption intention. The most important results showed that faculty readiness has the most influence in explaining the intention to use technology in virtual classes. Private universities were providing online education as their faculty are ready with the logistics and mindset to adopt technology-based virtual learning, while the public universities faculty were yet to initiate it since the lack of readiness of public universities will create a massive gap between public and private university education in terms of online teaching readiness (Kabir, 2020).

A further study compared teachers' and students' attitudes and experiences during the Union University of Belgrade's rapid transition to distance learning. The findings revealed statistically significant differences, particularly in the items dealing with the transition to online teaching and technical control. The teachers also agreed with the immediate switch to online

teaching via Zoom more than the students did, even though working with Zoom was a greater challenge for them than for students. Additionally, the findings demonstrated that the same was true when using Moodle, which can be attributed to teachers' greater effort and responsibility to invest in using these platforms rather than a lack of technical skills. On the other hand, the findings showed that teachers were more satisfied with the online courses than students. Then, the students regarded online knowledge tests as more accurate than teachers, and when it came to complaints about cheating, they considered online assessments more regular. Also, the students on average agreed that all teaching should be held simultaneously in a physical classroom, transmitted live, and recorded. At the same time, the teachers rarely agreed or disagreed (Bojovic, Bojović, Vujošević & Šuh, 2020).

In the same context, Walker and Koralesky (2021) examined student and instructor perceptions of engagement during and after the rapid transition to online teaching due to the COVID-19 pandemic. They discovered that the learning setup shift resulted in lower student engagement based on instructor perceptions of student engagement and student self-reports. They also found that students' affective engagement was mostly reduced following the rapid online transition, and none of the instructors reported that students were more engaged. Thus, the findings highlight the importance of assessing engagement qualitatively. The students rated synchronous tasks as more engaging but also found some asynchronous tasks more interesting, such as attending virtual office hours offered by the instructor and having the instructor interact with student comments on a discussion board.

According to a descriptive study of instructor perceptions of online education at a state college in the Philippines, most instructors had intermediate computer competency and no training in online teaching, with only a few having a very reliable internet connection. According to the

instructors' perceptions, online education results in more academic cheating, is inauthentic, appears to lack sensation once compared to face-to-face categories, and is difficult to control in terms of technology. Further to that, faculty members were divided on whether or not they embraced online education. Based on age, gender, college, educational achievement, years in teaching, academic rank, level taught, and employment status, instructors' opinions on online education differed significantly (Moralista & Oducado, 2020).

2.3 Challenges and Solutions When Utilizing Online Teaching Platforms at Higher Education Institutions

In this section, the researcher carried out a literature review of articles published between 2018 and 2022 that identified and discussed the challenges and solutions to online teaching and learning problems at higher education institutions.

Instructors and students at higher education institutions encounter common problems influencing the e-learning process. These problems do not, however, mean that it is impossible to improve online teaching. Recently, there has been an increasing research interest in topics related to specific obstacles encountered during the employment of online teaching.

The main focus of these articles was to explore and find out the problems behind using online teaching platforms by studying criteria like students' and teachers' characteristics and experiences; attitudes; and institutional, societal, economical, and technological aspects. The results of these different methodological studies implied that the students had trouble accessing the necessary software for certain online courses and did not have strong Wi-Fi or adequate electronic devices. The teachers' negative experiences are addressed by offering training to help them adapt, engage, use diverse software programs and teaching methods, understand their students' needs, and trust their ability to use online learning technologies (Ho, Cheong &Weldon,

2021). Zou, Li & Jin (2021) reported that the most frequent challenges of online education at Wuhan were technical problems, lack of interaction between students and instructors, unsmooth communication, bad experience in online examinations, and difficulties in taking notes. Also, the students lack self-discipline during online English lectures. For instructors, the main challenges were issues in pedagogy, tracking how well the students have learned, reviewing students' assignments online, and technology.

Ezra et al. (2021) discussed hindering elements in emergency remote teaching (ERT) in online learning (OL) at one of the largest universities in Israel and their relationships with equity factors: socioeconomic status, language, and juggling. The results indicated a map of inhibiting factors that were classified into two categories: *processes* (e.g., technologies, pedagogy, materials, setting, and personal features) and *outputs* (e.g., cognitive, emotional, social, and physical). The map also showed a complex web of facilitating and regulating relationships, with the effects of each equity element enhanced. Thus, the researcher of the current doctoral thesis agrees with considering the use of the proposed map as a teaching framework by researchers and educators interested in ERT or regular online learning to discover future inequities and minimize further imbalances. Likewise, Alqahtani and Rajkhan (2020) explored critical success factors that may enhance e-Learning as perceived by e-learning managers. The results showed a relationship between knowledge management, support, student characteristics, and information technology that influenced the e-learning process. However, the students must understand their role during the social distancing measures, create their own attitude and commitment, and find ways to self-motivate to gain successful learning outcomes. Keskin, Çinar & Demir (2022) examined the difficulties encountered by Turkish universities during Emergency Distance Education (EDE). The results of the personal and support theme showed that 45.67% of the universities employed at least

one staff member educated in instructional design in their Distance Education Centers (DECs), whereas 35.43% of universities had no instructional technologists within their DEC. While 73.23% of universities coordinated support services through a single support center, and 26.77% organized support services through departments, the guides and in-service training themes results showed that a considerable number of universities did not offer any text or video guidance to their stakeholders. Besides, most universities did not create a material production guide for academic staff 68.50% (i.e., uploading course material and creating synchronous lessons). Lastly, a limited number of universities (18.11%) offered in-service training to academic staff on DE pedagogy, such as interactive digital material development and e-measurement.

Like any other form of learning, e-learning has its pros and cons. Before taking online courses in any distance learning program, educators should thoughtfully consider the following factors to ensure they will receive an education that fulfills their individual needs, abilities, and career plans (Sadeghi, 2019). Although the shift to online teaching may provide greater flexibility in terms of university-based time management and location, it also presents significant difficulties. A case study emphasized the experience of teaching the Research Methods and Techniques subject at Cardiff University in the UK during the face-to-face to online teaching transition, trying to highlight the challenges and possibilities related to instructional and learning activities, evaluation and feedback, and online platforms. According to the findings, one of the main challenges connected with blended online teaching delivery is the extent to which online platforms can encourage new learning and student-to-student interaction. Furthermore, the challenges in making eye contact with students, forming sub-groups, and inspiring active engagement have made online synchronous small-group teaching and learning activities less popular. Besides that, challenges such as the improvement of main professional qualities like communication, emotional, social, and

technical skills, and the integration of carefully selected online technology will aid in the most effective redesign of instructional methods and intense engagement of students. More notably, several universities and educational institutions faced the challenge of providing their staff and students with the resources they need to develop their technological literacy skills (Peimani & Kamalipour, 2021).

Acharya et al. (2021) analyzed teachers' and students' perspectives on online education concerning its advantages and challenges in higher education in Nepal during and after COVID-19. The findings revealed that participants viewed online education as beneficial mainly for promoting online research, linking practitioners to the worldwide context and obtaining access to large and authentic knowledge resources. According to the results, the most extraordinary challenges were time management skills, more independence for teachers and learners, and reliable internet at the organization. The study also found that time management skills, technological readiness, and computer literacy are essential qualities for practitioners seeking online education. Moreover, online education can be an alternative to conventional education. Thus, in contexts such as in Nepal, a blended method of education would be more efficient and profitable.

Armoed (2021) study about South Africans' higher education experience found that an online higher education system is harder to implement since, in South Africa, higher education has encountered significant challenges—for instance, only 24% of the community has internet. Therefore, instructors and students at HEIs encounter regular problems such as poor connectivity, expensive internet fees, and frequent electrical problems. Nevertheless, in parallel to the social, economic, and technological challenges that South Africans experience. Some difficulties in the online education modality are the unexpected start of online courses, inappropriate teaching and learning methods, insufficient academic staff training, poor support programs, and limited teaching

and learning materials. Similarly, Ohanu and Chukwuone (2018) studied the challenges behind technical Nigerian instructors' unwillingness to use online teaching platforms. The study claimed that insufficient e-learning tools (i.e., software, hardware, and internet service), frequent technology failures, lack of comprehension of online teaching, inadequate pedagogical skills for online teaching, personal anxiety with online teaching, and lack of cooperation and support from their institution's authorities were the main challenges of e-learning implementation.

Another example of similar work conducted in developing countries was the study of Tulaskar and Turunen (2022), who reported that students from developing countries, such as India, encountered similar obstacles, including managing schedules, boredom, interruptions, and negative feelings toward ERL, as those from industrialized and technologically advanced countries like Finland. The results showed that all Indian students experienced bad internet connection, whereas Finnish students only had technical difficulties and challenges related to home-learning arrangements, like lack of required software or hardware.

In the Palestinian context, the challenges of distance education were caused by various factors: (1) the varied attitudes toward distance education among instructors and students due to previous experiences and the challenges while using the university's Moodle system; (2) the lack of skills related to teaching and assessing students' achievement in the distance education environment; (3) the technical infrastructure, such as lack of Wi-Fi and devices, server shutdown, and poor internet network; (4) the problem of plagiarism and fake identities faced by university instructors in virtual assessment; (5) the lack of digital skills; (6) the insufficient training in delivering online lectures; and (7) the complexity of online assessment (Abedmoneim, 2022; Affouneh , Khlaif, Burgos & Salha,2021; Hamdan, Ashour & Daher, 2021).

Correspondingly, COVID-19 results in developing countries such as Guyana and South America have revealed some challenges and benefits. According to Oyedotun (2020), online education, which has become the new reality, is facing a number of challenges, including a lack of resources, a lack of computers for students to use when joining the official portal, a lack of prior training on the requirements of e-learning for students and lecturers, and digital imbalances between many students and staff due to the lack of network connectivity in many rural villages. Second, there is a lack of national infrastructure. Third, there are problems with course delivery. Fourth, students are challenged by the lack of flexibility, family responsibilities, and mental health issues. On the other hand, the researcher reported various benefits in terms of personal growth and development, such as increased use of available resources, visibility at many training sessions, and the improvement of new university technologies. Furthermore, pedagogical changes allowed students and faculty to try new learning methods, such as using technology and other online tools for education and learning. In addition, lecturers and academic institutions looked into the possibility of developing blended learning.

In response to the challenges faced by technological breakthroughs and the implementation of learning management systems such as e-learning, a transition from a traditional learning method to one that is more open and creative was made, allowing students to learn in a pedagogical but recreational atmosphere. However, successful e-learning implementation necessitates adequate infrastructure, the potential to think differently, appropriate technology literacy, and program planning that meets the needs of all learners. Furthermore, growing awareness of development societies, such as the use of technology as a support assistant and the prevalence of open educational resources, the reconfiguration of learning spaces, the adoption of new methods for assessing learning, the restructuring of educational roles, and the implementation of online

learning programs with a structure centered on meeting students' academic goals (Rodrigues, Almeida, Figueiredo & Lopes, 2019).

There is a lack of consensus in Jordan and Saudi Arabia about the critical challenges and factors that shape the successful use of e-learning systems during the COVID-19 pandemic. According to a study, the important factors influencing the usage of e-learning systems are technology, e-learning system quality, cultural influences, self-efficacy, and trust factors. Furthermore, the findings revealed three major barriers to using e-learning systems: configuration management, e-learning system technical problems, and financial assistance problems (Almaiah, Al-Khasawneh & Althunibat, 2020).

Bashitialshaaer, Alhendawi & Avery (2021) investigated critical challenges to apply online exams at Palestinian universities in Gaza. The results held that the majority of professors and students stated that the lack of financial and remote communication capabilities (e.g., devices, internet, electricity, applications, etc.) were considered critical challenges in using online exams at Palestinian universities in Gaza since the teachers cannot control students' cheating and prove their identity. The majority of the faculty members and students also had negative attitudes toward e-learning systems and were not persuaded with the advantages of e-learning and its importance.

Dendir and Maxwell (2020) used a quasi-experiment to investigate cheating in online courses at a comprehensive, medium-sized public university in the United States. The findings of the analyses strongly suggested that cheating occurred prior to the implementation of online proctoring via webcam recording software. Every exam given in the two courses had a significantly lower average score when proctoring was used. According to regression analyses, GPA had a greater effect on proctored exam scores than unproctored exam scores as a criterion of

capabilities. The findings also proposed that online proctoring is beneficial for reducing cheating in online courses.

Turnbull, Chugh & Luck (2021) identified six solutions to the challenges of transitioning to online education experienced by higher education institutions. First, institutional support should be visible and multifaceted, with a focus on online learning materials development and technology support for faculty and students. Second, to mitigate the effects of any future crises, blended learning should be embraced as a mandatory component of F2F instruction in a post-COVID-19 world. Third, training in educational technologies and their effective use should be available to faculty and students who need it. Fourth, the capacity for learners to participate in online learning communities needs to be enhanced to ensure that a similar sense of connectedness can be retained if programs transition to online-only modes of delivery. Fifth, the use of synchronous and asynchronous tools in education should be viewed as complementary. Sixth, Learning Management Systems (LMSs) should play an authentic role in facilitating the transition from F2F into OL by managing curriculum and student progress, facilitating real-time communication, and fostering student engagement.

Similarly, Wang, Bajwa, Tong & Kelly (2021) proposed five steps to make the transition into online learning less problematic for teachers. First, teachers should start by creating a list of the minimal resources they and their students may need, such as physical and virtual references. Second, they should streamline the list to include what is absolutely needed to support teaching and learning and eliminate those items that are non-essential. Third, teachers should research online tools and apps to meet specific teaching and learning goals. Fourth, teachers should design online courses that can meet the needs of students with diverse backgrounds, abilities, and various levels of comfort with online tools. Fifth, to minimize the potential sense of isolation, teachers

need to consider ways to incorporate formal and informal engagement methods, such as using online forums and encouraging students to use them as a mode of communication during synchronous and asynchronous teaching settings.

MATERIAL AND METHODS

3. Materials and Methods

The material and methods of the study are key points through which the applied aspect of the study is completed and through which the data required for statistical analysis is obtained, thereby achieving the objectives it seeks to pursue. Accordingly, the methodology and sample of the study are described in this section, along with the study instruments utilized; how they are prepared, produced, and developed; how reliable and consistent they are; and the statistical procedures used to analyze the data and achieve the results.

3.1 Methods

A mixed-methods descriptive approach was used to achieve the study's purposes. The researcher used three data collection tools: a student's survey, an instructor's survey (closed and open-ended question forms), and interviews with managers and members of the e-learning centers of An Najah National University (ANNU), Arab American University (AAU), and Al Quds Open University (AQOU). The instruments were designed and developed by the researcher, based on the research questions and previous literature studies such as Dumford and Miller (2018), Friska (2021), Borg et al. (2021), Hussein, Daoud, Alrabaiah, & Badawi (2020), Adnan and Anwar (2020), Coman et al. (2020), Abou-Khalil et al. (2021), and Essel et al. (2021), to determine the role of online teaching platforms in enhancing teaching and learning at Palestinian universities according to students' and instructors' perceptions, and to explore the difficulties that e-learning members encountered during online teaching.

3.2 Population

The population consists of bachelor students, faculty members in English language departments, and e-learning centers managers and members from three Palestinian universities

(ANNU, AAU, and AQOU). The researcher gathered the data during the second and summer semesters of the academic year 2021–2022.

3.3 Participants

Using random sampling, a total of 423 students responded to the closed-ended questions. Figures 2, 3, and 4 represent the demographic information about the students who participated in the survey.

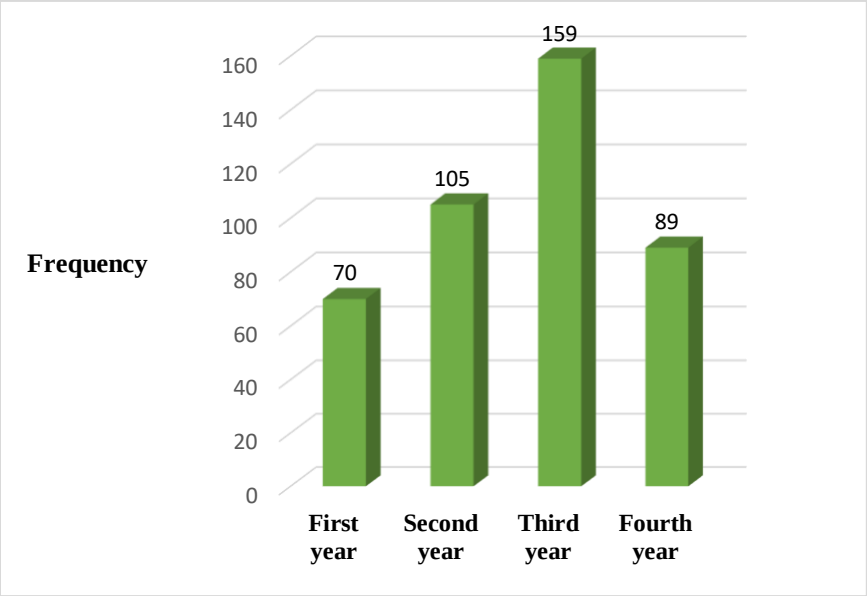

Figure 2. Sample distribution by year of study variable

According to the figure, the third-year students had the highest frequency (159) and percentage (37.6%), followed by the 105 students in second year (24.8%), 89 in fourth year (21%), and 70 in first year (16.5%).

Figure 3. Sample distribution by university variable

According to Figure 3, 145 respondents—constituting the majority (37.6%)—are from ANNU, followed by 143 AAU students (33.8%) and 135 AQOU students (31.9%).

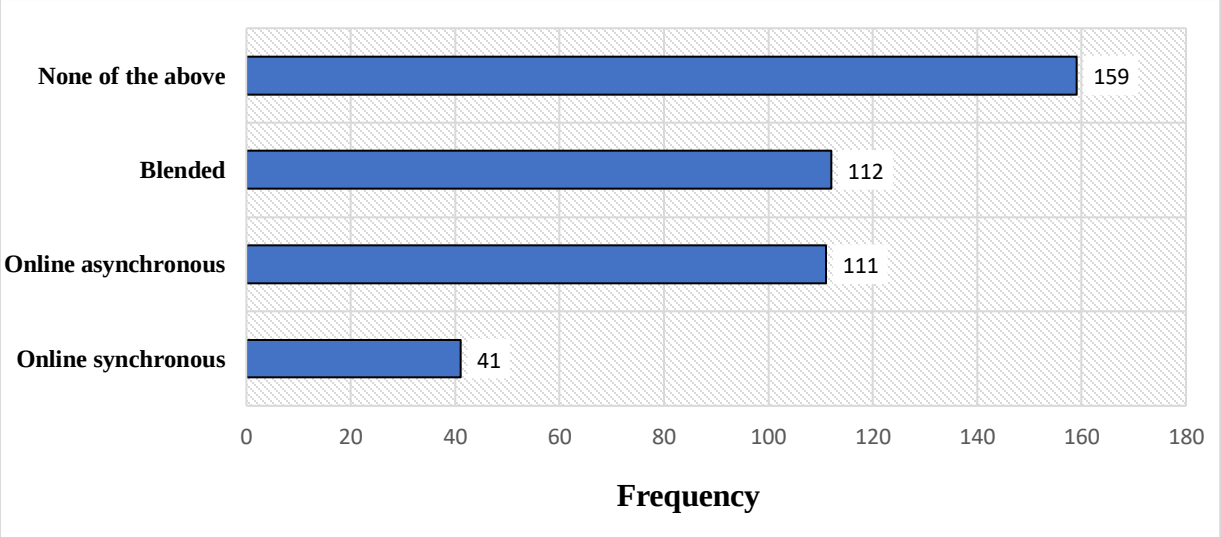

Figure 4. Sample distribution by kind of online course variable

Figure 4 illustrates that the majority of the participants (37.6%) did not have a specific online course, while 112 students had a blended online course (26.5%), 111 had an asynchronous online course (26.2%), and 41 had an online synchronous course (9.7%).

A total of 26 out of 40 instructors responded to both a closed-ended survey and open-ended questions. Figures 5, 6, 7, and 8 below represent the demographic information and distribution of the instructors who participated in the study.

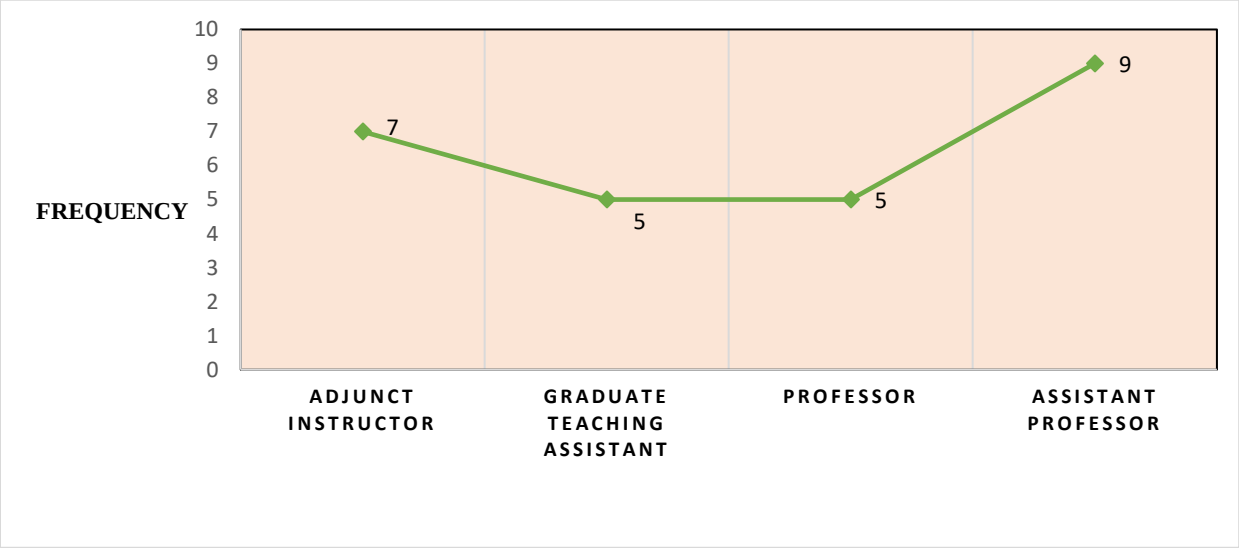

Figure 5. Sample distribution by academic rank variable

According to Figure 5, nine instructors, the majority (34.6% of the respondents), are assistant professors. The study also included seven adjunct instructors (26.9%), and only five participants are graduate teaching assistants and professors (19.25%).

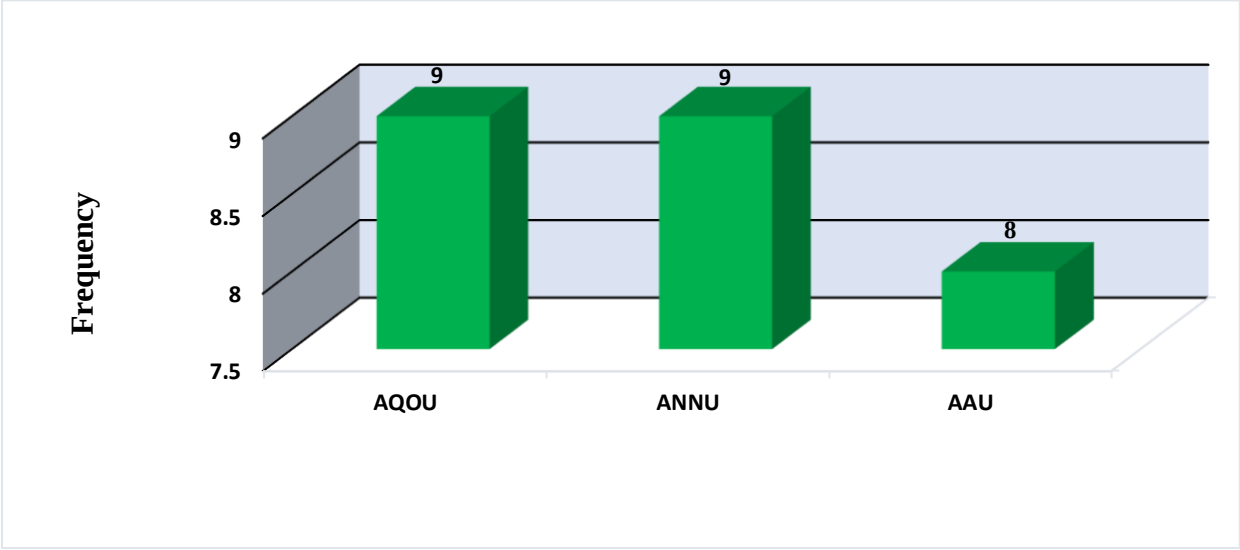

Figure 6. Sample distribution by university variable

Figure 6 shows that majority of the participants (34.6%) are from AQOU and ANNU, and eight participants are from AAU (30.8%).

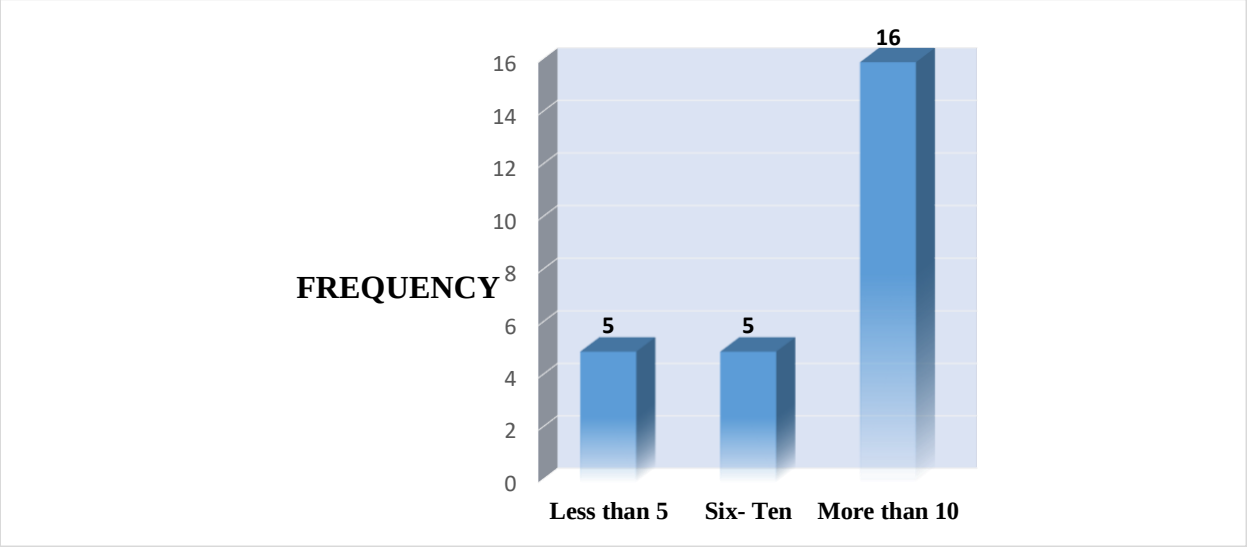

Figure 7. Sample distribution based on the number of years of experience

According to Figure 7, most of the participants (61.6%) have worked for more than 10 years, five respondents have worked for six to ten years, and another five participants have worked for less than five years (19.2%).

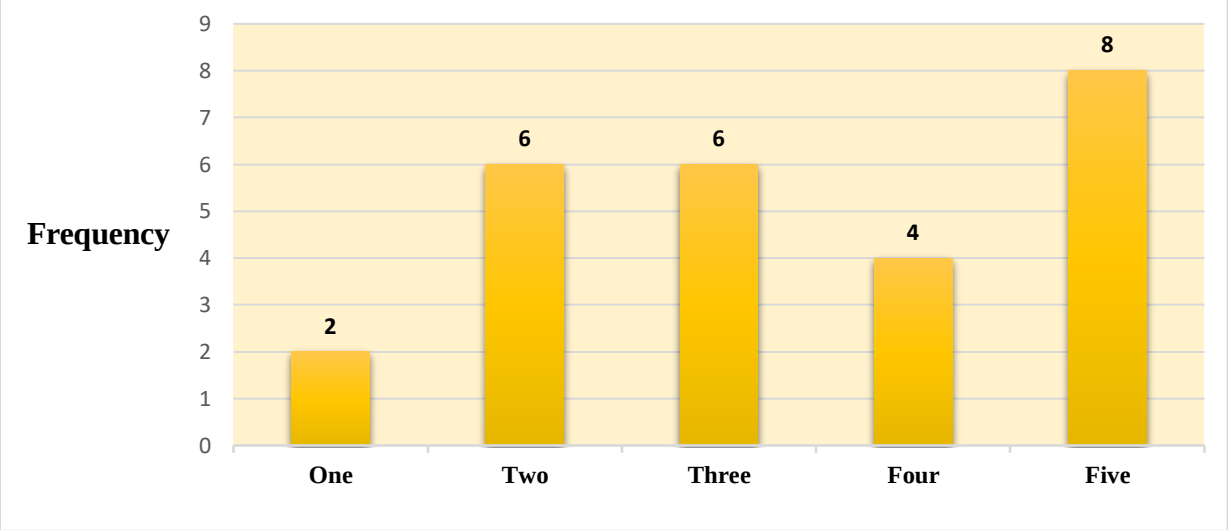

Figure 8. Sample distribution by number of online English-language courses taught at the undergraduate level

Figure 8 highlights that eight teachers, (30.8%), took five English online courses during the semester, while six instructors (23.1%) took two courses, another six instructors took three online courses, four instructors (5.4%) took four online courses, and two participants (7.7%) did not take any online English courses.

Lastly, ten male and female managers and members of e-learning centers who specialized in computer science, computer systems engineering, and computer information systems responded to the open-ended questions of the interviews.

3.4 Validity of the Instruments

To validate the instruments, two experts in the didactics of languages and literature from Granada University in Spain were asked to review the accuracy of the questions. The researcher also sought the assistance of a qualitative research specialist from ANNU to read the final output and evaluate whether it was reasonable. Furthermore, 10 faculty members guided the research in making the study present valid and reliable instruments, which helped obtain the study's results. The experts' different attitudes toward online teaching and the obstacles and solutions they reported offered a framework to understand the circumstances surrounding e-learning in Palestinian HEIs. After the experts' review and the researcher's revisions, the questionnaires were finalized. (See appendices A, B, and C)

3.5 Reliability of the Instruments

The researcher calculated the Alpha Cronbach Coefficient to establish reliability for the students' and instructors' data collection tools using an internal consistency calculation, as shown in Tables 1and 2 below:

Table1. Results of the Alpha Cronbach Coefficient for the reliability of the student instrument

Dimensions	Participants (N)	Number of Items	Alpha value
Dimension 1	423	7	0.795
Dimension 2	423	11	0.856
Dimension 3	423	8	0.771
Dimension 4	423	6	0.732
All Dimensions	423	32	0.847

Table 1 presents that the reliability of each domain and all domains of the student instrument was 0.795, 0.856, 0.771, 0.732, and 0.847, respectively, which is an acceptable reliability index. Obviously, reliability values range between 0.73 and 0.86, indicating that the tools are reliable and that researchers can draw meaningful conclusions from the data and analysis.

Table 2. Results of the Alpha Cronbach Coefficient for the reliability of the instructor instrument

Dimensions	Participants (N)	Number of Items	Alpha value
Dimension 1	26	10	0.806
Dimension 2	26	8	0.712
Dimension 3	26	9	0.762
All Dimensions	26	27	0.773

Table 2 shows that the reliability of each domain and all domains of the instructors' instrument was 0.806, 0.712, 0.762, and 0.773, respectively. Here, reliability values range between 0.71 and 0.81, indicating that the tools are reliable, and that the researcher can draw meaningful conclusions from the data and analysis.

3.6 Procedure

The procedure to conduct the study was as follows. In the first stage, the researcher designed and developed doctoral thesis tools in English based on the research problems and related studies. The students' survey comprised five dimensions: their background information, attitudes toward online teaching platforms, the roles of online teaching platforms in enhancing engagement levels, online platforms and academic performance levels, and perspectives toward the role of the instructor in online learning. Then, the instructors' survey comprised four dimensions: background information, perceptions of students' engagement during online lectures, their roles and skills in online teaching, and their attitudes toward the online teaching platform. Also, the faculty members of the English specialization were asked to write about the pros and cons of the platforms they followed in teaching English courses and write about the different online tools and strategies they applied during their online lectures to improve students' performances and engagement. Finally, the interview with the e-learning members included four open-ended questions about their experiences with and challenges in online education in the Palestinian context.

In the second stage, the developed tools were sent to two experts in educational sciences from Granada University to validate the accuracy of the questions and survey items.

In the third stage, the researcher received approval from the University of Granada's Research Ethics Committee, stating that the proposed research meets all relevant international and national legal standards (see appendices).

In the fourth stage, the researcher got in advance permission from ANNU, AAU, and AQOU to take part in the study, facilitate the researcher's task, and collect data from faculty members of the English department, bachelor students of English specializations, and managers and members of the e-learning centers (see appendices). In addition, a consent form was developed to obtain participants' agreement to participate in the study.

In the fifth stage, online survey forms were submitted to each university's portal and webpage, along with an invitation letter that explained the project's main objective. In addition, surveys were distributed in person to instructors and students to reach the final group of 423 students and 26 instructors from ANNU, AAU, and AQOU.

In the sixth stage, the researcher conducted ten in-person interviews with managers and team members of each university's e-learning center to obtain the required answers to the open-ended questions used to explore the pros and cons, attitudes, obstacles, and solutions based on their points of view (see Appendix D).

In the seventh stage, the researcher reviewed the data from each survey before entering it into the computer for data analysis. As all the students' and instructors' responses were between "strongly disagree" and "strongly agree," the researcher represented the results into numbers (i.e., a score). Table 3 below shows the labels and their equivalent scores:

Table 3. Equivalence of Labels

Label	Score
Strongly disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

In the eighth stage, the researcher recorded and analyzed quantitative data using IBM Statistical Package for the Social Sciences (SPSS), statistical software version 25. To find the differences between the levels of statistically significant variables, the researcher used the following statistical treatments: computational averages, means, standard deviations, and percentages of responses of study sample individuals to the questionnaire as a whole and to each

of its paragraphs; an independent T-test; a one-way ANOVA; and the Sheffee Test; the alpha-Cronbach coefficient to calculate the reliability of the study's instruments; and the Pearson Correlation Test to find the relationship between dimensions.

In the ninth stage, all qualitative data were coded using MAXQDA version 2020 software. The researcher initially arranged the respondents' responses into Word documents for each response before placing all the answers to each question in a new folder. The primary documents, which include all the responses from respondents to each question, were then selected as the starting point for a new project that the researcher had opened in the MAXQDA program. Then, for each question, document groups were created. The researcher created coding systems and added sub codes to the primary code. Then, the type of code was decided. Since each code had a different color and title in this investigation, the researcher used Code in Vivo and Code with a new code. The process of activating all documents and coding systems was completed by choosing "Activate All" to create 54 coded segments. Lastly, the researcher had various resources for qualitative analysis inputs for this study, including Word documents, Excel spreadsheets, maps, and a word cloud.

Finally, responses based on estimation averages were scored on a 5-point Likert scale. The correction codes are shown in Table 4 below:

Impact degree	**Percentage (%)**
Very high	80% and more
High	70%-79.9%
Medium	60%- 69.9%
Low	50%-59.9%

Very low	50% and less

Table 4. 5- Point Likert Scale

RESULTS

4. Results

4.1 Study One: Results of the Students' Survey

4.1.1 Results Related to the Main Question

What is the role of online teaching platforms in enhancing Palestinian university students' learning according to the students' point of view?

To answer the question, the researcher measured mean differences and the SD differences between repeated measures with the same instrument for each dimension and the total degree, as shown in Tables 5, 6, 7, and 8 below:

Table 5. Mean and Standard Deviation of dimension one: Students' attitudes toward online teaching platforms

No.	Items	Mean	Std. Deviation	Response Rate	Impact Degree
1	In an online course, I spend more time doing tasks than in an in-person course.	3.2435	1.23334	64.8	Medium
2	When I'm taking an online course, I spend a lot of time fixing technical problems.	3.3712	1.21281	67.4	Medium
3	The design of online learning activities enco urages me to interact actively.	2.9220	1.13583	58.4	Low
4	During online classes, I find it difficult to express my ideas, comments, and answers.	3.0473	1.26852	60.8	Medium
5	Asynchronous classes (e.g., Moodle) are easier than synchronous classes (e.g., Zoom).	2.9551	1.09949	59	Low

6	Overload information of online course make learning more difficult.	3.3002	1.13002	66	Medium
7	I am satisfied with the online lectures I am taking.	2.7849	1.16365	55.6	Low
	Total degree	3.0892	.54780	61.8	Medium

*** Maximum response score is 5.**

Table 5 presents the findings related to the first dimension of the survey, which explored students' attitudes towards online teaching platforms. The results indicate that students had a medium average response to items 1, 2, 4, and 6, as well as to the total degree, with an average ranging from 60.8% to 67.4%. In contrast, the average response to items 3, 5, and 7 was low, ranging from 55.6% to 59%. The students reported moderate agreement with their lack of experience with online learning due to the time spent fixing unexpected technical problems. They also expressed difficulty with online learning due to the overload of information, which required more study time. Moreover, the results demonstrate that students presented a low level of agreement and dissatisfaction with the course design of online activities, which hindered their active participation during online lectures. Based on these findings, it can be concluded that students' varied attitudes towards online teaching platforms are due to the problems they encountered during online lectures and their dissatisfaction with this new method of learning. Specifically, item 2 received the highest percentage of agreement ("When I'm taking an online course, I spend a lot of time fixing technical problems"), whereas item 7 received the lowest percentage ("I am satisfied with the online lectures I am taking"). Overall, students' attitudes towards online teaching platforms can be considered moderate.

Table 6. Mean and standard deviation for dimension two: The role of an online teaching platform in enhancing students' engagement level

No.	Items	Mean	Std. Deviation	Response Rate	Impact Degree
8	Reading everyone's responses kept me interested and helped me learn more.	3.2317	1.13047	64.6	Medium
9	The online platform increases the number of opportunities to engage in meaningful conversation with professors and other students.	3.1608	1.13858	63.2	Medium
10	Online platform help me to interact with online course content in more than one format (e.g., text, video, audio, interactive games, or simulations).	3.3522	1.10633	67	Medium
11	I engage and perform actively in online lectures because the materials are properly arranged, from simple to complicated, and from knowing to practicing.	2.9787	1.10878	59.4	Low
12	The wide range of online learning activities allows me to choose activities that are suitable for my level of English.	3.1277	1.15515	62.4	Medium
13	Breakout groups, discussion boards, discussion forums, wikis, and resource sharing foster my interaction with other students and help me comprehend content easily.	3.1820	1.12383	63.6	Medium
14	I share information and resources with other students and instructors easily.	3.3428	1.18571	66.8	Medium
15	Online platform encourages positive cooperation among students and instructors.	3.2246	1.12455	64.4	Medium

16	An online teaching platform encourages active learning and strengthens connections between students.	3.0426	1.19560	60.8	Medium
17	Online platforms offer a variety of resources that aid in the development of my knowledge and comprehension in online courses.	3.1773	1.14753	63.4	Medium
18	My online teaching platform increases my interest for taking English classes.	3.0189	1.14562	60.2	Medium
	Total degree	3.1672	.73094	63.2	Medium

*** Maximum response score is 5.**

In table 6, the average response is presented as moderate for all items except for item 11, which shows a low level of agreement. The moderate average response ranges from 59.4% to 67.0%. These findings indicate that the students generally had a moderate level of agreement with the role of online teaching platforms in enhancing their online engagement levels. For instance, they expressed moderate agreement with the ability of online teaching platforms to offer diverse resources that help develop comprehension in online courses and to provide opportunities to interact with online courses in different ways. Additionally, the students' interest in taking English classes was increasing moderately. However, item 11 had a low response rate of 59.4%, indicating that students had a low level of agreement with their ability to actively participate during online lectures due to poor organization of course materials, which made it difficult to progress from simple to complex and from knowing to practicing levels. Based on the results of the second dimension, students generally had moderate attitudes toward the role of online teaching platforms in enhancing their engagement levels due to factors such as the design of online courses, limited resources available on the platform, and limited use of online teaching strategies that are essential for fostering student engagement and interaction during online learning. Overall, the students' attitudes toward the role of online teaching platforms in enhancing their engagement levels are moderate. Item 10 (“Online platforms help me interact with online course content in more than

one format, e.g., text, video, audio, interactive games, or simulations") received the most responses, while item 11 ("I actively participate in and perform in online lectures because the materials are well organized, ranging from simple to complex, and from knowing to practicing") had the lowest response.

Table 7. Mean and standard deviation for dimension three: Online teaching platform and students' academic performance level

No.	Items	Mean	Std. Deviation	Response Rate	Impact Degree
19	Learning through an online platform increased my achievement level**.**	3.0284	1.21568	60.4	Medium
20	I have limited skill and knowledge in using online platforms, which affects my achievement on online exams**.**	3.0993	1.21389	61.8	Medium
21	The materials on the online platform help me in improving my online course achievement**.**	3.0567	1.13814	61	Medium
22	I don't have enough time to complete exams and submit assignments on time which results in a low achievement**.**	2.8534	1.31606	57	Low
23	Poor connectivity affects my achievement negatively in some online courses**.**	2.5248	1.16575	50.4	Low
24	Large assignments and information overload in online courses lead to poor performance	2.6478	1.21456	52.8	Low
25	My ability to learn independently has improved.	2.8298	1.27103	56.6	Low
26	My grades are improving because of the online platform.	3.4326	1.18024	68.6	Medium
	Total degree	2.9341	.60744	58.6	Low

*** Maximum response score is 5.**

Based on table 7, it can be observed that the students' average response to items 19, 20, 21, and 26 falls within the medium range, varying from 60.4% to 68.6%. These findings suggest that students generally agree moderately that an online teaching platform can help them enhance their academic performance. However, the students' limited online learning skills and experiences negatively affect their academic performance and graduation rates.

Conversely, items 22, 23, 24, and 25 received low average responses ranging from 50.4% to 57.0%, indicating that the students have a low level of agreement on the effectiveness of the online teaching platform in enhancing their academic performance. This low level of agreement may be due to factors such as poor connectivity, large assignments, overload of information, and time management issues, which negatively impact their performance and achievement in online learning. Furthermore, the total degree of the role of the online teaching platform in enhancing students' academic performance is also at a low level, indicating that students have negative attitudes toward the ability of the online teaching platform to improve their academic performance. The item with the highest percentage is item 26 ("My grades are improving because of the online platform"), whereas the lowest percentage was scored by item 23 ("Poor connectivity affects my achievement negatively in some online courses").

Table 8. Mean and Standard deviation for dimension four: Students' perspectives toward Instructor's Role in Online Learning

No.	Items	Mean	Std. Deviation	Response Rate	Impact Degree
27	My professor doesn't have enough resources and skills for online teaching.	3.3168	1.08146	66.2	Medium

28	My professor delivered online learning materials in a different way.	3.1584	1.16056	63.2	Medium
29	My professor gives me enough time to engage in and understand the online course material.	3.1537	1.14060	63	Medium
30	My professor provides regular feedback.	3.2151	1.16974	64.2	Medium
31	Our professors teach us how to use the online platform correctly and provide us advice	3.2080	1.04370	64	Medium
32	Online learning materials are sufficiently explained by professors.	3.2695	1.10071	65.4	Medium
	Total degree	3.2203	.66292	64.4	Medium

*** Maximum response score is 5.**

Table 8 presents the findings of the fourth dimension, which indicates that all items had a medium average response ranging from 63% to 66.2%. These results imply that the students expressed moderate agreement with the professors' role in online learning in terms of their employment of online resources, skills, strategies, feedback, explanation, and guidance during online teaching. Item 27 had the highest percentage, which means that students had the highest level of agreement with the statement "My professor doesn't have enough resources and skills for online teaching." Conversely, item 29 had the lowest percentage, indicating that students had the lowest level of agreement with the statement "My professor gives me enough time to engage in and understand the online course material."

According to the results of all dimensions, the students' general attitudes toward the role of online teaching platforms in enhancing their academic performance had the lowest percentage compared to other dimensions. Also, unlike dimensions one and two, the students' perspectives of their instructors' roles in online learning are on the moderate side. To conclude, the students' attitudes toward the role of online teaching platforms in enhancing their learning can be classified as positive and negative, and these attitudes varied among the respondents due to problems and challenges during online learning and previous experiences, skills, and learning style. About

58.6% of students were dissatisfied with their online learning and had negative attitudes toward online teaching platforms. Finally, there is harmony between the results of the four domains, as most respondents were at a moderate level of agreement. And it is an acceptable result that makes the connection between the four dimensions possible and shows how each domain affects the others. Moreover, the results imply that to achieve a high level of attitude toward online teaching platforms, higher education institutions should look for a radical solution to each problem and invest in instructors' moderate level by increasing their instructional skills and knowledge of the online teaching environment.

4.1.2 Results Related to the First Hypothesis

H1. There are no statistically significant differences at $\alpha \leq 0.05$ in the students' perceptions toward the role of online teaching platforms in enhancing their learning attributed to the study year, university, and online course variables.

To test the first hypothesis and indicate the differences in the total degree of the tool according to years of the study variable, the researcher used Means and One Way ANOVA, as shown in tables 9, 10 and 11.

Table 9. Means and standard deviation according to the study year variable

Dimensions	year of the study	N	Mean	Std. Deviation
Dimension 1	First year	70	3.0571	.50925
	Second year	105	**3.1320**	.51989
	Third year	159	3.0863	.57706
	Fourth year	89	3.0690	.56124
	Total	423	3.0892	.54780
Dimension 2	First year	70	3.0506	.80119
	Second year	105	3.1489	.61891
	Third year	159	3.1458	.74448
	Fourth year	89	**3.3187**	.75876
	Total	423	3.1672	.73094

Dimension 3	First year	70	**2.7857**	.52954
	Second year	105	2.8440	.59236
	Third year	159	2.9686	.61783
	Fourth year	89	**3.0955**	.62756
	Total	423	2.9341	.60744
Dimension 4	First year	70	3.1190	.61787
	Second year	105	3.2302	.62889
	Third year	159	**3.3092**	.70358
	Fourth year	89	3.1292	.64879
	Total	423	3.2203	.66292
Total	First year	70	3.0031	.47989
	Second year	105	3.0888	.41801
	Third year	159	3.1275	.48584
	Fourth year	89	**3.1531**	.46500
	Total	423	3.1027	.46545

Table 9 displays the mean and standard deviation differences of the survey's various domains, segmented by students' year of study. Notably, the second domain had the highest mean value of 3.3187 for fourth-year students, indicating their positive attitude towards the role of online teaching platforms in enhancing engagement levels. Conversely, the third domain had the lowest mean value of 2.7857, which favored first-year students in their perception of the role of online teaching platforms in enhancing academic performance levels. In the first domain, the second-year students had the highest mean value of 3.1320, while the first-year students had the lowest mean value of 3.0571. Similarly, the second domain had the highest mean value of 3.3187 for fourth-year students and the lowest mean value of 3.0506 for first-year students. Likewise, the third domain had the highest mean value of 3.0955 for fourth-year students and the lowest mean value of 2.7857 for first-year students. In the fourth domain, the highest mean value was 3.3092 for third-year students, while the lowest mean value was 3.1190 for first-year students. Overall, the results indicate that fourth-year students had positive perceptions towards online teaching platforms, as

evidenced by the highest mean value of 3.1531 across all domains. Conversely, the lowest mean value of 3.0031 was observed among first-year students, suggesting their negative perceptions.

Table 10. Results of the one-way ANOVA test to indicate the differences in the total degree according to the study year variable

Dimensions		Sum of Squares	DF	Mean Square	F	Sig.*
Dimension 1	Between Groups	.302	3	.101	.333	.801
	Within Groups	126.336	419	.302		
	Total	126.637	422			
Dimension 2	Between Groups	3.101	3	1.034	1.948	.121
	Within Groups	222.362	419	.531		
	Total	225.463	422			
Dimension 3	Between Groups	4.900	3	1.633	4.538	**.004***
	Within Groups	150.810	419	.360		
	Total	155.710	422			
Dimension 4	Between Groups	2.724	3	.908	2.082	.102
	Within Groups	182.729	419	.436		
	Total	185.452	422			
Total	Between Groups	1.038	3	.346	1.604	.188
	Within Groups	90.385	419	.216		
	Total	91.423	422			

*** Statistically significant at level $\alpha \leq 0.05$**

Table 10 depicts the results of the statistical analysis, indicating that the hypothesis was not supported for the third dimension. Specifically, the findings reveal that there were statistically significant differences ($\alpha \leq 0.05$) in the students' perceptions of the role of online teaching platforms in enhancing their learning across different years of study on the third dimension. However, no significant differences were observed across other dimensions. To further investigate these findings, the researchers con-ducted the Scheffe test (Table 10) to compare the different levels and identify where the differences occurred.

Table 11. Results of Scheffe's post hoc test between levels according to the study year variable

Dependent Variable	Study year	Study year	Mean Difference
Dimension 3	First year	Fourth year	**-.30979-***

Table 11 indicates that there were significant differences between the first and fourth years of study in the third dimension, with fourth-year students reporting higher perceptions of the role of online teaching platforms in enhancing their learning. However, there were no significant differences found in the other dimensions. The Scheffe test was used to compare the differences between levels, and the results suggest that the differences were only significant for the third dimension between the first and fourth years of study. This means that fourth-year students have a more positive perception of the role of online teaching platforms in enhancing their learning compared to first-year students.

To examine the influence of the university variable, the researcher utilized Means and One Way ANOVA test. Tables 12, 13, and 14 present the results of these analyses.

Table 12. Means and standard deviation according to the university variable

Dimensions	University	N	Mean	Std. Deviation
Dimension 1	Al Quds Open University	135	**3.1545**	.52418
	An Najah National University	145	3.1399	.53252
	Arab American University	143	2.9760	.57042
	Total	423	3.0892	.54780
Dimension 2	Al Quds Open University	135	**3.4209**	.59930
	An Najah National University	145	3.1643	.70859
	Arab American University	143	2.9307	.78877
	Total	423	3.1672	.73094
Dimension 3	Al Quds Open University	135	**3.0398**	.55202

	An Najah National University	145	2.8733	.65567
	Arab American University	143	2.8960	.59764
	Total	423	2.9341	.60744
Dimension 4	Al Quds Open University	135	**3.4086**	.63046
	An Najah National University	145	3.1943	.64401
	Arab American University	143	3.0688	.67290
	Total	423	3.2203	.66292
Total	Al Quds Open University	135	**3.2560**	.41619
	An Najah National University	145	3.0929	.44242
	Arab American University	143	2.9679	.49107
	Total	423	3.1027	.46545

Table 12 presents the mean and standard deviation (SD) differences across all domains with respect to the university variable. Notably, the second domain obtained the highest mean score of 3.4209, indicating that AQOU students have the highest average agreement towards the role of online teaching platforms in enhancing their engagement. Conversely, the lowest mean score of 2.8733 was found in the third domain, indicating that ANNU students have the lowest average agreement towards the role of online teaching platforms in enhancing their academic performance levels. For the first domain, the highest mean score was 3.1545 in favor of AQOU, while the lowest mean score was 2.9760 in favor of AAU, suggesting that AQOU students have a high average level of attitudes towards online teaching platforms, while AAU students have a low average level of attitudes. Similarly, in the second domain, AQOU students had the highest mean score of 3.4209, while AAU students had the lowest mean score of 2.9307, indicating that AQOU students have a high average level of attitudes towards the role of online teaching platforms in enhancing their engagement, while AAU students have a low average level of attitudes. The third domain showed that AQOU students expressed the highest mean score of 3.0398, while ANNU students expressed the lowest mean score of 2.8733, suggesting that AQOU students have a high average level of attitudes towards the role of online teaching platforms in enhancing their academic

performance, while ANNU students have a low average level of attitudes. Regarding the fourth domain, the highest mean score of 3.4086 was in favor of AQOU, while the lowest mean score of 3.0688 was in favor of AAU, indicating that AQOU students have high average levels of perspectives towards instructors' roles in online learning, while AAU students have low average levels of perspectives. Overall, AQOU students had the highest average score of 3.2560, while AAU students had the lowest average score of 2.9679. In conclusion, AQOU students show high-average attitudes and perspectives towards the online teaching platform in all domains, while AAU students demonstrate a low average level in terms of their attitudes and perspectives towards online teaching platforms in all domains except the third domain.

Table 13. Results of one-way ANOVA test to indicate the differences in the total degree according to the university variable

Dimensions		**Sum of Squares**	**DF**	**Mean Square**	**F**	**Sig.***
Dimension 1	Between Groups	2.780	2	1.390	4.713	**.009***
	Within Groups	123.857	420	.295		
	Total	126.637	422			
Dimension 2	Between Groups	16.687	2	8.343	16.784	**0.000***
	Within Groups	208.777	420	.497		
	Total	225.463	422			
Dimension 3	Between Groups	2.253	2	1.126	3.083	**0.047***
	Within Groups	153.457	420	.365		
	Total	155.710	422			
Dimension 4	Between Groups	8.171	2	4.085	9.679	**0.000***
	Within Groups	177.281	420	.422		
	Total	185.452	422			
Total	Between Groups	5.784	2	2.892	14.184	**0.000***
	Within Groups	85.639	420	.204		
	Total	91.423	422			

*** Statistically significant at level α≤0.05**

Table 13 illustrates the mean values and statistical significance of all domains and the total degree. The findings indicate that the statistical significance levels are below 0.05, indicating that there are statistically significant differences in the first, second, third, and fourth dimensions as well as in the total degree. Thus, the hypothesis's validity is rejected. Therefore, there are statistically significant differences at $\alpha \leq 0.05$ in the students' perceptions regarding the role of online teaching platforms in enhancing their learning as influenced by university variables in those dimensions. To examine the hypothesis, the researchers employed the Scheffe test (Table 13) to compare dimensions between levels to identify which levels exhibited differences.

Table 14. Results of Scheffe's post hoc test between levels according to university variable

Dependent Variable	University	University	Mean Difference
Dimension 1	Al Quds Open University	Arab American University	**.17847***
	An Najah National University	Arab American University	**.16388***
Dimension 2	Al Quds Open University	Arab American University	**.49017***
	An Najah National University	Arab American University	**.23356***
Dimension 3	Al Quds Open University	Arab American University	**.50785***
	An Najah National University	Arab American University	**.14384***
Dimension 4	Al Quds Open University	An Najah National University	**.21439***
		Arab American University	**.33988***
Total	Al Quds Open University	An Najah National University	**.16303***
		Arab American University	**.28809***

*** Statistically significant at level α≤0.05**

Table 14 displays the mean differences across levels. The findings reveal significant differences in the first, second, third, fourth, and total degree dimensions, favoring AQOU students with higher-level perceptions of online teaching platforms' role in enhancing their learning compared to ANNU and AAU students. Moreover, the results indicate significant differences between ANNU and AAU, with ANNU students demonstrating higher-level perceptions of the role of online teaching platforms in enhancing their learning than AAU students. However, other comparisons are not statistically significant.

Tables 15, 16, and 17 present the differences in the total degree of the tool, where the researcher employed Means and One-way ANOVA to examine the online course variable.

Table 15. Means and standard deviation according to the kind of online course variable

Dimensions	kind of online course	N	Mean	Std. Deviation
Dimension 1	Online (synchronous [live] -such as Google meeting or zoom)	41	2.9930	.67609
	Online (asynchronous -such as Moodle)	111	3.0837	.56242
	Blended (in-person and online [any form of online]; synchronous and asynchronous)	112	3.1071	.53159
	None of the above	159	3.1051	.51394
	Total	423	3.0892	.54780
Dimension 2	Online (synchronous [live] -such as Google meeting or zoom)	41	3.1220	.88715
	Online (asynchronous -such as Moodle)	111	3.0295	.79661
	Blended (in-person and online [any form of online]; synchronous and asynchronous)	112	3.3019	.64712
	None of the above	159	3.1801	.68180
	Total	423	3.1672	.73094
Dimension 3	Online (synchronous [live] -such as Google meeting or zoom)	41	3.1067	.56566
	Online (asynchronous -such as Moodle)	111	2.8356	.57406
	Blended (in-person and online [any form of online]; synchronous and asynchronous)	112	3.0592	.58461

	None of the above	159	2.8703	.63658
	Total	423	2.9341	.60744
Dimension 4	Online (synchronous [live] -such as Google meeting or zoom)	41	3.1057	.61999
	Online (asynchronous -such as Moodle)	111	3.0240	.70812
	Blended (in-person and online [any form of online]; synchronous and asynchronous)	112	3.4048	.67477
	None of the above	159	3.2568	.59290
	Total	423	3.2203	.66292
Total	Online (synchronous [live] -such as Google meeting or zoom)	41	3.0818	.54431
	Online (asynchronous -such as Moodle)	111	2.9932	.50174
	Blended (in-person and online [any form of online]; synchronous and asynchronous)	112	3.2183	.43059
	None of the above	159	3.1031	.42439
	Total	423	3.1027	.46545

Table 15 displays the mean and standard deviation (SD) for the kind of online course variable, based on the mean scores for all kinds of online courses, the researcher included for comparison only the kind of online course that has the highest and the lowest mean average and excluded other mean scores. Across all domains, blended courses (in-person and online [any form of online]; synchronous and asynchronous) received the highest mean score of 3.3019, while online courses (asynchronous, such as Moodle) received the lowest mean score of 2.8356. This suggests that students who took blended courses exhibited higher levels of agreement with the role of online teaching platforms in enhancing their engagement, while students who took online courses displayed the lowest level of agreement. In the first domain, blended courses received the highest mean value of 3.1071, while online synchronous courses received the lowest mean value of 2.9930. Students who took blended courses had positive attitudes toward online teaching platforms, whereas those who took online synchronous courses had negative attitudes. In the second domain, blended courses received the highest mean score of 3.3019, while online

asynchronous courses received the lowest mean score of 3.0295. Students who took blended courses displayed a high level of attitude toward the role of online teaching platforms in enhancing their engagement, while those who took online asynchronous courses showed a low level of attitude. For the third domain, online synchronous courses received the highest mean score of 3.1067, while online asynchronous courses received the lowest mean score of 2.8356. This indicates that students who took online synchronous courses expressed a higher average level of attitude toward the role of online teaching platforms in enhancing their academic performance than those who took online asynchronous courses. In the fourth domain, blended courses received the highest mean score of 3.4048, while online asynchronous courses received the lowest mean score of 3.0240. Students who took blended courses displayed a high-average level of perspective toward the instructors' role in online learning, while those who took online asynchronous courses displayed a low-average level of perspective. Overall, students who took blended courses had the highest average score of 3.2183, while those who took online asynchronous courses had the lowest average score of 2.9932, across all domains.

Table 16. Results of one-way ANOVA test to indicate the differences in the total degree according to the kind of online course variable

Dimensions		Sum of Squares	DF	Mean Square	F	Sig.*
Dimension 1	Between Groups	.459	3	.153	.508	**.677**
	Within Groups	126.178	419	.301		
	Total	126.637	422			
Dimension 2	Between Groups	4.249	3	1.416	2.683	**.046***
	Within Groups	221.214	419	.528		
	Total	225.463	422			
Dimension 3	Between Groups	4.698	3	1.566	4.345	**.005***
	Within Groups	151.012	419	.360		
	Total	155.710	422			
Dimension 4	Between Groups	8.838	3	2.946	6.989	**.000***

	Within Groups	176.614	419	.422		
	Total	185.452	422			
Total	Between Groups	2.845	3	.948	4.485	**.004***
	Within Groups	88.579	419	.211		
	Total	91.423	422			

*** Statistically significant at level α≤0.05**

Table 16 shows the mean differences between the levels of the online course variable. The results reveal that significant differences were observed in the second, third, and fourth dimensions, as well as in the total degree. Consequently, the hypothesis was rejected. The findings suggest that, at a significance level of $\alpha \leq 0.05$, there are statistically significant disparities in the students' perceptions of the role of online teaching platforms in enhancing their learning, based on the type of online course variable on those dimensions.

To further examine the differences between the levels and identify which levels showed variations, the researchers utilized the Scheffe test for dimensional comparisons (Table 17).

Table 17. Scheffe's Post Hoc Test between levels according to kind of online course variable

Dimensions	kind of online course	kind of online course	Mean Difference
Dimension 2	Online (asynchronous -such as Moodle)	Blended (in-person and online [any form of online]; synchronous and asynchronous)	**-.27246-***
Dimension 3	Online (asynchronous -such as Moodle)	Online (synchronous [live] -such as Google meeting or zoom)	**.27112***
Dimension 4	Online (asynchronous -such as Moodle)	Blended (in-person and online [any form of online]; synchronous and asynchronous)	**-.38074-***

Total	Online (asynchronous -such as Moodle)	Blended (in-person and online [any form of online]; synchronous and asynchronous)	**-.22506-***

*** Statistically significant at level $\alpha \leq 0.05$**

Table 17 presents the findings of a study that sought to identify differences in student perceptions between blended and online (asynchronous, specifically using Moodle) learning environments. The results show that the differences between the two types of learning environments were significant in the second and fourth dimensions, as well as the total degree, with blended learning receiving higher scores. Specifically, students who participated in blended courses expressed more positive perceptions towards the role of online platforms in enhancing their learning. However, in the third dimension, students who used online (asynchronous, using Moodle) platforms had higher perceptions of the role of online teaching platforms in enhancing their learning compared to those who used online (synchronous, using platforms such as Google Meet or Zoom). The study did not find any statistically significant differences between the other comparisons.

4.1.3 Results Related to the Second Hypothesis

H2. There is a positive relationship at $\alpha \leq 0.05$ between students' engagement and their academic performance levels.

To test hypothesis and find out the relationship between students' engagement and their academic performance levels, the researcher utilized the Pearson Correlation Test to examine the relationship between students' engagement and their academic performance levels, as depicted in Table 18.

Table 18. Results of the Pearson Correlation Test between Students' Engagement and Their Academic Performance Levels

Dimensions	Mean	SD	Pearson Correlation
Dimension 2	3.1672	.73094	0.456
Dimension 3	2.9341	.60744	

*** Statistically significant at level $\alpha \leq 0.05$.**

Table 18 shows that there is a moderate positive correlation between the students' engagement and their academic performance levels since the value of the coefficient of the Pearson Correlation Test was 0.456 and lies between +0.30 and +0.49, and the statistical significance value was 0.000. Hence, there is a significant relationship $\alpha \leq 0.05$ between students' engagement and their academic performance levels.

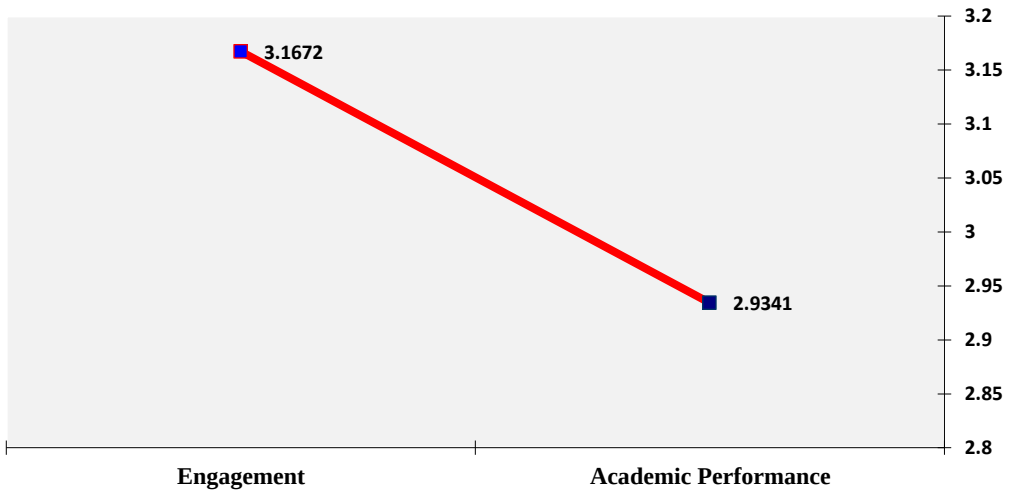

Figure 9. Results of Pearson Correlation Test

Figure 9 illustrates a moderately positive linear relationship between two continuous dependent variables, with differences favoring students' attitudes toward the role of an online teaching platform in enhancing students' engagement level because the mean average is higher

than the mean average of students' attitudes toward the role of an online teaching platform in enhancing students' academic performance.

4.1.4 Results Related to the Third Hypothesis

H3. There is a positive relationship at $\alpha \leq 0.05$ between the students' attitudes toward online teaching platforms and their engagement.

To find out the relationship between students' attitudes toward online teaching platforms and their engagement, the researcher used the Pearson Correlation Test.

Table 19. Results of the Pearson Correlation Test between students' attitudes toward online teaching platforms and their engagement

Dimensions	Mean	SD	Pearson Correlation
Dimension 1	3.0892	.54780	0.400
Dimension 2	3.1672	.73094	

*** Statistically significant at level $\alpha \leq 0.05$.**

Table 19 displays that there is correlation between the students' attitudes toward learning through an online teaching platform and their attitudes toward the role of an online teaching platform in enhancing their engagement level since the coefficient value of the Pearson Correlation Test (r) was 0.400, and the value of (r) lies between 0.3 and 0.5. In addition, there is a positive relationship at the level of significance $\alpha \leq 0.05$ between students' attitudes toward learning through an online teaching platform and their attitudes toward the role of an online teaching platform in enhancing their engagement level.

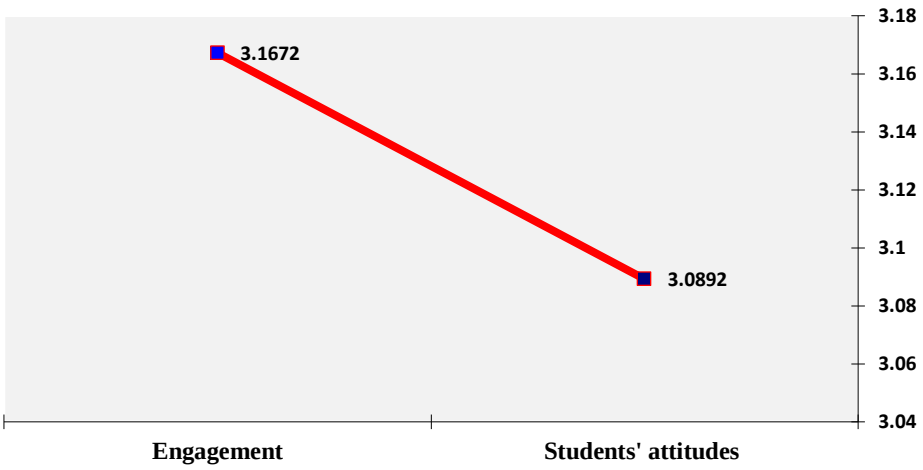

Figure 10. Results of Pearson Correlation Test

Figure 10 illustrates a moderately positive linear relationship between the students' attitudes toward learning through an online teaching platform and their attitudes toward the role of an online teaching platform in enhancing their engagement level. There are differences between the two variables in favor of students' attitudes toward the role of an online teaching platform in enhancing students' engagement levels.

4.1.5 Results Related to the Fourth Hypothesis

H4. There is a positive relationship at $\alpha \leq 0.05$ between the students' perspectives toward the instructor's role in online learning and their engagement.

To find the relationship between students' perspectives toward the instructor's role in online learning and their engagement in online classes, the researcher used the Pearson Correlation Test.

Table 20. Results of the Pearson Correlation Test between students' perspectives toward the instructor's role in online learning and their engagement in online classes

Dimensions	Mean	SD	Pearson Correlation

Dimension 4	3.2203	.66292	0.625
Dimension 2	3.1672	.73094	

*** Statistically significant at level α≤0.05.**

Table 20 depicts a strong positive correlation between the students' perspectives toward the instructor's role in online learning and their attitudes toward the role of an online teaching platform in enhancing students' engagement levels in online classes. The coefficient value of the Pearson Correlation Test (r) was 0.625, which is greater than 0.5; hence, there is a strong positive relationship at the level of significance $\alpha \leq 0.05$ between students' perspectives toward the instructor's role in online learning and their attitudes toward the role of an online teaching platform in enhancing students' engagement levels.

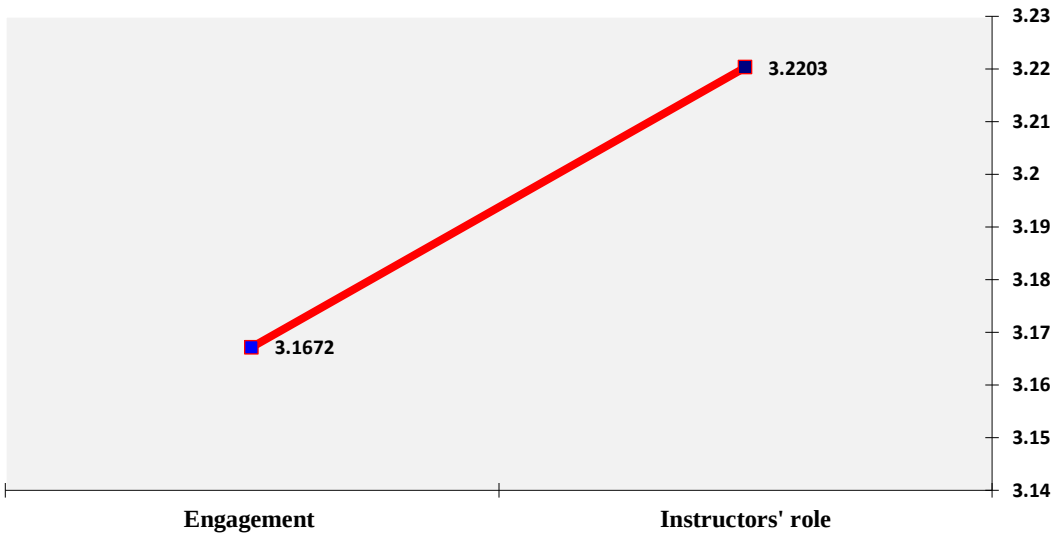

Figure 11. Results of the Pearson Correlation Test

According to figure 11, there are differences between the two variables in favor of students' perspectives toward the instructor's role in online learning since it has the higher mean average of 3.2203.

4.1.6 Results Related to the Fifth Hypothesis

H5. There is a positive relationship at α ≤ 0.05 between the students' perspectives toward the instructor's role in online learning and their academic performance levels.

To find the relationship between students' perspectives toward the instructor's role in online learning and their academic performance levels, the researcher used the Pearson Correlation Test.

Table 21. Results of the Pearson Correlation Test between students' perspectives toward the instructor's role in online learning and their academic performance levels

Dimensions	Mean	SD	Pearson Correlation
Dimension 3	2.9341	.60744	0.354
Dimension 4	3.2203	.66292	

*** Statistically significant at level α≤0.05.**

Table 21 illustrates that there is a weak correlation between the students' perspectives toward the instructor's role in online learning and their academic performance levels. The Pearson correlation coefficient (r) value was 0.354, and the *r* value lies between 0 and 0.3.

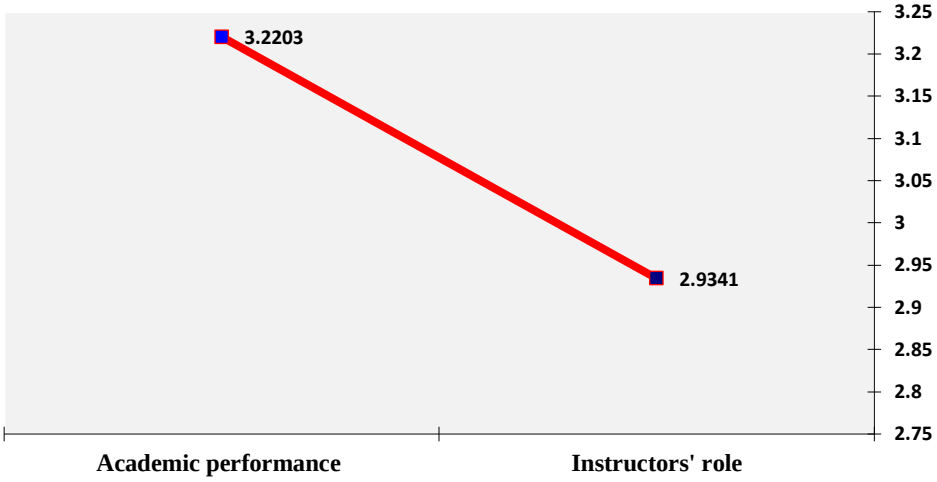

Figure 12. Results of the Pearson Correlation Test

Figure 12 indicates differences between the two continuous variables in favor of students' perspectives toward the instructor's role in online learning since it has the higher mean average of 3.2203.

4.2 Study Two: Results of Instructors' Survey

4.2.1 Results Related to the Main Question

What is the role of online teaching platforms in enhancing teaching and learning in Palestinian universities according to the instructors' perceptions?

To answer the question, the researcher measured the Mean and the SD differences between repeated measures with the same instrument for each dimension and the total degree, as shown in tables 22, 23, and 24 below.

Table 22. Mean and standard deviation of the first dimension: instructors' perceptions toward the role of the online teaching platform in enhancing students' learning during online lectures

No.	Items	Mean	Std. Deviation	response rate	Impact degree
1	Most students do not participate actively in the communicative process of the online lecture.	2.4615	1.13950	49.2	Very Low
2	Students are unmotivated to interact during online lectures.	2.6154	1.02282	52.2	Low
3	Students are reluctant to use the online platform to complete their assignments.	3.2692	1.11562	65.2	Medium
4	Students' participation is mandatory in online lectures.	3.0769	.93480	61.4	Medium

5	Only a small percentage of students complete their assignments and projects.	3.8462	1.18970	76.8	High
6	Low-level students' study and comment on the writing assignment.	3.3077	.92819	66	Medium
7	The majority of students actively participate in the online discussion.	2.1923	1.16685	43.8	Very Low
8	The chosen online platform cannot cover all of the English course content.	3.3462	1.09334	66.8	Medium
9	Both instructors and students receive technical assistance to deal with unexpected situations.	3.5385	1.13950	70.6	High
10	Awareness programs on the benefits of online learning are conducted at regular intervals for the university community.	3.4231	1.10175	68.4	Medium
	Total degree	2.7538	.55514	55.1	Low

*** Maximum response score is 5.**

Table 22 indicates that instructors had a high average response to items 5 and 9, with an average ranging from 70.6% to 76.8%. In this particular respect, the instructors expressed strong support for receiving technical assistance during online teaching and demonstrated that many students did not complete their online assignments. In contrast, the average response to items 3, 4, 6, 8, and 10 was moderate, ranging from 61.4% to 68.4%. This result demonstrates that the instructors showed medium agreement with students' participation in online classes which negatively affected the completion of their assignments. Also, the instructors' presented moderate perceptions and agreement with online learning awareness programs that conducted for the university community and the ability of online platforms to cover all of the English course content.

However, item 2 had a low response rate of 52.2%, indicating that instructors had a low-level of agreement with students' participation and interaction during online lectures. Conversely, items 1 and 7 received very low average responses ranging from 43.8% to 49.2%, indicating that very few students participated in the online discussions, as perceived by instructors. Furthermore, the total degree of instructors' perceptions toward the role of online teaching platforms in enhancing students' learning during the online lectures was low 55.1%. Overall, the instructors had varied perceptions toward the role of online teaching platforms in enhancing students' learning during online lecture. Item 5 ("Only a small percentage of students complete their assignments and projects") received the most responses, while item 7 ("The majority of students actively participate in the online discussion") had the lowest percentage.

Table 23. Mean and Std. Deviation of second dimension: Instructors' role and skills in online teaching

No.	Items	Mean	SD	Response rate	Impact degree
11	During online lectures, I employ a variety of instructional strategies to help students improve their performance.	3.8462	.96715	68.8	Medium
12	I regularly evaluate my students and provide them with feedback on their development.	3.9231	.79614	78.4	High
13	I prepare emergency plans ahead of time to manage possible problems.	3.4615	.76057	69.2	Medium
14	To guarantee that an online course is delivered effectively, I modify my teaching speed.	3.9231	.39223	78.4	High

15	I take steps to increase the scope and depth of student participation.	4.1538	.46410	83.6	Very High
16	I've had enough experience producing online materials and delivering online lectures.	3.7692	1.10662	75.2	High
17	I have a lot of experience teaching language courses online.	3.7308	1.04145	74.6	High
18	I have sufficient computer knowledge and IT skills to manage my online courses.	4.1538	.78446	83.6	Very High
	Total degree	3.8702	.42790	77.4	High

*** Maximum response score is 5.**

Based on table 23, it can be observed that the instructors' average response to items 15 and 18 falls within a very high range, scoring 83.6% for each item. These findings suggest that instructors have very high levels of agreement on having sufficient computer knowledge and IT skills that can help them manage their online courses and enhance students' participation during online lectures. Conversely, items 12, 14, 16, and 17 received a high average response ranging from 74.6% to 78.4%, demonstrating that the instructors had high-level experiences in producing online materials, teaching online language courses, and managing students' progress. In addition, items 11 and 13 had moderate average responses ranging from 68.8% to 69.2%. These results imply that instructors moderately agree with employing various online instructional strategies and preparing an emergency plan to manage any possible problem and improve students' performance in online lectures. Based on the results of the second dimension, instructors generally had high levels of experience and skills in online teaching. The highest response was given to items 15 and 18 ("I take steps to increase the scope and depth of student participation") and ("I have sufficient

computer knowledge and IT skills to manage my online courses"), while item 11 ("During online lectures, I employ a variety of instructional strategies to help students improve their performance") had the lowest response.

Table 24. Mean and Std. Deviation of the third dimension: Instructors' attitudes toward online teaching platform

No.	Items	Mean	SD	Response rate	Impact degree
19	I am in favor of online teaching.	2.7692	1.14220	55.2	Low
20	Conducting online lecture through platform requires more effort in comparison to face-to-face instructions.	4.1154	.81618	82.2	Very High
21	Online platform has different tools that facilitate teaching online English courses and support me to achieve course objectives.	3.2308	.99228	64.6	Medium
22	Lack of interaction between students and instructor's results in low academic performance.	1.6923	.54913	33.8	Very Low
23	Students are more motivated to participate in online lectures than in face-to-face lectures.	2.0385	1.03849	40.6	Very Low
24	The following platform supports the distribution of notes and digital materials via multimedia.	3.6154	.63730	72.1	High
25	Students and teachers can connect, collaborate, and exchange information using a variety of Internet-based tools through online teaching platforms.	3.7308	.77757	74.6	High

26	Online teaching platform make assessment process more complicated and unreliable.	3.8077	1.16685	76	High
27	Reviewing the process of digital transformation of universities is important for successful e-learning.	4.3077	.73589	86	Very High
	Total degree	3.2564	.38971	65.2	High

*** Maximum response score is 5.**

In table 24, the average response is presented as very high for items 20 and 27, which reveals a very high level of attitude. The very high average responses ranges from 82.2% to 86%.These results indicate that the instructors had a very high level of attitude toward the importance of reviewing the digital transformation process at universities to guarantee successful e-learning that requires more efforts compared to face-to-face learning. However, the results reveal that instructors had high positive attitudes toward online teaching platforms for items 24, 25, and 26, with an average ranging from 72.1% to 76%. For instance, they agreed that the online platform supports the distribution of notes and digital materials, and helps them and the students to connect, collaborate, and exchange information. Moreover, the results demonstrate that instructors presented a high level of agreement with the complicated and unreliable assessment produced via online teaching platforms. On the other hand, the instructors had moderate agreement for item 21, with an average rate of 64.6%. This implies that instructors had moderate agreement on the ability of online platform's tools to facilitate teaching online English courses and achieve course objectives. Furthermore, the results show that the instructors had low attitudes to item 19 with an average response of 55.2% and very low average response for items 22 and 23, with an average response ranging from 33.8% and 40.6% toward online teaching as they are not in favor of online teaching. They also strongly disagreed on the relationship between students' and instructors' interaction and the academic performance. Similarly, the results implies that instructors express very low-level of agreement on having students' high motivation to participate in online lectures.

Overall, the instructors' attitudes toward online teaching platform are low. Item 27 ("Reviewing the process of digital transformation of universities is important for successful e-learning") received the highest response, while item 22 ("Lack of interaction between students and instructor's results in low academic performance") had the lowest response.

4.2.2 Results Related to the First Hypothesis

H1. There are no statistically significant differences at α ≤ 0.05 in the instructors' perceptions toward the role of online platforms in enhancing teaching and learning attributed to university, academic rank, years of experience, and the number of online English course variables.

To indicate the differences in the total degree of the tool according to university variable, the researcher used mean and One Way ANOVA, as shown in tables 25, 26, and 27 below.

Table 25. The mean and standard deviation according to university variable

Dimensions	University	N	Mean	Std. Deviation
Dimension 1	Al-Quds Open University	9	2.9778	.34561
	An-Najah National University	9	2.9444	.54798
	Arab American University	8	**2.2875**	.51113
	Total	26	2.7538	.55514
Dimension 2	Al-Quds Open University	9	**3.9722**	.31111
	An-Najah National University	9	3.8750	.51158
	Arab American University	8	3.7500	.46291
	Total	26	3.8702	.42790
Dimension 3	Al-Quds Open University	9	3.3951	.32447
	An-Najah National University	9	3.4074	.36430
	Arab American University	8	2.9306	.30825
	Total	26	3.2564	.38971
Total	Al-Quds Open University	9	**3.4484**	.20079
	An-Najah National University	9	3.4090	.39662
	Arab American University	8	**2.9894**	.23587
	Total	26	3.2935	.34907

Table 25 presents the mean and standard deviation (SD) across all domains with respect to the university variable. Notably, the second domain obtained the highest mean score of 3.9722, indicating that AQOU instructors have the highest average agreement towards the role of online platforms in enhancing teaching and learning. Conversely, the lowest mean score of 2.2875 was found in the first domain, indicating that AAU instructors have the lowest average perceptions towards the role of online platforms in enhancing teaching and learning. For the first domain, the highest mean score was 2.9778 in favor of AQOU, while the lowest mean score was 2.2875 in favor of AAU, suggesting that AQOU instructors have a high level of perceptions toward the role of online teaching platforms in enhancing students' learning during online lectures, while AAU instructors have a low average level of perceptions. Similarly, in the second domain, AQOU instructors had the highest mean score of 3.9722, while AAU instructors had the lowest mean score of 3.7500, indicating that AQOU instructors have a high average level of roles and skills in online teaching, while AAU instructors have a low average level of roles and skills in online teaching. The third domain showed that ANNU instructors had the highest mean score of 3.4074, while AAU instructors had the lowest mean score of 2.9306, suggesting that ANNU instructors had a high-average level of attitudes toward online teaching platforms, while AAU instructors had a low-average level of attitudes. In conclusion, AQOU instructors had a high average level of perceptions towards the role of online teaching platforms in enhancing teaching and learning at Palestinian universities, while AAU instructors had the lowest average level of perceptions.

Table 26. Results of one-way ANOVA test to indicate the differences in the total degree according to the university variable

Dimensions		Sum of Squares	DF	Mean Square	F	Sig.*
Dimension 1	Between Groups	2.518	2	1.259	5.583	**.011***

	Within Groups	5.187	23	.226		
	Total	7.705	25			
Dimension 2	Between Groups	.209	2	.105	.551	**.584**
	Within Groups	4.368	23	.190		
	Total	4.578	25			
Dimension 3	Between Groups	1.228	2	.614	5.495	**.011***
	Within Groups	2.569	23	.112		
	Total	3.797	25			
Total	Between Groups	1.076	2	.538	6.279	**.007***
	Within Groups	1.970	23	.086		
	Total	3.046	25			

*** Statistically significant at level α≤0.05.**

Table 26 illustrates the mean value and statistical significance of all domains and the total degree. The results indicate that there are no statistically significant differences in the second dimension; thus, the validity of the hypothesis was accepted, and so, there are no statistically significant differences at the level of significance $\alpha \leq 0.05$ in the instructors' perceptions toward the role of online platforms in enhancing teaching and learning due to the university variable. To examine the hypothesis, the researcher employed the Scheffe test (table 26) to compare dimensions between levels to identify which levels exhibited differences.

Table 27. Scheffe's Post Hoc Test between levels according to university variable

Dependent Variable	University	University	Mean Difference
Dimension 1	Al-Quds Open University	Arab American University	**.69028***
Dimension 3	Al-Quds Open University	Arab American University	**.46451***
	An-Najah National University	Arab American University	**.47685***
Total	Al-Quds Open University	Arab American University	**.45900***

*** Statistically significant at level α≤0.05.**

Table 27 presents the mean value of dimensions one, three, and the total degree. The results depicts that the differences were on the first, third, and total degree between AQOU and ANNU on the one hand and AAU on the other hand, in favor of AQOU and ANNU in the sense that they indicated significantly higher perceptions toward the role of online platforms in enhancing teaching and learning than AAU. However, other comparisons are not statistically significant.

To examine the differences in the instructors' perceptions toward the role of online platforms in enhancing teaching and learning as attributed to the academic rank variable, the researcher utilized the mean and one-way ANOVA test, as illustrated in tables 28 and 29 below.

Table 28. The mean and standard deviation according to the academic rank variable

Dimensions	Academic Rank	N	Mean	SD
Dimension 1	Adjunct Instructor	7	2.6714	.68730
	Graduate Teaching Assistant	5	**2.2400**	.43359
	Professor	5	2.9200	.45497
	Assistant Professor	9	**3.0111**	.38550
	Total	26	2.7538	.55514
Dimension 2	Adjunct Instructor	7	**3.7679**	.50223
	Graduate Teaching Assistant	5	3.9500	.22707
	Professor	5	**4.0750**	.37081
	Assistant Professor	9	3.7917	.49213
	Total	26	3.8702	.42790
Dimension 3	Adjunct Instructor	7	3.2857	.37874
	Graduate Teaching Assistant	5	**3.0000**	.42310
	Professor	5	**3.5778**	.19876
	Assistant Professor	9	3.1975	.38401
	Total	26	3.2564	.38971
Total	Adjunct Instructor	7	3.2417	.39087
	Graduate Teaching Assistant	5	3.0633	.32548
	Professor	5	3.5243	.20222
	Assistant Professor	9	3.3334	.34964

	Total	26	3.2935	.34907

Table 28 displays the mean and standard deviation (SD) for the instructors' academic rank variable. Across all domains, the second domain received the highest mean score of 4.0750, while the first domain received the lowest mean score of 2.2400. This suggests that professors have higher roles and skills in online teaching than other academic ranks. Furthermore, graduate teaching assistants had the lowest perceptions of the online teaching platform's role in enhancing students' learning during online lectures. In the second domain, professors received the highest mean score of 4.0750, while adjunct instructors of academic rank received the lowest mean score of 3.7679. This indicates that professor instructors showed high-level roles and skills in online teaching, while adjunct instructor instructors showed a low average level of their roles and skills in online teaching. For the third domain, professors received the highest mean score of 3.5778, while graduate teaching assistants received the lowest mean score of 3.0000, indicating that professorial instructors had positive attitudes toward online teaching platforms on average, while graduate teaching assistant instructors have negative attitudes. Overall, professor instructors had a high average level of perception towards the role of online teaching platforms in enhancing teaching and learning at Palestinian universities, compared to graduate teaching assistant instructors, who have a low average level of perception.

Table 29. Results of one-way ANOVA test to indicate the differences in the total degree according to the academic rank variable

Dimensions		**Sum of Squares**	**DF**	**Mean Square**	**F**	**Sig.***
Dimension 1	Between Groups	2.101	3	.700	2.750	**.067**
	Within Groups	5.603	22	.255		
	Total	7.705	25			
Dimension 2	Between Groups	.370	3	.123	.646	**.594**

	Within Groups	4.207	22	.191		
	Total	4.578	25			
Dimension 3	Between Groups	.882	3	.294	2.220	**.114**
	Within Groups	2.914	22	.132		
	Total	3.797	25			
Total	Between Groups	.564	3	.188	1.667	**.203**
	Within Groups	2.482	22	.113		
	Total	3.046	25			

*** Statistically significant at level $\alpha \leq 0.05$.**

Table 29 shows that there are no statistically significant differences on the first, second, and third dimensions; therefore, the validity of the hypothesis was accepted.

To indicate the differences in the instructors' perceptions towards the role of online platforms in enhancing teaching and learning as attributed to the years of experience variable, the researcher used the mean and one-way ANOVA test, as presented in tables 30, 31, and 32 below.

Table 30. The mean and standard deviation values for the years of experience variable

Dimension	Years of experience	N	Mean	SD
Dimension 1	Less than 5	5	**2.5000**	.71063
	6-10	5	2.7800	.49699
	More than 10	16	2.8250	.53479
	Total	26	2.7538	.55514
Dimension 2	Less than 5	5	**4.0750**	.30104
	6-10	5	3.9750	.45415
	More than 10	16	3.7734	.44539
	Total	26	3.8702	.42790
Dimension 3	Less than 5	5	2.8222	.23040
	6-10	5	3.4444	.36004
	More than 10	16	3.3333	.35136
	Total	26	3.2564	.38971
Total	Less than 5	5	3.1324	.36989
	6-10	5	3.3998	.37418
	More than 10	16	3.3106	.34137
	Total	26	3.2935	.34907

Table 30 presents the mean and standard deviation (SD) for the years of experience variable. Across all domains, the second domain received the highest mean score of 4.0750 in favor of less than 5 years of experience, while the first domain received the lowest mean score of 2.5000 in favor of less than 5 years of experience. This suggests that instructors with less than 5 years of experience have a greater role and skill in online teaching than those with more years of experience. On the other hand, the instructors with less than 5 years of experience had the lowest perceptions toward the role of the online teaching platform in enhancing students' learning during online lectures. In the first domain, instructors with more than 10 years of experience received the highest mean score of 2.8250, while instructors with less than 5 years of experience received the lowest mean score of 2.5000. This illustrates that the instructors with more than 10 years of experience had higher average perceptions of the role of the online teaching platform in enhancing students' learning during online lectures in comparison with instructors with less than 5 years of experience. In the second domain, instructors with less than 5 years of experience received the highest mean score of 4.0750, while instructors with more than 10 years of experience received the lowest mean score of 3.7734. This indicates that the instructors with less than 5 years of experience have a higher average level of roles and skills in online teaching compared to instructors with more than 10 years of experience. For the third domain, instructors with 6–10 years of experience received the highest mean score of 3.4444, while instructors with less than 5 years of experience received the lowest mean score of 2.8222. This suggests that instructors with 6–10 years of experience express higher-level attitudes towards the role of the online teaching platform in enhancing students' learning during online lectures in comparison with instructors with less than 5 years of experience. Overall, instructors who have 6–10 years of experience have a high average level of perceptions towards the role of an online teaching platform in enhancing

teaching and learning at Palestinian universities, while instructors who have less than 5 years of experience have a low average level of perceptions.

Table 31. Results of one-way ANOVA test to indicate the differences in the total degree according to the years of experience variable

Dimensions		Sum of Squares	DF	Mean Square	F	Sig.*
Dimension 1	Between Groups	.407	2	.203	.641	**.536**
	Within Groups	7.298	23	.317		
	Total	7.705	25			
Dimension 2	Between Groups	.414	2	.207	1.145	**.336**
	Within Groups	4.163	23	.181		
	Total	4.578	25			
Dimension 3	Between Groups	1.214	2	.607	5.406	**.012***
	Within Groups	2.583	23	.112		
	Total	3.797	25			
Total	Between Groups	.191	2	.095	.769	**.475**
	Within Groups	2.855	23	.124		
	Total	3.046	25			

*** Statistically significant at level $\alpha \leq 0.05$.**

Table 31 presents the mean differences between the levels of years of experience variable. The results reveal that significant differences were observed in the first, second, and total degree dimensions. Consequently, the validity of the hypothesis was accepted. On the other hand, the result display that significant differences were found in the third dimension; therefore, the validity of the hypothesis was rejected. And so, there are statistically significant differences at the level of significance $\alpha \leq 0.05$ in the instructors' perceptions toward the role of online platforms in enhancing teaching and learning attributed to the years of experience on the third dimension. To further examine the differences the researcher utilized Scheffe's test for dimensional comparisons between levels to find out between which levels the differences on the third dimension were, as described in table 32 below.

Table 32. Results of Scheffe's post hoc test between levels according to the number of years' experience variable

Dependent Variable	Number of years' experience	Number of years' experience	Mean Difference
Dimension 3	Less than 5	6-10	**-.62222-***
		More than 10	**-.51111-***

In table 32, the results illustrate that the differences in the third dimension were only between 6–10 and more than 10 years of experience on the one hand and less than 5 years of experience on the other hand in the sense that instructors in those categories had more positive perceptions of the role of online platforms in enhancing teaching and learning than those in the less than 5 years category. However, other comparisons are not statistically significant.

Further, the researcher used the mean and one-way ANOVA test to find out the differences in the instructors' perceptions toward the role of online platforms in enhancing teaching and learning as attributed to the number of online English course variable, as displayed in tables 33, 34, and 35 below.

Table 33. The mean and standard deviation values according to the numbers of online English course variable

Dimensions	Number of Online English Courses	N	Mean	Std. Deviation
Dimension 1	One	2	2.7500	.35355
	Two	6	**2.4167**	.56362
	Three	6	3.1500	.54681
	Four	4	2.4500	.60277
	Five	8	2.8625	.43404
	Total	26	2.7538	.55514
Dimension 2	One	2	3.8750	.35355
	Two	6	**4.1042**	.35722
	Three	6	3.8542	.30017

	Four	4	3.6875	.58184
	Five	8	3.7969	.51295
	Total	26	3.8702	.42790
Dimension 3	One	2	3.1111	.31427
	Two	6	3.0000	.39126
	Three	6	3.4444	.40369
	Four	4	3.2778	.45812
	Five	8	3.3333	.33597
	Total	26	3.2564	.38971
Total	One	2	3.2454	.10476
	Two	6	3.1736	.36646
	Three	6	3.4829	.37170
	Four	4	3.1384	.27865
	Five	8	3.3309	.38297
	Total	26	3.2935	.34907

Table 33 displays the mean and standard deviation (SD) for the number of variables in the online English course. Across all domains, the second domain received the highest mean score of 4.1042, while the first domain received the lowest mean score of 2.4167. This indicates that the instructors who taught two online English courses had the highest average of roles and skills in online teaching, while the instructors who taught two online English courses had the lowest average of perceptions toward the role of the online teaching platform in enhancing students' learning during online lectures. For the first domain, instructors who taught three online English courses received the highest mean score of 3.1500, while those who taught two online English courses received the lowest mean score of 2.4167, illustrating that instructors who taught three online English courses expressed a higher average of perceptions towards the role of the online teaching platform in enhancing students' learning during online lectures than those who taught two online courses. For the second domain, instructors who taught two online English courses obtained the highest mean score of 4.1042, while those who taught four online English courses obtained the lowest mean score of 3.6875. This indicates that instructors who had two online

English courses demonstrated a high average level of roles and skills in online teaching, unlike instructors who had four online courses. For the third domain, instructors who taught three online English courses received the highest mean score of 3.4444, while those who taught two online English courses had the lowest mean score of 3.0000. This means that instructors who had three online courses expressed higher-average attitudes toward the online teaching platform than those who had two online courses. Overall, instructors with three online courses had a higher average of perceptions towards the role of online teaching platforms in enhancing teaching and learning at Palestinian universities than instructors with four online courses.

Table 34. Results of one-way ANOVA test to indicate the differences in the total degree according to the numbers of online English course variable

Dimensions		**Sum of Squares**	**DF**	**Mean Square**	**F**	**Sig.***
Dimension 1	Between Groups	2.088	4	.522	1.951	**.139**
	Within Groups	5.617	21	.267		
	Total	7.705	25			
Dimension 2	Between Groups	.507	4	.127	.653	**.631**
	Within Groups	4.071	21	.194		
	Total	4.578	25			
Dimension 3	Between Groups	.698	4	.175	1.183	**.347**
	Within Groups	3.099	21	.148		
	Total	3.797	25			
Total	Between Groups	.413	4	.103	.824	**.524**
	Within Groups	2.633	21	.125		
	Total	3.046	25			

*** Statistically significant at level $\alpha \leq 0.05$.**

Table 34 demonstrates that there are no statistically significant differences in the first, second, and third dimensions, and even the total degree; thus, the hypothesis's validity was accepted. Moreover, due to the number of online English courses, there are no statistically significant differences in the instructors' perceptions of the role of online platforms in enhancing teaching and learning.

4.2.3 Result Related to the Second Hypothesis

H2. There is a positive relationship at $\alpha \leq 0.05$ between instructor's role and skills in online teaching and their perceptions toward the role of online teaching platform in enhancing students' learning during online lecture.

To test the hypothesis, the researcher utilized the Pearson Correlation Test, as shown in Table 35 below.

Table 35. Results of the Pearson Correlation Test between the instructor's role and skills in online teaching and their perceptions toward the role of online teaching platform in enhancing students' learning during online lectures

Dimensions	Mean	SD	Pearson Correlation
Instructor's role and skills in online teaching	3.8702	.42790	0.409*
Instructor's perceptions toward online teaching platform	2.7538	.55514	

***Significance Value = 0.038**

Table 35 illustrates that there is relationship between the instructor's role and skills in online teaching and their perceptions toward the role of the online teaching platform in enhancing students' learning during online lectures, as the Pearson Correlation Test (r) coefficient was 0.409, which is between 0.3 and 0.5. The significance value was 0.038, indicating that there is a positive relationship at the level of significance 0.05 between the instructor's role and skills in online teaching and their perceptions of the role of the online teaching platform in enhancing students' learning during online lectures.

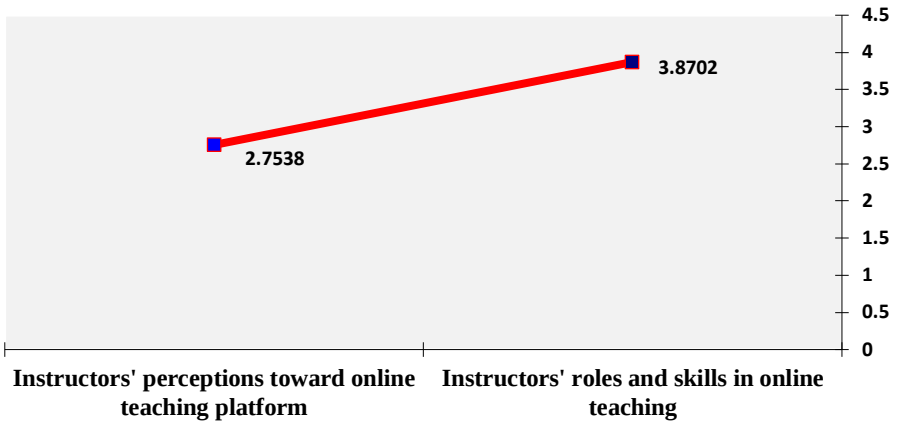

Figure 13. Results of the Pearson Correlation Test

Figure 13 demonstrates that there are differences between two continuous dependent variables in favor of the instructors' roles and skills in the online teaching variable because the mean average is higher than the instructors' perceptions of the online teaching platform variable.

4.2.4 Result Related to the Third Hypothesis

H3. There is a positive relationship at α ≤ 0.05 between instructor's perceptions toward the role of online teaching platform in enhancing students' learning and their attitudes toward online teaching platform.

To examine the hypothesis, the researcher used the Pearson Correlation Test, as shown in Table 36 below.

Table 36. Results of the Pearson Correlation Test between instructor's perceptions toward the role of online teaching platform in enhancing students' learning and their attitudes toward online teaching platform

Dimensions	Mean	SD	Pearson Correlation
Instructors' perceptions toward online teaching platform	2.7538	.55514	0.472*
Instructors' attitudes toward online teaching platform	3.2564	.38971	

***Significance Value= 0.015**

Table 36 demonstrates that there is a significant and positive correlation between the instructors' perceptions of the role of online teaching platforms in enhancing students' learning and their attitudes toward the online teaching platform. The value of the Pearson correlation coefficient (r) was 0.472, and since it lies between .3 and .5, and the significance value was 0.015, there is a positive relationship at the level of significance $\alpha \leq 0.05$ between the instructor's perceptions toward the role of online teaching platforms in enhancing students' learning and their attitudes toward online teaching platforms.

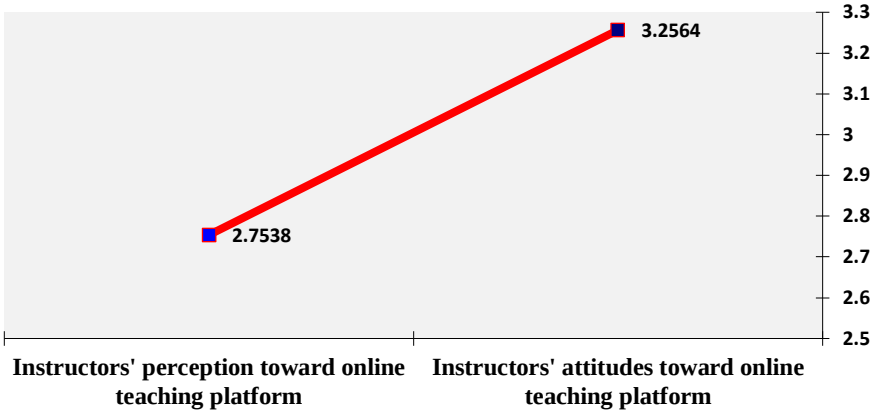

Figure 14. Results of the Pearson Correlation Test

Figure 14 demonstrates a moderately positive linear relationship between two continuous dependent variables, and there are differences in their relationship in favor of instructors' attitudes toward the online teaching platform variable because the mean average is higher than the instructors' perceptions of online teaching platform. These results shed light on the importance of online teaching platforms in teaching and learning at HEIs, as indicated by university teachers' responses, and how the positive relationship between their attitudes and perceptions played an important role in encouraging the continuity of utilizing online teaching platforms in the teaching and learning process.

4.3 Study Two: Results of Instructors' open-ended Questions

4.3.1 Results Related to the First Question

What are the pros and cons of the followed online teaching platform that you use for teaching online English courses?

4.3.1.1 Pros of Online Teaching Platform

The HEI instructors reported different advantages of using online teaching platforms:

(1) Online teaching platforms are very versatile platform that can be used for multiple purposes, from creating interactive lessons to teaching through Zoom to designing exams. *[Instructor A-Arab American University]*.

(2) Online platforms gave the students the chance to learn how to navigate the different aspects of online resources. *[Instructor Y- An- Najah National University]*.

(3) The Zoom App allows students to share their knowledge and control the virtual classroom. *[Instructor X- An- Najah National University]*.

(4) Online teaching platforms reinforce new teaching methods by having the students themselves act as leaders during the class. *[Instructor W- An- Najah National University]*.

(5) Online learning platforms is convenient. The students can use them anytime and anywhere. *[Instructor R- Arab American University: "We could use the time more efficiently plus to the flexibility regarding tasks, time and content"].*

(6) The students can access the content and the materials at their own pace. *[Instructor V- Al Quds Open University: "Can reach students in emergency cases, they can access the content and the materials on their pace, they can communicate with their peers easily"]. [Instructor Q- Arab American University: "Moodle has different tools such as videos, PDF*

and Zoom that suit the needs of every student. Classes are more flexible, affordable and students and instructors can refer to the recording whenever they want"].

(7) The students can communicate with their peers and instructors easily. *[Instructor N- An-Najah National University: "Access to students anywhere they are"][Instructor M- An-Najah National University: "Helps both teachers and students to think out of the box"].*

(8) Online platforms provide more creativity in teaching and learning. The features are motivating, attractive, and enjoyable. *[Instructor K-Al Quds Open University: "Can reach a wider number of students. It is motivating, attractive enjoyable"].*

(9) The easier access allows for multiple viewings of one lecture and a wider scope of materials are helpful. *[Instructor B- An- Najah National University]*.

(10) Classes are more flexible and affordable, and the students or instructors can refer to the recordings whenever they want. *[Instructor L- Arab American University]*.

4.3.1.2 Cons of Online Teaching Platform

Based on the instructors' responses, the cons of online teaching platforms are:

(1) Lack of authority over students. In this regard some instructors stated that some students ask others who are more professional to do their assignments *[Instructor Z- An -Najah National University. [Instructor A-Arab American University] [Instructor X- An- Najah National University: "It turns into a problem when students become more reliant on teachers because they assume that they are only recipients and have nothing to add to the discussion"].*

(2) Most teachers lacked the skills necessary to run an effective online class. *[Instructor W- An- Najah National University]*.

(3) Technical infrastructure problems such as poor internet connection, lack of devices, and server shutdown. *[Instructor Y- An -Najah National University: "The lack of access that many students and teachers suffer from when it comes to technology and software"] [Instructor G- Al Quds Open University: "The lack of computers and availability of the internet"] [Instructor F- Al Quds Open University: "Poor internet speed"].*

(4) Lack of interaction has badly affected the communication between the teachers and the learners. *[Instructor N- An -Najah National University]*.

(5) The students are less active during online learning classes. *[Instructor B- An- Najah National University]*.

(6) Lack of motivation among most students to learn via online teaching platform. *[Instructor B- An- Najah National University]*.

(7) Limited number of students can access Zoom lecture.

(8) Lack of engagement between the instructors and students. *[Instructor R- Arab American University: "Lack of interaction has badly affected the communication between the teacher and the learners"].*

(9) Online teaching needs more time to develop. [*Instructor K-Al Quds Open University: "Takes time to develop"].*

(10) Online teaching platforms encourage students not to study and even not to attend their online classes. *[Instructor T- Arab American University: "Encourages them not to study and even not to attend their classes"] [Instructor S- Arab American University: "The entire e-learning thing is a mess"].*

(11) The students can cheat easily on online exam. *[Instructor T- Arab American University]*.

(12) Complicated evaluation process. *[Instructor U-An -Najah National University]*.

4.3.2 Results Related to the Second Question

What are the different online tools and strategies you apply during the online lectures to improve students' performances and engagement?

4.3.2.1 Online Teaching Tools

The instructors reported that they used various online tools during their online lectures to improve students' performance and engagement. These online tools are categorized into asynchronous and synchronous ones. The most commonly used asynchronous tools by instructors included social media sites, such as WhatsApp and Messenger, Google, YouTube, and creative works such as short videos, movies, and forums. While synchronous tools such as Zoom and Breakout rooms were available, most instructors reported also used PowerPoint slides, Microsoft programs, digital materials, and electronic books during their online lectures to improve students' performances and engagement. Below, we can find statements from the participants:

[Instructor Y- An Najah National University: "Breakout rooms when I use zoom"].

[Instructor V- Al Quds Open University: "Digital materials, and Power-point slides"].

[Instructor U- An Najah National University: "Forums"].

[Instructor T- Arab American University: "PowerPoint"].

[Instructor S- Arab American University: "Blogs and YouTube"].

[Instructor N- An Najah National University: "Movies and PowerPoint"].

[Instructor F- Al Quds Open University: "Social media such as WhatsApp and Messenger"].

4.3.2.2 Online Teaching Strategies

The instructors impaired different instructional strategies they utilized to help students perform better and engage more in online classes. The following are some examples: open-ended questions, debate, group work, short presentations, brainstorming, team projects, repetition,

assignments, quizzes, worksheets, and online material, collective feedback methods, and asking students to take hold as presenters. On the other hand, a few instructors stated that they did not use any online teaching strategies. Some statements supporting this can be found below:

[Instructor X- An Najah National University: "Dividing students into separate groups, short presentations, questions and answers, short paragraph writing, and the art of note- taking"].

[Instructor Q- Arab American University: "Team projects"].

[Instructor M- An Najah National University: "Open-ended questions, and debate discussion"].

[Instructor L- Arab American University "Discussions and projects"].

[Instructor K- Al Quds Open University: "Take hold as presenters"].

[Instructor A- Arab American University: "Chatting through Zoom"].

4.4 Study Three: Results of Interviews of E-Learning Centers' Members

4.4.1 Results Related to the First Question

What kind of online platform is used by your university? Describe the pros and cons of the chosen platform.

According to the AAU team, the two primary platforms used by the university community are Moodle and Zoom. The users noted that the platforms are user-friendly for students and instructors, allow the uploading of educational resources, enable the creation of educational links, and promote interaction between students and teachers during the learning process. Users can also choose to prepare for exams and assign duties to the students. On the other hand, they highlighted the shortcomings of these platforms, including the need to purchase licenses to increase class size and lecture length, communication gaps, difficulties between instructors and their students over course content and presentation, and cheating on online tests. While Moodle Learning System, Zoom, Big Blue Button (BBB), and YouTube Channels were used by the university community at AQOU, the team reported different pros, such as flexibility, availability, variety, openness, and

ease of use. Finally, the ANNU team reported that Moodle and Zoom platforms were mainly used by their instructors and students. Some quotes from the participants are depicted below:

[Member D- Al Quds Open University: "Moodle, Zoom, BBB and YouTube Channels"].

[Member H- Arab American University: "Simple use by both students and instructors"].

[Member H- Arab American University: "The necessity to buy licenses in order to expand the class size and lecture duration"].

[Member E- Al Quds Open University: "Ease of use and delivery of everything the student needs in one platform"].

[Member D- Al Quds Open University: "Flexibility, availability, Variety, openness, and Ease"].

[Member I-Al Quds Open University: "Using Model's electronic content platform. To feed the diverse sources to enhance students' concepts and knowledge, a q-tube platform has been created for a video sharing, a slide share platform for file sharing, and a web page e-course for all e-courses"].

[Member G-An Najah National University: "Model and Zoom Platform"].

[Member C -Arab American University: "Enables teachers to conduct lectures, administer exams, and communicate with students, among other functions, more easily"].

[Member B -Arab American University: "Gives users the chance to upload educational resources to the model platform, set up educational links on Zoom, and facilitate student-teacher interaction in the learning process. It also gives users the option to prepare for tests and assign duties to students"].

4.4.2 Results Related to the Second Question

What are your attitudes toward using online platforms in university teaching?

Based on the participants' responses, the universities had positive and negative attitudes toward using online platforms. For instance, some AAU teams indicated that because e-learning began in 2018 and was associated with the beginning of the coronavirus pandemic, some features of the platforms tend to be generally weak. However, others reported that the Moodle teaching

platform is flexible in terms of time and location, simple, and adaptable. According to the AQOU team, the Open Education Center, the first Palestinian institution to adopt open education and one of the technological and pedagogical centers of the Al-Quds Open University, they gave been promoting online learning environments since 2008. To maximize the advantages of using online platforms, they also exhibited favorable attitudes toward integrating the learning process with online platforms and employed cutting-edge online teaching techniques. Additionally, they emphasized that using online learning environments is an effective way to improve the teaching and learning process, especially during times of challenging political circumstances that make it impossible for students and teachers to go to their universities.

In the same vein, the ANNU team expressed positive attitudes toward e-education in all its cases, especially in the Palestinian context given its special status as a state under occupation. Some quotes which reflect these ideas are:

[Member F- Al Quds Open University: "It's an efficient way to continue teaching and learning process especially during the spread of epidemics and the difficult political and military conditions that prevent students and teachers from being able to attend the university"].

[Member H- Arab American University: "Due to the fact that e-learning only started in 2018 and coincided with the beginning of the coronavirus epidemic in practice, trends at Arab American University toward these platforms are generally weak"].

[Member D- Al Quds Open University: "I think it is important issue to integrate the learning process with online platforms and using modern methods to enhance teaching process"].

[Member B- Arab American University: "The Moodle is adaptable and simple to utilize when applying. It is simple to plan and prepare for lectures and exams. To assist students and teachers in using the many events of the model, there are training courses"].

[Member C- Arab American University: "Promote the use of online e-learning platforms because they give both students and teachers flexibility in terms of time and location"].

[Member G-An Najah National University: "Positive trends and with e-education in all its cases, especially in the Palestinian context of its special status as a state under occupation"].

[Member I-Al Quds Open University: "I tend to be positive of e-education and its platforms. Since 2008, the Open Education Center has been working to promote online learning environments and spread the university's philosophies in open and integrated education. The Open Education Center is one of the technical and educational centers of the Al-Quds Open University, which was the first Palestinian institution to adopt open education. The Center aims to provide technology-enhanced teaching strategies, improve collaborative and self-learning abilities, and promote creativity. Additionally, it works to create and build e-curricula and various supplementary learning aids in accordance with best practices in educational design, learning strategy, and the most recent technological trends as well as international standards"].

4.4.3 Results Related to the Third Question

What are the obstacles that hinder the usefulness of e-learning at your university?

Based on the responses of e-learning members, the obstacles that hinder the usefulness of e-learning are infrastructure's readiness, political condition, and insufficient background and experiences.

4.4.3.1 Readiness of Infrastructure

The participants from all e-learning centers reported that there are different infrastructure problems that affect the success of e-learning, such as server shutdowns, electricity shortages in some student areas, insufficient internet speed, the lack of internet access in marginalized and remote areas, and the lack of computers and smart screens in the classrooms. Some quotes from the participants are:

[I-Al Quds Open University: "An imbalance in academic staff's experience and skills with regard to e-education, internet speed, lack of Internet access in marginalized and remote areas south of Hebron, the problem of credibility and safety in assessments was minimal, and political, social, and economic constraints of the State of Palestine in particular"].

[Member G An- Najah National University: "Problems of Internet separation, infrastructure, lack of computers on some sides of the educational process, and lack of smart screens in the classrooms to ensure that the educational process proceeds in an adequate manner"].

[Member F-Al Quds Open University: "Acceptance of the parties concerned with this system, and availability of the necessary infrastructure. Lack of efficient assessments systems"].

4.4.3.2 Political Condition

Members of the e-learning community cited that the political situation in Palestine has a negative impact on any investment in e-education. Also, political conditions increase the social and economic constraints that influence administrative decisions in terms of the advancement and development of e-education and its needs.

4.4.3.3 Insufficient Background and Experiences

All participants pointed out that most faculty members lacked expertise in using technology, specifically, lack of expertise in creating online courses and using digital tools for carrying out online lectures. The culture of e-learning does not exist properly among the university community, which affects their attitude toward the usefulness of e-learning systems. Some statements which address this issue are:

[Member H- Arab American University: "The culture of e-learning does not exist properly in the university and in Arab society in particular, administrative decisions stand in the way of the advancement and development of e-education and its needs, which adversely affects the outputs of e-learning, technological impediments and teachers' lack of expertise in the use of technology in e-learning, political conditions, power failure, the small number of employees in the e-learning center, the lack of a competent unit to examine the quality of e-learning, and the majority of academic staff and students do not possess the expertise and skills for e-learning"].

[Member D- Al Quds Open University "Academic staff skills and Students' skills and background"].

[Member G An-Najah National University: "The majority of faculty members also have insufficient background and experience to teach and develop online courses. Additionally, one of the biggest obstacles is the gap in e-educational potential and expertise among teachers, as well as the culture of e-education and teacher communication"].

4.4.4 Results Related to the Fourth Question

What are the solutions and recommendations that must be considered to improve e-learning in the universities in Palestine?

4.4.4.1 E-Learning Members' Solutions

The e-learning members proposed different solutions that can be considered to improve online education: professional development, awareness programs, and development of technical infrastructure problems.

4.4.4.1.1 Professional Development

The participants provided various trainings to help instructors improve their skills in delivering online lectures. For example, the respondents from AAU reported that to ensure professional development for instructors, they conducted optional workshops for academic staff in the context of e-education, including how to conduct and present the lecture electronically, how to design and conduct exams electronically, and how to use the Zoom platform. They also conducted a training course about managing students' interactions electronically for a specific number of instructors. Furthermore, technical support was provided to all parties in the educational process to address any sudden problems. Similarly, the participants from AQOU recommended smart solutions such as conducting trainings and workshops that will assist instructors in designing e-courses; conducting different workshops on virtual reality; educating professors on the concept of virtual reality, its traits, and best practices; differentiating between virtual reality and augmented reality; showcasing the applications of virtual reality in education; introducing the virtual reality

educational scenario; providing open educational resources; and providing technical support to faculty members and students. Additionally, they built mobile educational centers projects in the marginalized areas in the Jordan Valley and southern Hebron by equipping two trucks with two computer labs and an electronic library. In the same context, ANNU e-learning members were working on professional development concepts for instructors by conducting optional training courses and workshops about online teaching, the use of flipped classroom strategy, and the use of open educational resources, designing e-courses, and using Google's technical tools to learn how to design. Interestingly, they announced the e-learning award nominations to encourage all instructors to participate in trainings and increase their skills in online teaching. Finally, technical support was provided for the university community. A quote which exemplifies these ideas is:

[Member H- Arab American University: "Holding educational workshops for academic staff in the context of e-education and its importance and working to advance the educational process through it, how to conduct and present the lecture electronically, how to design and conduct exams electronically, how to use the Zoom platform. Provide technical support to all parties. Continue to launch some courses electronically, such as general culture and Arabic, as an initial step to promote e-education at the university. Double the speed of the Internet for teachers only with the support of the Palestinian telecommunications company. Purchase licenses to take advantage of the Zoom platform effectively and appropriately. Photography of lectures in a small way and for some teachers. Filming videos from inside the university campus. Conduct a course for a specific number of teachers on how to manage students' interaction electronically"].

4.4.4.1.2 Awareness Programs

Based on the responses of e-learning teams at each university, the participants in AAU stated that they did not implement any awareness programs for the university community. On the other hand, AQOU's team reported that they worked on spreading the e-learning culture among instructors and students by holding several workshops, while ANNU's team reported that they created a course on how to learn electronically for all students to raise their awareness and

experience with online learning, Lastly, they are still publishing awareness videos about online learning on the university website. An example comprising these ideas follows:

[Member G- An Najah National University: "Design e-courses and use Google's technical tools to learn how to design. Computerized exams. Conduct training courses and workshops for faculty members, optionally. Use of open sources. Use inverted grade. Publish awareness videos. Nomination for the E-Learning Award. Provide technical support. Work on computing all university courses. Provide compact and available courses with Zoom links. Provide 3G packages to ensure that the Internet is not disconnected through the telecom company. Launch a campaign to borrow laptops for students in need. Purchase licenses to solve Zoom problems in the lecture, especially at the time and number allowed for participating students. Control the cheating and performance of students in exams by reducing the time of answering each question, scribbling questions, not allowing the change of answers, and finishing the exam at the same time for all students. And create a course on how to learn electronically for all students to raise their awareness and experience"].

4.4.4.1.3 Development of Technical Infrastructure Problems

The e-learning team reported different solutions to develop infrastructure. For example, AAU's team reported that they worked on improving the internet speed for instructors by gaining support from the Palestinian telecommunications company. Then, they required students who did not have computers to come to the university to do their exams. Similarly, AQOU's team reported that they worked on increasing the internet capacity and added a server to solve the problem of pressure on sites due to increasing the number of students at a time, offered all university branches and students free access to the internet, and offered a production and broadcasting center via the internet rather than satellite. Moreover, they recorded lectures with the goal of involving students and helping them achieve the appropriate learning objectives even during emergency situations or when there are other barriers that prohibit them from participating in face-to-face lectures. Lastly, the ANNU team reported that they offered 3G packages to make sure that the telecommunications

company cannot cut off their internet, bought licenses to fix Zoom issues in the lecture, particularly in terms of the time and number of participants allowed, and started a campaign to lend laptops to students who needed them. An instance embedding these ideas follows:

[Member I -Al Quds Open University: "Providing open educational resources and technical support to faculty members and students. Raising the skills of faculty members and students in e-learning. Developing digital content using the best learning strategies and the latest trends in technology in line with all platforms and devices to support the quality of education and learning. Introducing a flexible and innovative electronic learning environment according to global specifications and standards. Achieve quality and performance indicators in e-learning and integrated learning through a specialized unit. Increase the capacity and add a server to solve the problem of pressure on sites due to increasing the number of students at a time. Offering training, induction, and development workshops in each classroom for teachers. Offer all university branches and students free access to the internet. Holding workshops on virtual digital reality; educating professors on the concept of virtual reality, its traits, and best practices; differentiating between virtual reality and augmented reality; showcasing the applications of virtual reality in education; and introducing the virtual reality educational scenario"].

4.4.4.2 E-Learning Members' Recommendations. To accomplish the recommendations, the AAU team proposed the following steps:

1. Create electronic courses for all disciplines by a specialized unit.
2. Organize more workshops for instructors throughout the year and make them mandatory.
3. Provide teachers and students frequent and internal seminars on how to teach and learn online.
4. Set up e-learning rooms with big screens.
5. Make an effort to enhance the elearning center's staff to boost productivity.
6. Educate instructors on effective online teaching methods.
7. Improve the internet service.

A quote from a member of this university follows:

[Member H- Arab American University: "Provide Virtual Reality-based courses. Set up modern e-learning rooms with smart screens. Work to develop experiences effectively in line with digital education. Using 21st-century strategies for electronic lecture presentation. Offering frequent and intensive courses for both instructors and students on online teaching and learning. Design electronic courses for all disciplines through a specialized unit. Work to increase the number of employees in the e-learning center to increase its productivity. Increase the number of teachers' workshops throughout the year and hold them compulsorily. Work on the application of the virtual reality project and enhancement at the Arab American University. The use of smart screens inside e-learning halls to help integrate students into the educational process"].

The AQOU team suggested the following procedure:

1. Create digital content appropriate for all platforms and devices and take advantage of the latest teaching techniques and technological advancements.
2. To address the issue of pressure on sites caused by an increase in the number of students enrolled at once, improve the capacity and add a server.
3. Develop infrastructure for all the university's departments.
4. Provide better technological infrastructure to deliver what is required to students more efficiently and effectively, and hold training or seminars for students on how to deal with educational platforms and how to identify technical solutions.
5. Add smart screens to all classrooms and branches.
6. Develop evaluation methods suited for e-learning objectives and outcomes.

The following quote exemplifies these ideas:

[Member E- Al Quds Open University: "Conducting training workshops for students on how to deal with educational platforms and how to find technical solutions if they exist, in addition to providing better technological infrastructure to deliver what is needed to students better and faster. Academic staff and students training"].

Lastly, the ANNU team suggested the following:

1. Develop infrastructure.
2. Fostering an e-learning culture among students and teachers.
3. Develop innovative methods in the course design.
4. Install smart screens in rooms.
5. Establish a specialist department to assess the quality of online courses.
6. Hold lectures on upgrading the standards of e-learning.

A quote from a member of this university is found below:

[Member G- An Najah National University: "Developing course design methods. Infrastructure development. Promote the culture of e-learning among students and teachers. Provide a competent department to examine the quality of electronic courses. Implementation of a project to equip two rooms with smart screens to ensure the progress of the online and offline educational processes. Holding workshops on improving the quality of e-learning"].

Discussion

5. Discussion

The most relevant results in the present doctoral thesis have allowed the researcher to achieve the objectives set at the beginning of this thesis. These are, on the one hand, to determine the role of online teaching platforms in enhancing learning and teaching as perceived by bachelor students of English specialization and their instructors, and on the other hand, to examine the association between students' engagement and their academic performance during online learning and to explore obstacles that hinder the effectiveness of e-learning in Palestinian universities.

5.1 Study One: Discussion of the Results of the Main Question

According to the results, students' attitudes toward online teaching platforms are at a moderate level due to insufficient experience with online learning, difficulties expressing their ideas, comments, and answers, and an inability to control the overloaded information in online courses. However, the researcher has started assuming that the attitudes of students are influenced by their specific knowledge and skills that allow them to integrate this knowledge and experience with new skills into their online courses. Therefore, the researcher can confirm that based on participants' moderate experiences.

These results coincide with those found in studies by Sørum (2022); Adnan and Anwar (2020); Coman et al. (2020); Cranfield et al. (2021); Hussein, Daoud, Alrabaiah & Badawi (2020); Aderibigbe (2020); and Aristovnik et al. (2020). On the other hand, participants show a low level of attitudes and are dissatisfied with the design of the online activities of the course and with their asynchronous classes. In this sense, the research conducted by Khan et al. (2020) emphasizes the positive influence of the design of online courses on students' satisfaction, performance,

knowledge, and skills. Besides, Yasin, Al-Tarawneh, El-Issa and Al-Zoubi (2022) and Gopal, Singh & Aggarwal (2021) agreed that in order to improve the effectiveness of online teaching, instructors should prioritize self-efficacy when designing online courses. This was confirmed by the research conducted by Hervás-Gómez, Díaz-Noguera, De la Calle-Cabrera & Guijarro-Cordobés (2021), who found that approximately 70–80% of the students completely agreed that the material of the online course was useful and interesting. The participants' low attitudes toward their asynchronous classes were consistent with the findings of previous studies, such as the research conducted by Borg et al. (2021), who found that students reported higher levels of comfort using online synchronous classes than both in-person and online asynchronous classes. According to the results of the first dimension, the researcher claims that the students' varying attitudes toward the online teaching platform are due to issues they encountered during online lectures and their dissatisfaction with this new method of learning.

Based on the results of the second domain, the participants' agreement toward the role of an online teaching platform in enhancing students' engagement levels is moderate. Most of the participants agree on the ability of the online teaching platform to help them interact with online courses in different forms and offer a variety of resources that aid in the development of knowledge and comprehension in online courses. This is consistent with the findings of Abou-Khalil et al. (2021), Aderibigbe (2020), who found that students expressed positive perceptions toward the platform's engagement tools and resources and felt engaged in the courses through online discussions. Hervás-Gómez, Díaz-Noguera, De la Calle-Cabrera & Guijarro-Cordobés (2021) also confirmed that students' motivation scored a higher percentage than autonomy and digital pedagogy in their ability to adapt to online learning. Regarding interaction with instructors and other students, participants moderately agreed on the positive impact of breakout rooms,

discussion boards, discussion forums, and wikis in fostering meaningful interaction and assisting them in learning more English. Sørum (2022) declared that students are highly motivated for the online live lectures that they have taken by using breakout rooms, which allows them to be at the center of the learning process.

In contrast, Chen et al. (2020) stated that the Zoom platform needs to improve its communication and interaction, teaching functionalities, and student status management. The participants also emphasized that the limited number of online resources that are available on the platform and the limited use of online teaching strategies by instructors have a significant negative impact on their engagement during online lectures. In this sense, Dumford and Miller (2018) found a significant link between student engagement and the number of online courses taken. Farrell and Farrell and Brunton (2020) concluded that a successful online student engagement experience is influenced by various psychosocial and structural factors.

Regarding the students' academic performance, the participants have moderate agreement with the role of an online platform in increasing their level of achievement. The researcher have begun to believe that there is a need to develop more materials for online learning, as well as specialized training courses and workshops, to assist them in improving their online learning skills, experiences, and academic performance. There appears to be broad agreement on the importance of student satisfaction in predicting academic experience in online learning (Khan et al., 2020; Demuyakor, 2020; Yasin, Al-Tarawneh, El-Issa & Al-Zoubi ,2022; Gopal, Singh & Aggarwal, 2021; Almusharraf & Khahro, 2020; Virtanen, Kääriäinen, Liikanen & Haavisto, 2017; & Aristovnik et al., 2020).

On the other hand, according to the low level of agreement among participants toward the negative impact of the poor connectivity, large assignments, overload of information, and time

measurement factors on their academic performance level, the previous findings support Hermida (2020) who claimed that students were unprepared for the abrupt shift to entirely online learning and teaching due to a lack of advanced technologies and skills to participate in online learning lectures. In contrast, Khan et al. (2020) emphasized that students had positive attitudes toward and acceptance of the e-learning system.

Based on the results of the students' perspectives toward the instructor's role in online teaching, they have moderate agreement on their instructors' role in online teaching in terms of the online resources, skills, strategies, feedback, explanation, and guidance that they employed in online lectures. In this sense, the researcher assumes that the instructors have the necessary skills, experiences, and resources to teach online courses. Which is consistent with Almusharraf and Khahro (2020) finding that the majority of students were satisfied with their instructors' support in terms of course activities, assessment, teaching pedagogies, and delivery of online lectures. On the other hand, Rajabalee and Santally (2021) reported that students were dissatisfied with their instructors' role in online teaching. To conclude, it is clear that students' attitudes toward the role of online teaching platforms in enhancing their learning fell into two subthemes: positive and negative. And these attitudes varied among the respondents due to problems and challenges they faced during online learning and their previous experience with and skills in online learning.

5.2 Discussion of the Results of the First Hypothesis

According to the results of the year of study level, participants who are in the fourth- year of their study have the highest attitudes toward the role of an online teaching platform in enhancing their engagement level and academic performance. While most of the participants in the first- year had negative perceptions toward the role of online teaching platforms in enhancing their learning, fourth- year students had higher perceptions toward the role of online teaching platforms in

enhancing their learning. Dumford and Miller (2018) emphasized this, demonstrating that the degree of online course exposure measured by the percentage of classes a student attends online contributes to engagement. Thus, first-year students who take more online classes report lower levels of collaborative learning in their courses. Among senior students, a negative correlation was found between the percentage of online courses taken and collaborative learning, indicating that students who took a higher percentage of courses online engaged less in collaborative learning.

Moreover, students enrolled in AQOU demonstrated the highest level of agreement with the positive role of online teaching platforms in enhancing their engagement, while those attending ANNU expressed the lowest level of agreement in this regard, indicating dissatisfaction with online courses and materials intended to improve their independent learning and academic performance. This finding is consistent with the studies conducted by Borup et al., (2020); and Conijn, Van den Beemt, and Cuijpers (2018) who reported a positive relationship between MOOC activities and final grades in on-campus courses. Conversely, students at AAU showed the lowest level of agreement across all dimensions regarding the positive role of online teaching platforms in enhancing their learning, which could be attributed to their lack of experience with online learning compared to students at AQOU, which is an open university employing distance learning for all university degrees. This finding is supported by Nieuwoudt (2020), who found a significant relationship between final grades and the number of hours spent by students on the Learning Management System (LMS).

In terms of the type of online course, students who took blended courses (combining in-person and various forms of online instruction, including synchronous and asynchronous) expressed a higher level of agreement with the positive role of online teaching platforms in enhancing their engagement than those who took solely asynchronous online courses, such as

Moodle. This finding is consistent with Borg et al. (2021), who reported that in-person teaching was perceived as more effective than both synchronous and asynchronous online teaching. However, Friska (2021) found that most of the students have a positive perception of applying e-learning to assist their learning process and have a positive attitude toward e-learning in general, whether delivered synchronously or asynchronously, and viewed it as a helpful aid to their learning process. Additionally, students who took synchronous online courses, such as those using Google Meeting or Zoom, expressed a higher level of agreement regarding the positive role of online teaching platforms in enhancing their academic performance than those who took solely asynchronous online courses. This result was supported by Rinekso and Muslim (2020), who discovered that the synchronous online discussion method of teaching was effective and should be used in teaching English synchronous courses. The researcher attributed this to the fact that the majority of students lack skills, experience, and requirements that have affected their attitudes toward the role of an online teaching platform in enhancing their academic performance and engagement. This finding is highlighted by Sweetman (2021), who addressed the importance of establishing norms and expectations for students during synchronous class sessions and creating a framework for group work to enhance student engagement and performance.

Overall, the consensus is that students tend to engage and perform better in blended courses than in purely synchronous or asynchronous courses. Adnan and Anwar (2020) have pointed out that online learning may not be effective in underdeveloped countries like Pakistan, where most students face difficulties accessing the internet due to technical and economic challenges. To improve students' engagement in synchronous and asynchronous online courses, the key factor is to enhance their attitudes toward the positive role of online teaching platforms in promoting their engagement and academic performance. This conclusion is supported by Ramaha & Karas (2021),

who used an interactive avatar to sustain students' motivation and engagement during asynchronous classes.

5.3 Discussion of the Results of the Second Hypothesis

The researcher postulated that a relationship exists between students' engagement and their academic performance levels. The results confirm the existence of a moderately positive correlation between students' engagement and their academic performance levels. Notably, differences favored students' attitudes toward the role of an online teaching platform in enhancing their engagement levels. This finding aligns with previous research by Conijn, Van den Beemt, and Cuijpers (2018), who discovered a positive association between students' participation in a Massive Open Online Course (MOOC) and their MOOC completion. They also found that all MOOC activities were positively linked to final grades. Another study by Nieuwoudt (2020) emphasized a significant relationship between the number of hours students spent on the Learning Management System (LMS) and their final grades.

The researcher in this study can thus confirm that, based on the data provided by the students, online engagement can impact students' academic performance levels. The success of this relationship is dependent on the integration of the online course, materials, instructor skills, and online teaching strategies. In this regard, Abou-Khalil et al. (2021) focused attention on the importance of careful planning to support meaningful interactions and maintain online engagement. Similarly, Francescucci & Rohani (2019) highlighted the positive impact of synchronous online learning on students' engagement, attendance, and participation.

5.4 Discussion of the Results of the Third Hypothesis

The researcher hypothesized that there is a positive relationship between students' attitudes toward online teaching platforms and their engagement. The results confirm the researcher's hypothesis, as the students expressed a moderately positive relationship between their attitudes toward learning through an online teaching platform and their attitudes toward the platform's role in enhancing their engagement level. These results corroborate those of Rajabalee and Santally (2021) study, which found a significant and positive correlation between student satisfaction and engagement. Therefore, the researchers in this study confirmed that students' positive attitudes and satisfaction are crucial predictors of their meaningful interaction, participation, and engagement in online learning courses. Aristovnik et al. (2020) also foregrounded the positive impact of online teaching methods on higher education students' attitudes and satisfaction.

Likewise, Almusharraf and Khahro (2020), and Gopal, Singh, and Aggarwal (2021) stressed the importance of instructors' support in terms of course activities, assessment, teaching pedagogies, and delivery of online lectures in increasing students' attitudes, satisfaction, and engagement in their online learning. Aparicio, Bacao & Oliveira (2017) also pointed up the critical role of students' satisfaction with online learning systems in the success of e-learning.

5.5 Discussion of the Results of the Fourth Hypothesis

The researcher assumed that there is a positive relationship between students' perspectives toward the instructor's role in online learning and their engagement. According to the results, the students demonstrate a strong positive correlation between their perspectives toward the instructor's role in online learning and their attitudes toward the role of an online teaching platform in enhancing students' engagement levels in online classes. In this regard, Demuyakor (2020)

pointed out that instructors should prioritize self-efficacy when designing online courses in order to improve the effectiveness of their online teaching. Gallego-Gómez, De-Pablos-Heredero, and Montes-Botella (2021) also stressed a significant positive relationship between attitude and intention of using remote teaching and learning systems, attitude and advantages, satisfaction and usefulness, and satisfaction and intention. Likewise, Vega-Carrero, Alejandro-Pulido & Ruiz (2017) emphasized that instructors' technology knowledge has a great impact on the success of the online learning process. Rinekso & Muslim (2020) also confirmed that instructors played an important role in the success of the teaching process when using synchronous online discussions. On the other hand, Hussein, Daoud, Alrabaiah & Badawi (2020) focused on the negative aspects like a heavy workload, problems with technology and the internet, and insufficient support from instructors and colleagues that affect students' perspectives and engagement in online learning settings.

5.6 Discussion of the Results of the Fifth Hypothesis

The researcher hypothesized that there is a positive relationship between students' perspectives toward the instructor's role in online learning and their academic performance levels. The results stressed that students demonstrate a weak relationship between their perspectives toward the instructor's role in online learning and their academic performance levels. In this vein, Gonzalez et al. (2020) found that if teachers follow learning strategies, additional e-learning tasks are assigned to students, theoretical lessons are replaced with written documents, and multimedia classes are provided as additional material, students' performance can be increased independently. The researcher concludes that the utilization of online learning platforms, according to the study, can boost students' academic performance through collaborations, interactions, application, remembering, understanding, and analyzing.

5.7. Study Two: Section One

5.7.1. Discussion of the Results of the Main Question

In accordance with the study's results, instructors indicated that student participation in online classes is moderate. However, the majority of students do not participate or interact during online classes. Nevertheless, the researcher has begun to believe that the instructors' different opinions on the importance of online teaching platforms in increasing students' learning during online lectures are due to the student's awareness, experience, and willingness to learn online. As noted by Walker and Koralesky (2021), the rapid shift to online instruction resulted in lower student involvement, as determined by instructors' perceptions of student engagement and student self-reports.

In light of the results of the instructors' responsibilities and skills in online teaching, the researcher stressed the instructors' high-level expertise in developing online materials, teaching online language courses, and controlling students' progress. In this respect, Bojović, Bojović, Vujošević & Šuh (2020) underlined that it is teachers' greater effort and responsibility to invest in using these platforms. According to Kabir (2020), faculty readiness has the most influence in explaining the intention to use technology in virtual classes. In contrast, Tsegay, Ashraf, Perveen & Zegergish (2022) observed that teachers were worried that they would be unable to teach online or engage their students properly because they lacked the necessary skills. As stated by Agbi and Yuangsoi (2022) a paradigm shift is required from teaching that merely imparts specific concepts and skills to tactics that challenge and widen their perspectives and thoughts. Similarly, Migocka-Patrzałek, Dubińska-Magiera, Krysiński & Nowicki (2021) stressed that the more experienced and familiar lecturers are with distance learning techniques, the more enthusiastically they express interest in continuing education for their students utilizing distance learning techniques.

In terms of the results of instructors' attitudes toward online teaching platforms, the results proved that instructors have a very high level of attitude toward the necessity of reviewing the digital transformation process at Palestinian universities to guarantee successful e-learning, which requires more efforts compared to face-to-face learning. This is consistent with Abu Elhawa (2021), who affirmed the need for specific institutional support infrastructures, both hard and soft, to assist teachers in providing successful e-learning possibilities. Also, there was a lot of agreement on the complicated and unreliable assessments issued by platforms for online learning. Regarding this, Mellar et al. (2018) observed that as the usage of e-assessment increased, most teachers thought cheating would become a significant concern. The instructors showed negative attitudes toward online teaching, as they are not in favor of it. As reported by Bojović, Bojović, Vujošević, & Šuh (2020), teachers rarely agreed or disagreed with online teaching, had sharp disagreements about the relationship between student-instructor interactions and academic success, and had very low levels of agreement on having highly motivated students participate in online lectures. Walker and Koralesky (2021) proved that students' emotional involvement was largely reduced as a result of the rapid online transfer. Likewise, instructors' perceptions toward the online teaching platform were negative. This is in accordance with Moralista and Oducado (2020) observation that faculty members were divided on whether they favored online education or not.

5.7.2. Discussion of the Results of the First Hypothesis

The results of the university variable proved that instructors who taught at AQOU had higher perceptions toward the role of online platforms in enhancing teaching and learning than the instructors who taught at AAU. Similarly, AQOU instructors had higher positive attitudes toward the role of online teaching platforms in enhancing students' learning during online lectures than AAU instructors, who had lower average perceptions. Furthermore, the AQOU instructors have a

higher level of roles and skills in online teaching in comparison with AAU instructors. On the other hand, ANNU instructors had higher attitudes toward online teaching platforms than AAU instructors. Thus, the researcher concludes that AQOU and ANNU instructors have higher perceptions toward the role of online platforms in enhancing teaching and learning than AAU because of their efficient backgrounds, experiences, and training in online teaching. In this context, Moralista and Oducado (2020) verified that intermediate computer skills and online teaching training influenced instructors' perceptions of online teaching. Additionally, Kabir (2020) pointed out that private universities were providing online education because their faculties had the logistics and mindset to adopt technology-based virtual learning, whereas public university faculties had yet to initiate it, resulting in a massive gap between public and private university education in terms of online teaching readiness. The researcher of the current study, on the other hand, indicated that AAU professors are not ready to implement onlin e teaching in comparison to universities such as AQOU and ANNU.

With relation to academic rank and years of experience, results revealed that a professor has a greater role and skills in online teaching than other academic ranks. Also, graduate teaching assistants had the lowest perceptions of the significance of the online teaching platform in enhancing student learning during online lectures. This implies that professorial instructors, on average, have positive views regarding online teaching platforms, but graduate teaching assistant instructors, on average, have negative attitudes toward online teaching platforms. The researcher attributes this result to the fact that the instructors with higher experience had higher average perceptions and attitudes toward the role of the online teaching platform in enhancing students' learning during online lectures in comparison with instructors with less experience in online teaching. Conversely, Noori (2019) identified no significant relationship between teaching

experience and teachers' attitudes toward instructional technology. The current study's results, on the other hand, demonstrated that instructors with less than 5 years of experience had more tasks and skills in online teaching than instructors with more than 10 years of experience. In addition, Agbi and Yuangsoi (2022) found that the deployment of blended learning necessitates skilled and motivated teachers. Similarly, Guillén-Gámez and Mayorga-Fernández (2020) stressed the importance of motivating university teachers to improve their attitudes toward ICT use in an online teaching environment.

5.7.3. Discussion of the Results of the Second Hypothesis

The researcher postulated that a relationship exists between the instructor's role and skills in online teaching and their perceptions toward the role of the online teaching platform in enhancing students' learning during online lectures. The results confirm the existence of a moderately positive relationship between the instructor's role and skills in online teaching and their perceptions toward the role of the online teaching platform in enhancing students' learning during online lectures. This implies that the instructor's active role in online teaching can influence their perceptions positively or negatively, and vice versa. Canals and Al-Rawashdeh (2019) pointed out that, while teachers' attitudes regarding technology and its use in language instruction were generally positive, their level of experience teaching online may have influenced them in some ways. In the opinion of Abu Elhawa (2021), the fact that teachers lack specialized training in developing and deploying digitally mediated pedagogy may have negative effects on their attitudes toward online learning. Cobo-Rendon et al. (2021) emphasized the positive relationship between the teachers' acceptance and the time spent on the Learning Management System (LMS). On the other hand, Sun (2022) confirmed that perceived ease of use and perceived usefulness became

non-significant, reliable indicators of teachers' attitudes toward using synchronous online teaching.

5.7.4 Discussion of the Results of the Third Hypothesis

The researcher hypothesized that there is a positive relationship between the instructor's perceptions of the role of the online teaching platform in enhancing students' learning and their attitudes toward the online teaching platform. The results stressed that there is a moderately positive relationship between the instructors' perceptions of the role of online teaching platforms in enhancing students' learning and their attitudes toward the online teaching platform. These results shed light on the importance of online teaching platforms in teaching and learning at HEIs, as indicated by university teachers' responses, and how the positive relationship between their attitudes and perceptions played an important role in encouraging the continuity of utilizing online teaching platforms in the teaching and learning process. These results coincide with those of Migocka-Patrzałek, Dubińska-Magiera, Krysiński & Nowicki (2021), who reported that teachers with a positive attitude toward distance education are more likely to mention its benefits, such as flexibility in working hours, adaptability, good accessibility, and the easy availability of this form of education. Besides, Moralista and Oducado (2020) emphasized that instructors' perceptions toward online education were affected by their computer competency and training in online teaching.

5.8 Study Two: Section Two: Discussion of the Main Results

Concerning the results of open-ended questions, the researcher emphasizes that any online teaching platform has a combination of advantages and disadvantages. As a result, the researcher hypothesized that this combination would have a variety of beneficial effects on the educational

system, including allowing students to share their knowledge and control the virtual classroom, increasing creativity in teaching and learning, and reinforcing new teaching methods by having students act as leaders during class. According to the researcher, most teachers lack the necessary skills and have technical infrastructure issues to run an effective online class. As a result, students are less engaged and motivated to learn through the online teaching platform during online learning classes. These results are aligned with those found in the Ibrahim, Nath, Ali & Ali (2022) study, which verified that teachers lacked sufficient technological skills and the requirements of different roles in online teaching. On the other hand, Canals and Al-Rawashdeh (2019) proved that faculty members were properly trained, even though a majority of them lacked any experience prior to their first online teaching experience.

Additionally, faculty members' utilization of online teaching strategies is limited and has to be improved. Even for those who have mastered technology, moving from face-to-face to online or blended environments necessitates more training hours and a longer procedure to obtain the required competencies. Therefore, university lecturers need highly specialized training to help them transition from one setting to another, and that training program focuses not only on technological tool skills, but also on how to effectively use them. These findings were congruent with those of a previous study by Tsegay, Ashraf, Perveen, and Zegergish (2022), which found that teachers had doubts about their ability to teach online or engage their students adequately. The researcher also stressed that traditional methods of instruction were used by most of the instructors in their online classes. Whereas the results confirmed that some instructors used a variety of asynchronous and synchronous online tools during their online lectures to improve students' performance and engagement. Thereby, if both challenges (online teaching strategies and online

tools) are addressed simultaneously, the success rate will improve significantly, assisting in improving student performance and engagement.

5.9 Study Three: Discussion of the Main Results

The data analysis and interpretation prove that Palestinian university eLearning Center members face major shortcomings when using the Moodle and Zoom platforms. These findings are consistent with those found in studies by (Zou, Li, & Jin, 2021; Ho, Cheong &Weldon, 2021), who found that the most common challenges of online education were technical issues, a lack of interaction between students and instructors, unsmooth communication, difficulty accessing the necessary software for certain online courses, and a lack of strong Wi-Fi or adequate electronic devices.

To know and grant significance to the data, the researcher has started assuming that the attitudes of e-learning members toward using online platforms in university teaching are positive toward integrating the learning process with online platforms that is adaptable and simple to utilize when applying, and continuing teaching and learning process especially during the spread of epidemics and the difficult political and military conditions that prevent students and teachers from being able to attend the university. However, the researcher observed that these attitudes are essentially negative regarding the experience in adopting e-learning since some features of the platforms tend to be generally weak. These results coincide with those found in other studies (Armoed, 2021; Acharya et al., 2021; Bashitialshaaer, Alhendawi & Avery (2021); and Ezra et al., 2021).

Continuing the discussion of the challenges that affect the utility of e-learning in Palestinian higher education institutions. The related challenges revolve around infrastructure readiness,

political conditions, and a lack of background and experience. These difficulties were consistent with the findings of previous studies, such as Armoed (2021), which stated that instructors and students at HEIs face regular issues such as poor connectivity, high internet fees, and frequent electrical problems. Similarly, Ohanu and Chukwuone (2018); Abedmoneim (2022); Affouneh , Khlaif, Burgos & Salha (2021); Hamdan, Ashour & Daher (2021); Bashitialshaaer, Alhendawi & Avery (2021); and Oyedotun (2020) confirmed that insufficient e-learning tools, frequent technology failures, a lack of experience with online teaching, and inadequate pedagogical skills for online teaching were the main challenges of e-learning implementation.

The challenges identified in the current study were expected; thus, e-learning members proposed various solutions to improve online education, such as professional development, awareness programs, and the development of technical infrastructure problems. These results are in keeping with previous studies (Turnbull, Chugh & Luck, 2021; and Wang, Bajwa, Tong & Kelly, 2021).

CONCLUSIONS

6. Conclusions

6.1 General Conclusions Related to Objectives and Research Questions

After examining students' attitudes towards the role of online teaching platforms in enhancing their learning in terms of engagement and performance and based on their experiences, skills, and perspectives toward the instructor's role in online learning, the researcher concludes that students' dissatisfaction and their varied attitudes towards online teaching platforms are influenced by their limited knowledge, skills, and experiences in online learning. The researcher also attributed the large number of respondents' dissatisfaction with online education to different factors such as poor organization and design of online learning activities, difficulties in maintaining interaction and comprehending online materials when using the Moodle platform, infrastructure issues, professors' insufficient skills in online teaching, a lack of regular feedback about their progress from their instructors, and a limited number of resources that a student could access. All of this will provide higher education institutions in Palestine with new insights into the role of online teaching platforms in university online learning and will open the way for further contributions that focus on the development of students' online engagement and academic performance at Palestinian universities.

Similarly, to gain more comprehensive results about the role of online teaching platforms in enhancing teaching and learning at Palestinian universities, the researcher examined instructors' attitudes towards online teaching platforms, their roles and expertise in online teaching, and their perceptions of how online platforms affect students' engagement and performances during online lectures. To that end, the researcher arrived at the conclusion that instructors have a low attitude toward online teaching platforms and are dissatisfied with online teaching, which demands

reviewing the digital transformation process at Palestinian universities to guarantee successful e-learning. Also, there was a lot of agreement on the complicated and unreliable assessments issued by platforms for online learning. On the other hand, instructors' perceptions toward online teaching platforms were negative in general, indicating that instructors had a low level of agreement toward the role of online teaching platforms in enhancing students' motivation to participate and interact in their online courses. Besides, the researcher concludes that AQOU and ANNU instructors have higher perceptions toward the role of online platforms in enhancing teaching and learning than AAU instructors because of their sufficient backgrounds, experiences, and training in online teaching. Also, the researcher comes to the fact that the instructors with higher experience in online teaching had higher average perceptions and attitudes toward the role of the online teaching platforms in enhancing students' learning during online lectures in comparison with instructors with less experience in online teaching.

Further to that, the researcher explored the different online tools and strategies instructors used to improve students' performance during online lectures and concluded that instructors' utilization of online teaching strategies is limited and needs improvement. Even for those who have mastered technology, moving from face-to-face to online or blended environments necessitates more training hours and a longer procedure to obtain the required competencies.

In order to look into the pros and cons of online teaching platforms, the researcher investigated instructors' opinions based on their experiences in teaching online English courses and the major factors that hinder the success of teaching via Moodle and Zoom platforms. However, the researcher concludes that any online teaching platform has a combination of advantages and disadvantages, and this combination would have a variety of beneficial effects on higher education systems, including allowing students to share their knowledge and control the

virtual classroom, increasing creativity in teaching and learning, and reinforcing new teaching methods by having students act as leaders during class.

In addition, to delve into the obstacles that hinder the usefulness of e-learning at Palestinian universities, the researcher explored them based on the experiences and viewpoints of e-learning members. Hence, the researcher concludes that the main challenges fall within the infrastructure's readiness, political and economic conditions, and insufficient background and experiences. Further to that, e-learning members' recommendations and suggestions that are concerned with professional development, awareness programs, and the development of technical infrastructure problems will make a good reference for the members of e-learning centers by providing them with a comprehensive picture of the major challenges that impede the usefulness of online teaching platforms and ensure a high quality of online learning at Palestinian universities.

A positive relationship between instructors' role and skills in online teaching and their perceptions toward the role of the online teaching platforms in enhancing students' learning during online lectures is associated with better students' academic performance. As well, the researcher stressed the existence of a strong relationship between the instructors' role in online learning and students' engagement in online classes. With this, more specialized training in online teaching will contribute to better online engagement and academic performance.

These results of the present doctoral thesis will lead to future investigations on students' online engagement and academic performance at higher education institutions for different specializations and university degrees.

Specific conclusions

The main conclusions of the present doctoral thesis are:

1. The researcher observed that the students' attitudes toward the role of online teaching platforms in enhancing their learning can be classified as positive and negative, and these attitudes varied among the respondents due to problems and challenges during online learning and previous experiences, skills, and learning styles.
2. The present thesis implies that to achieve a high level of attitude toward online teaching platforms, higher education institutions should embrace online teaching in a way that maximizes student engagement and faculty presence.
3. This thesis supports the use of teaching platforms like Moodle and Zoom to maximize online engagement in both synchronous and asynchronous settings.
4. The researcher observed that traditional teaching strategies were significantly more prevalent than modern online strategies.
5. Moreover, this thesis offers practical solutions for higher education institutions to improve online teaching and learning.
6. Besides that, more specialized training in online teaching will contribute to better online engagement. A strong correlation was observed between the instructor's role in online learning and students' engagement in online classes.
7. Students have greater difficulty with the arrangement and design of online materials, which in turn is related to lower online engagement and achievement. Also, the majority of students were dissatisfied with their online lectures.
8. Overall, reviewing the digital transformation process at Palestinian universities is critical for successful e-learning.

9. The researcher discovered that AQOU and ANNU instructors indicated significantly higher perceptions toward the role of online platforms in enhancing teaching and learning than AAU instructors.
10. Thesis results suggest that online teaching platforms reinforce new teaching methods by having the students themselves act as leaders during the class, which might play an important role in sharing their knowledge and interacting with their peers and instructors.
11. Along with professional development, awareness programs, and the development of technical infrastructure problems, these will contribute to better online teaching.

6.2 Limitations of the Study

The present doctoral thesis has several limitations that must be underlined:

First and foremost, there are limitations in terms of the sample and size. To that end, the present doctoral thesis was carried out only at three Palestinian higher education institutions: Al-Quds Open University, An-Najah National University, and Arab American University. In addition, the study's population was limited to bachelor students and instructors of English specializations, and members of e-learning centers.

Second, limitations in terms of the results. However, the current doctoral thesis investigated instructors' perceptions towards the role of the online teaching platforms in enhancing students' engagement during online learning, their role and skills in online teaching, and their attitudes towards online teaching platforms. Similarly, student attitudes towards the role of online teaching platforms in enhancing their engagement and academic performance level, and their perspectives towards the instructors' role in online teaching are examined. Furthermore, the barriers that hinder the usefulness of e-learning at Palestinian universities, as reported by the e-learning team, who

proposed future solutions that must be considered to improve e-learning in Palestinian universities are explored. Nevertheless, the researcher confirms that these results can contribute to develop a full picture of what is happening in similar educational contexts. Finally, limitations in terms of the existing literature.

6.3 Avenues for Further Research

Based on the results of the present doctoral thesis, a number of future research recommendations have been identified, as follows:

Study 1

1. A major finding of the first study is that students' varied attitudes toward the online teaching platform are due to the problems they faced during online lectures and their dissatisfaction with this new method of learning, indicating the need for future research in this direction.
2. More future studies relating to the design of online courses, resources that are available on the platform, and online teaching strategies that are considered fundamental components for fostering students' engagement at higher education institutions should be taken into account.
3. Future experimental studies focused on the impact of large assignments and an overload of information on students' achievement in online learning will confirm or contrast the doctoral thesis's findings.
4. Further studies involving more universities with samples from different specializations will confirm or contrast the findings of the current study.

Study 2

1. Further studies should focus on the inter-relationship between instructors' online teaching skills and how it affects student academic achievement.
2. Likewise, studies implementing specialized training regarding online teaching strategies will show the expected changes in improving online engagement and academic performance.
3. Regular awareness programs on the benefits of online teaching should be held to improve instructors' perceptions and attitudes toward online teaching.
4. AAU's instructors, in particular, require specialized training about online teaching strateg ies.
5. Further studies that focus on the importance of online teaching tools in improving students' performance level and engagement should be taken into account.

Study 3

1. Higher education institutions should consider having a specialized unit that create and evaluate electronic courses for all disciplines.
2. Similarly, higher education institutions should develop infrastructure for all the university's departments.
3. Members of E-Learning should develop a course that focuses on how to manage students' electronic interactions.
4. Further to that, e-learning specialists should hold mandatory workshops for academic staff on the importance of e-education and how to use it to promote the educational process, including learning how to conduct and present lectures electronically, design and conduct exams electronically, and use the different teaching platforms.

5. The teaching platforms in Palestinian higher education institutions need to be adjusted to the theories and procedures of e-learning environments, encouraging independent learning and collaboration with teachers via communication channels and learning activities.
6. Finally, future studies that focus on teacher training and online learning systems are recommended.

REFERENCES

7. References

Abedmoneim, R. A. (2022). Faculty Member Employment of Online Platforms: Challenges in Light of the COVID-19 Pandemic. *International Journal of Smart Education and Urban Society (IJSEUS), 13*(1), 1-18. http://doi.org/10.4018/IJSEUS.291709

Abou-Khalil, V., Helou, S., Khalifé, E., Chen, M. A., Majumdar, R., & Ogata, H. (2021). Emergency Online Learning in Low-Resource Settings: Effective Student Engagement Strategies. *Education Sciences, 11*(1), 24.http://dx.doi.org/10.3390/educsci11010024

Abu Elhawa, H. (2021). Corona teaching in a Palestinian University: Changes, Challenges, and New Conceptions. 18th International Conference of the Asia Association of Computer-Assisted Language Learning (Asia CALL–2-2021). *Advances in Social Science, Education and Humanities Research, 621*(1). https://doi.org/10.2991/assehr.k.211224.003

Abu Jarad, O., Salameh, S., & Norman, M. (2022). The Degree of the User (the Teaching Staff) Acceptance of a Massive Open Online Course on Business for Higher Education in Palestine, Palestine Technical University: Kadoorie as a Case Study. *Palestinian Journal for Open Learning & e-Learning, 1* (16). https://digitalcommons.aaru.edu.jo/jropenres/vol1/iss16/11

Abuhassna, H., Al-Rahmi, W.M., Yahya, N., Zakaria, M., Kosnin, A., & Darwish, M. (2020). Development of a new model on utilizing online learning platforms to improve students' academic achievements and satisfaction. *International Journal of Educational Technology in Higher Education, 17* (1)**,** 38. https://doi.org/10.1186/s41239-020-00216-z

Acharya, A., Subedi, S., Gyawali, N., Poudyal, N., Lamichhane, G., Bastola, G., & Parajuli, N. (2021). Digital learning initiatives, challenges and achievement in higher education in Nepal amidst COVID-19. *International Journal of Asian Education, 2*(3), 1-16.

Aderibigbe, S. A. (2020). Online Discussions as an Intervention for Strengthening Students' Engagement in General Education. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(4), 98. http://dx.doi.org/10.3390/joitmc6040098

Adnan, M., & Anwar, K. (2020). Online Learning amid the COVID-19 Pandemic: Students' Perspectives. Online Submission, *2*(1), 45-51. http://www.doi.org/10.33902/JPSP.%202020261309

Affouneh, S., Khlaif, Z. N., Burgos, D., & Salha, S. (2021). Virtualization of Higher Education during COVID-19: A Successful Case Study in Palestine. *Sustainability*, *13*(12), 6583. http://dx.doi.org/10.3390/su13126583

Agbi, A., & Yuangsoi, P. (2022). Enhancement of critical thinking skills in students using mobile-blended learning with a collaborative inquiry-based approach. *Humanities, Arts and Social Sciences Studies*, *22* (1), 9-20. https://doi.org/10.14456/hasss.2022.2

Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International journal of educational research open*, *1*(1), 100011. https://doi.org/10.1016/j.ijedro.2020.100011

Akcaoglu, M., & Lee, E. (2016). Increasing Social Presence in Online Learning through Small Group Discussions. *The International Review of Research in Open and Distributed Learning*, *17*(3). https://doi.org/10.19173/irrodl.v17i3.2293

Alfadda, H.A., & Mahdi, H.S. (2021). Measuring Students' Use of Zoom Application in Language Course Based on the Technology Acceptance Model (TAM). *Journal of Psycholinguist Research, 50*(1), 883–900. https://doi.org/10.1007/s10936-020-09752-1

Almaiah, M.A., Al-Khasawneh, A. & Althunibat, A. (2020). Exploring the critical challenges and factors influencing the E-learning system usage during COVID-19 pandemic. *Education and Information Technologies*, *25* (1), 5261–5280. https://doi.org/10.1007/s10639-020-10219-y

Almusharraf, N. & Khahro, S. (2020). Students Satisfaction with Online Learning Experiences during the COVID-19 Pandemic. *International Journal of Emerging Technologies in Learning (iJET), 15*(21), 246-267. https://www.learntechlib.org/p/218355/.

Almutairi, F., & White, S. (2018) The Impact of Integrating MOOCs into Campus Courses on Student Engagement. *University of Southampton Institutional Repository, Doctoral Thesis*, 244. http://eprints.soton.ac.uk/id/eprint/429737

Alqahtani, A. Y., & Rajkhan, A. A. (2020). E-Learning Critical Success Factors during the COVID-19 Pandemic: A Comprehensive Analysis of E-Learning Managerial Perspectives. *Education Sciences*, *10*(9), 216. http://dx.doi.org/10.3390/educsci10090216

Alqurashi, E. (2019). Predicting student satisfaction and perceived learning within online learning environments. *Distance education*, *40*(1), 133-148. https://doi.org/10.1080/01587919.2018.1553562

Al-Tarawneh, L., Al-Nasa'h, M., & Awwad, F. A. (2021). The effect of the COVID-19 pandemic among undergraduate engineering students in Jordanian universities: factors impact students' learning satisfaction. In *2021 Innovation and New Trends in Engineering,*

Science and Technology Education Conference (IETSEC), Amman, Jordan, 1-7. DOI: 10.1109/IETSEC51476.2021.9440500.

Altınay, Z. (2017). Evaluating peer learning and assessment in online collaborative learning environments. *Behaviour & Information Technology*, *36*(3), 312-320. https://doi.org/10.1080/0144929X.2016.1232752

Amiti, F. (2020). SYNCHRONOUS AND ASYNCHRONOUS E-LEARNING. *European Journal of Open Education and E-learning Studies, 5*(2). http://dx.doi.org/10.46827/ejoe.v5i2.3313

Anthony Jnr., B. (2021). Institutional factors for faculty members' implementation of blended learning in higher education. *Education + Training, 63* (5), 701-719. https://doi.org/10.1108/ET-06-2020-0179

Aparicio, M., Bacao, F., & Oliveira, T. (2017). Grit in the path to e-learning success. *Computers in Human Behavior, 66* (1), 388-399. https://doi.org/10.1016/j.chb.2016.10.009

Aristovnik, A., Keržič, D., Ravšelj, D., Tomaževič, N., & Umek, L. (2020). Impacts of the COVID-19 Pandemic on Life of Higher Education Students: A Global Perspective. *Sustainability, 12*(20), 8438. http://dx.doi.org/10.3390/su12208438

Armoed, Z. (2021). The COVID-19 pandemic: Online teaching and learning at higher education institutes. *In IOP Conference Series: Earth and Environmental Science*, *654* (1), 012026. DOI 10.1088/1755-1315/654/1/012026

Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. *Journal of Education and e-learning Research, 7*(3), 285-292. https://ssrn.com/abstract=3679489

Bakeer, A. M. (2018). Students' attitudes towards implementing blended learning in teaching English in higher education institutions: A case of Al-Quds Open University. *International Journal of Humanities and Social Science, 8*(6), 131-139. https://ijhssnet.com/journal/index/4152

Barba, P. D., Kennedy, G. E., & Ainley, M. D. (2016). The role of students' motivation and participation in predicting performance in a MOOC. *Journal of Computer Assisted Learning, 32*(3), 218-231. https://doi.org/10.1111/jcal.12130

Barkley, E. F., & Major, C. H. (2020). *Student engagement techniques: A handbook for college faculty*. John Wiley & Sons.

Barzani, S., & Jamil, R. (2021). Students' Perceptions towards Online Education during COVID-19 Pandemic: An Empirical Study. *International Journal of Social Sciences & Educational Studies, 8* (2), 28-38. https://ijsses.tiu.edu.iq/index.php/volume-8-issue-2-article-3/

Bashitialshaaer, R., Alhendawi, M., & Avery, H. (2021). Obstacles to Applying Electronic Exams amidst the COVID-19 Pandemic: An Exploratory Study in the Palestinian Universities in Gaza. *Information, 12*(6), 256. http://dx.doi.org/10.3390/info12060256

Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 Coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research, 5*(4), 1-9. https://doi.org/10.29333/pr/7937

Ben-Eliyahu, A., Moore, D., Dorph, R., & Schunn, C. D. (2018). Investigating the multidimensionality of engagement: Affective, behavioral, and cognitive engagement across science activities and contexts. *Contemporary Educational Psychology*, *53*(1), 87-105. https://doi.org/10.1016/j.cedpsych.2018.01.002

Berestok, O. V. (2021). Synchronous and Asynchronous E-Learning Modes: Strategies, Methods, Objectives. *Engineering and Educational Technologies*, *9*(1), 19-27. https://doi.org/10.30929/2307-9770.2021.09.01.02

Blakey, C. H., & Major, C. H. (2019). Student perceptions of engagement in online courses: An exploratory study. *Online Journal of Distance Learning Administration*, *22*(4). https://ojdla.com/

Bojović, Ž, Bojović, P. D., Vujošević, D., & Šuh, J. (2020). Education in times of crisis: Rapid transition to distance learning. *Computer Applications in Engineering Education*, *28*(6), 1467-1489. DOI: 10.1002/cae.22318

Bolliger, D. U., Shepherd, C. E., & Bryant, H. V. (2019). Faculty members' perceptions of online program community and their efforts to sustain it. *British Journal of Educational Technology*, *50*(6), 3283–3299. https://doi.org/10.1111/bjet.12734

Bolliger, D.U., &Martin, F. (2021).Factors underlying the perceived importance of online student engagement strategies. *Journal of Applied Research in Higher Education, 13* (2), 404-419. https://doi.org/10.1108/JARHE-02-2020-0045

Borg, M.E., Butterfield, K.M., Wood, E., Zhang, H., & Pinto, S. (2021). Investigating the impacts of personality on the use and perceptions of online collaborative platforms in higher education. *SN Social Sciences, 1* (40). https://doi.org/10.1007/s43545-020-00053-x

Borup, J., Graham, C.R., West, R.E., Archambault, L., & Spring, K., J. (2020). Academic Communities of Engagement: an expansive lens for examining support structures in blended and online learning. *Education Tech Research Dev, 68* (1), 807–832. https://doi.org/10.1007/s11423-020-09744-x

Borup, J., Jensen, M., Archambault, L., Short, C.R. & Graham, C.R. (2020). Supporting Students during COVID-19: Developing and Leveraging Academic Communities of Engagement in a Time of Crisis. *Journal of Technology and Teacher Education, 28*(2), 161-169. https://www.learntechlib.org/primary/p/216288/.

Bruggeman, B., Tondeur, J., Struyven, K., Pynoo, B., Garone, A., & Vanslambrouck, S. (2021). *Experts speaking: Crucial teacher attributes for implementing blended learning in higher education*. *The Internet and Higher Education, 48* (100772). https://doi.org/10.1016/j.iheduc.2020.100772

Calaguas, N. P., & Consunji, P. M. P. (2022). A structural equation model predicting adults' online learning self-efficacy. *Education and Information Technologies*, *27*(1), 6233-6249. https://doi.org/10.1007/s10639-021-10871-y

Canals, L., & Al-Rawashdeh, A. (2019). Teacher training and teachers' attitudes towards educational technology in the deployment of online English language courses in Jordan. *Computer Assisted Language Learning, 32*(7), 639-664. https://doi.org/10.1080/09588221.2018.1531033

Castro, R. (2019). Blended learning in higher education: Trends and capabilities. *Education and Information Technologies, 24* (1), 2523–2546. https://doi.org/10.1007/s10639-019-09886-3

Chen, T., Peng, L., Jing, B., Wu, C., Yang, J., & Cong, G. (2020). The Impact of the COVID-19 Pandemic on User Experience with Online Education Platforms in China. *Sustainability, 12*(18), 7329. http://dx.doi.org/10.3390/su12187329

Cidral, W. A., Oliveira, T., Di Felice, M., & Aparicio, M. (2018). E-learning success determinants: Brazilian empirical study. *Computers & Education, 122* (1), 273-290. https://doi.org/10.1016/j.compedu.2017.12.001

Cobo-Rendon, R., Lobos Peña, K., Mella-Norambuena, J., Cisternas San Martin, N., & Peña, F. (2021). Longitudinal Analysis of Teacher Technology Acceptance and Its Relationship to Resource Viewing and Academic Performance of College Students during the COVID-19 Pandemic. *Sustainability, 13*(21), 12167. http://dx.doi.org/10.3390/su132112167

Coman, C., Țîru, L. G., Meseșan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online Teaching and Learning in Higher Education during the Coronavirus Pandemic: Students' Perspective. *Sustainability*, *12*(24), 10367. http://dx.doi.org/10.3390/su122410367

Conijn, R., Van den Beemt, A., & Cuijpers, P. (2018). Predicting student performance in a blended MOOC. *Journal of Computer Assisted Learning. 34* (5), 615-628. https://doi.org/10.1111/jcal.12270

Cranfield, D. J., Tick, A., Venter, I. M., Blignaut, R. J., & Renaud, K. (2021). Higher Education Students' Perceptions of Online Learning during COVID-19—A Comparative Study. *Education Sciences*, *11*(8), 403. http://dx.doi.org/10.3390/educsci11080403

Demuyakor, J. (2020). Coronavirus (COVID-19) and Online Learning in Higher Institutions of Education: A Survey of the Perceptions of Ghanaian International Students in China.

Online Journal of Communication and Media Technologies, 10(3), e202018. https://doi.org/10.29333/ojcmt/8286

Dendir, S., & Maxwell, R. S. (2020). Cheating in online courses: Evidence from online proctoring. *Computers in Human Behavior Reports, 2*(1), 100033. https://doi.org/10.1016/j.chbr.2020.100033

Donkin, R., Askew, E., & Stevenson, H. (2019). Video feedback and e-Learning enhances laboratory skills and engagement in medical laboratory science students. *BMC Medical Education, 19* (310). https://doi.org/10.1186/s12909-019-1745-1

Dumford, A. D., & Miller, A. L. (2018). Online learning in higher education: exploring advantages and disadvantages for engagement. *Journal of Computing in Higher Education, 30*(3), 452-465. https://doi.org/10.1007/s12528-018-9179-z

Dwivedi, A., Dwivedi, P., Bobek, S., & Zabukovšek, S. S. (2019). Factors affecting students' engagement with online content in blended learning. *Kybernetes, 48*(7), 1500-1515. https://doi.org/10.1108/K-10-2018-0559

Eltahir, M. E. (2019). E-learning in developing countries: Is it a panacea a case study of Sudan. *IEEE Access, 7*(1), 97784–97792. https://doi.org/10.1109/ACCESS.2019.2930411

Essel, H. B., Vlachopoulos, D., Tachie-Menson, A., Johnson, E. E., & Ebeheakey, A. K. (2021). Technology-Induced Stress, Sociodemographic Factors, and Association with Academic Achievement and Productivity in Ghanaian Higher Education during the COVID-19 Pandemic. *Information, 12*(12), 497. http://dx.doi.org/10.3390/info12120497

Eze, S.C., Chinedu-Eze, V.C.A., Okike, C.K., & Bello, A.O. (2020). Factors influencing the use of e-learning facilities by students in a private Higher Education Institution (HEI) in a developing economy. *Humanities and Social Sciences Communications, 7*(133). https://doi.org/10.1057/s41599-020-00624-6

Ezra, O., Cohen, A., Bronshtein, A., Gabbay,H., & Baruth, O. (2021). Equity factors during the COVID-19 pandemic: Difficulties in emergency remote teaching (ert) through online learning. *Education and Information Technologies, 26* (1), 7657–7681. https://doi.org/10.1007/s10639-021-10632-x

Farhan, W., Razmak, J., Demers, S., & Laflamme, S. (2019). E-learning systems versus instructional communication tools: Developing and testing a new e-learning user interface from the perspectives of teachers and students. *Technology in Society, 59*(1), 101192. https://doi.org/10.1016/j.techsoc.2019.101192

Farrell, O., & Brunton, J. (2020). A balancing act: a window into online student engagement experiences. *International Journal of Educational Technology in Higher Education, 17* (1)**,** 25. https://doi.org/10.1186/s41239-020-00199-x

Fatani, T.H. (2020). Student satisfaction with videoconferencing teaching quality during the COVID-19 pandemic. *BMC Medical Education, 20* (1), 396. https://doi.org/10.1186/s12909-020-02310-2

Fidalgo, P., Thormann, J., Kulyk, O., & Lencastre, J. (2020). Students' perceptions on distance education: A multinational study. *International Journal of Educational Technology in Higher Education, 17* (18). https://doi.org/10.1186/s41239-020-00194-2

Francescucci, A., & Rohani, L. (2019). Exclusively Synchronous Online (VIRI) Learning: The Impact on Student Performance and Engagement Outcomes. *Journal of Marketing Education*, *41*(1), 60–69. https://doi.org/10.1177/0273475318818864

Friska, Y. (2021). Indonesian EFL Students' Perceptions on Synchronous and Asynchronous E-Learning. *Journal of English Language and Education*, *6*(1), 44-55. https://jele.or.id/index.php/jele/index

Gallego-Gómez, C., De-Pablos-Heredero, C., & Montes-Botella, J. L. (2021). Change of Processes in the COVID-19 Scenario: From Face-to-Face to Remote Teaching-Learning Systems. *Sustainability*, *13*(19), 10513. MDPI AG. Retrieved from http://dx.doi.org/10.3390/su131910513

Gangwani, S., & Alfryan, L. H. (2020). Impact of Online Teaching Strategies on Student Engagement in Higher Education during Global Lockdown in Riyadh. *Academy of Strategic Management Journal*, *19*(6), 1-11.https://www.proquest.com/scholarly-journals/impact-online-teaching-strategies-on-student/docview/2475948365/se-2

Garcia Aretio, L. (2017). Distance and virtual education: quality, disruption, adaptive and mobile learning. *RIED-Iberoamerican Journal of Distance Education, 20* (2), 9–25. https://doi.org/10.5944/ried.20.2.18737

Gelan, A., Fastré, G., Verjans, M., Martin, N., Janssenswillen, G., Creemers, M., Lieben, J., Depaire, B., & Thomas, M. (2018). Affordances and limitations of learning analytics for computer-assisted language learning: A case study of the VITAL project. *Computer Assisted Language Learning*, *31*(3), 294–319. https://doi.org/10.1080/09588221.2017.1418382.

Goh, F. C., Leong, M. C., Kasmin, K., Hii, K. P., & Tan, K. O. (2017). Students' experiences, learning outcomes and satisfaction in e-learning. *Journal of E-learning and Knowledge Society*, *13*(2), 117–128. https://doi.org/10.20368/1971-8829/1298.

Gonzalez T, de la Rubia MA, Hincz KP, Comas-Lopez M, Subirats L, Fort S, & Sacha, G.M. (2020). Influence of COVID-19 confinement on students' performance in higher education. *PLoS ONE, 15*(10): e0239490. https://doi.org/10.1371/journal.pone.0239490

Good, T. L., & Brophy, J. E. (1990). *Educational psychology: A realistic approach* (4th Ed.). Longman. Addison Wesley Longman.

Gopal, R., Singh, V., & Aggarwal, A. (2021). Impact of online classes on the satisfaction and performance of students during the pandemic period of COVID 19. *Education and Information Technologies, 26* (1), 6923–6947. https://doi.org/10.1007/s10639-021-10523-1

Guillén-Gámez, F. D., & Mayorga-Fernández, M. J. (2020). Identification of Variables that Predict Teachers' Attitudes toward ICT in Higher Education for Teaching and Research: A Study with Regression. *Sustainability*, *12*(4), 1312. http://dx.doi.org/10.3390/su12041312

Halverson, L. R., & Graham, C. R. (2019). Learner engagement in blended learning environments: A conceptual framework. *Online Learning*, *23*(2), 145-178. https://eric.ed.gov/?id=EJ1218398

Hamdan, R., Ashour, W., & Daher, W. (2021). The Role of the E-Learning Departments in Controlling the Quality of Electronic Assessments in Palestinian Universities during the COVID-19 Pandemic. *Sustainability*, *13*(21), 12021. http://dx.doi.org/10.3390/su132112021

Hearn Moore, P., Head, J. D., & Griffin, R. B. (2017). Impeding Students' Efforts to Cheat in Online Classes. *Journal of Learning in Higher Education*, *13*(1), 9-23.

Hermida, A.P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *International Journal of Educational Research Open, 1*(1), 100011. https://doi.org/10.1016/j.ijedro.2020.100011

Herodotou, C., Hlosta, M., Boroowa, A., Rienties, B., Zdrahal, Z., & Mangafa, C. (2019). Empowering online teachers through predictive learning analytics. *British Journal of Educational Technology*, *50*(6), 3064-3079.

Hervás-Gómez, C., Díaz-Noguera, M. D., De la Calle-Cabrera, A. M., & Guijarro-Cordobés, O. (2021). Perceptions of University Students towards Digital Transformation during the Pandemic. *Education Sciences, 11*(11), 738. http://dx.doi.org/10.3390/educsci11110738

Ho, I.M.K., Cheong, K.Y., & Weldon, A. (2021) Predicting student satisfaction of emergency remote learning in higher education during COVID-19 using machine learning techniques. *PLoS ONE, 16*(4): e0249423. https://doi.org/10.1371/journal.pone.0249423

Hodge, B., Wright, B., & Bennett, P. (2017). The Role of Grit in Determining Engagement and Academic Outcomes for University Students. *Research in Higher Education, 59*(1), 448-460. https://doi.org/10.1007/s11162-017-9474-y

Holzweias, P.C., Joyner, S.A., Fuller, M.B., Henderson, S. & Young, R. (2014). Online graduate student's perceptions of best learning experiences. *Distance Education, 35*(3), 311-323. https://doi.org/10.1080/01587919.2015.955262

Hrastinski, S. (2019). What Do We Mean by Blended Learning? *TechTrends, 63* (1), 564–569. https://doi.org/10.1007/s11528-019-00375-5

Hsu, D. K., Burmeister-Lamp, K., Simmons, S. A., Foo, M. D., Hong, M. C., & Pipes, J. D. (2019). "I know I can, but I don't fit": Perceived fit, self-efficacy, and entrepreneurial intention. *Journal of Business Venturing*, *34*(2), 311-326. https://doi.org/10.1016/j.jbusvent.2018.08.004

Hung, D., Looi, C.-K., & Koh, T.-S. (2004). Situated cognition and communities of practice: First-person "lived experiences" vs. third-person perspectives. *Educational Technology & Society, 7*(4), 193-200.

Hussein Hakeem Barzani, S. (2021). Students' perceptions towards online education during COVID-19 pandemic: An empirical study. *International Journal of Social Sciences & Educational Studies, 8*(2), 28-38. https://ijsses.tiu.edu.iq/

Hussein, E., Daoud, S., Alrabaiah, H., & Badawi, R. (2020). Exploring undergraduate students' attitudes towards emergency online learning during COVID-19: A case from the UAE. *Children and youth services review, 119* (1), 105699. https://doi.org/10.1016/j.childyouth.2020.105699

Ibrahim, F., Nath, S., Ali, S. S., & Ali, N. S. (2022). Experiences of Online Learning and Teaching during the Second Phase of COVID-19 Pandemic: A Study of Fijian In-service Teachers of Fiji National University. *International Education Journal: Comparative Perspectives, 21*(2), 68-84.

Jumareng, H., Setiawan, E., Patah, I. A., Aryani, M., & Asmuddin, G. (2021). Online learning and platforms favored in physical education class during COVID-19 era: Exploring students' perceptions. *International Journal of Human Movement and Sports Sciences*, *9* (1), 11-18. DOI: 10.13189/saj.2021.090102.

Kabir, M. R. (2020). Impact of faculty and student readiness on virtual learning adoption amid Covid-19. *Revista Internacional de Educación Para La Justicia Social*, *9*(3), 387-414. https://doi.org/10.15366/riejs2020.9.3.021

Kahu, E. R., & Picton, C. (2019). The benefits of good tutor-student relationships in the first year. *Student Success*, *10*(2), 23. https://studentsuccessjournal.org/index

Kahu, E., Stephens, C., Leach, L., & Zepke, N. (2015). Linking academic emotions and student engagement: Mature-aged distance students' transition to university. *Journal of Further and Higher Education*, *39*(4), 481-497. https://doi.org/10.1080/0309877X.2014.895305

Kaur, H., & Paruthi, M. (2019). Antecedents and consequences of online engagement: measurement and assessment of reliability. *IUP Journal of Marketing Management*, *18*(2), 54-73. https://www.proquest.com/openview/1a17ad6afdc8a19b3cc2462e960029a4/1?pq-origsite=gscholar&cbl=54464

Kent, C., Laslo, E., & Rafaeli, S. (2016). Interactivity in online discussions and learning outcomes. *Computers & Education*, *97*(1), 116–128. https://doi.org/10.1016/j.compedu.2016.03.002.

Keskin, S., Çinar, M., & Demir, Ö. A (2022). Quantitative content analysis of Turkish state universities' official websites in terms of their preparedness and actions during emergency distance education in the early phase of the COVID-19 pandemic period. *Education and Information Technologies*, *27* (1), 493–523.https://doi.org/10.1007/s10639-021-10744-4

Khan, M. A., Vivek, V., Nabi, M. K., Khojah, M., & Tahir, M. (2020). Students' Perception towards E-Learning during COVID-19 Pandemic in India: An Empirical Study. *Sustainability*, *13*(1), 57. http://dx.doi.org/10.3390/su13010057

Kilgour, P., Reynaud, D., Northcote, M., McLoughlin, C., & Gosselin, K. P. (2018). Threshold concepts about online pedagogy for novice online teachers in higher education. *Higher Education Research & Development*, *38*(7), 1417-1431. https://doi.org/10.1080/07294360.2018.1450360

Kim, H.J., Hong, A.J. & Song, HD. (2019). The roles of academic engagement and digital readiness in students' achievements in university e-learning environments. *International Journal of Educational Technology in Higher Education*, 16 (1), 21. https://doi.org/10.1186/s41239-019-0152-3

Kumar, V., & Sharma, D. (2021). E-learning theories, components, and cloud computing-based learning platforms. *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)*, *16*(3), 1-16. http://doi.org/10.4018/IJWLTT.20210501.oa1

Lee, J., Sanders, T., Antczak, D., Parker, R., Noetel, M., Parker, P., & Lonsdale, C. (2021). Influences on User Engagement in Online Professional Learning: A Narrative Synthesis and Meta-Analysis. *Review of Educational Research*, *91*(4), 518–576. https://doi.org/10.3102/0034654321997918

Lee, J., Song, H.-D., & Hong, A. (2019). Exploring Factors, and Indicators for Measuring Students' Sustainable Engagement in e-Learning. *Sustainability*, *11*(4), 985. http://dx.doi.org/10.3390/su11040985

Lei, M., Medwell, J. (2021). Impact of the COVID-19 pandemic on student teachers: how the shift to online collaborative learning affects student teachers' learning and future teaching in a Chinese context. *Asia Pacific Education Review, 22* (1), 169–179. https://doi.org/10.1007/s12564-021-09686-w

Li, S., Lajoie, S. P., Zheng, J., Wu, H., & Cheng, H. (2021). Automated detection of cognitive engagement to inform the art of staying engaged in problem-solving. *Computers & Education, 163*(1), 104114. https://doi.org/10.1016/j.compedu.2020.104114

Lin, X., & Gao, L. (2020). Students' sense of community and perspectives of taking synchronous and asynchronous online courses. *Asian Journal of Distance Education, 15*(1), 169-179. https://doi.org/10.5281/zenodo.3881614

Luan, L., Hong, J. C., Cao, M., Dong, Y., & Hou, X. (2020). Exploring the role of online EFL learners' perceived social support in their learning engagement: a structural equation model. *Interactive Learning Environments*, 1-12. https://doi.org/10.1016/j.lindif.2022.102128

Mahajan, M. V., & Kalpana, R. (2018). A study of students' perception about e-learning. *Indian Journal of Clinical Anatomy and Physiology, 5*(4), 501-507. https://doi.org/10.18231/2394-2126.2018.0116

Mahmood, S. (2021). Instructional Strategies for Online Teaching in COVID-19 Pandemic. *Human Behavior & Emerging Technologies, 3*(1), 199-203. https://doi.org/10.1002/hbe2.218

Maican, M.-A., & Cocoradă, E. (2021). Online Foreign Language Learning in Higher Education and Its Correlates during the COVID-19 Pandemic. *Sustainability, 13*(2), 781. http://dx.doi.org/10.3390/su13020781

Mandernach, J., & Dailey-Hebert, A. (2011). Assessing course student engagement. Promoting Student Engagement: Techniques and Opportunities, 277-281. Society for the Teaching of Psychology, American Psychological Association.

Martin, F., Wang, C. , & Sadaf, A. (2018). Student perception of helpfulness of facilitation strategies that enhance instructor presence, connectedness, engagement and learning in online courses. *The Internet and Higher Education, 37*(1), 52-65, DOI: 10.1016/j.iheduc.2018.01.003.

Mehrotra, C., Hollister, C. D., & McGahey, L. (2001). Distance learning: Principles for effective design, delivery, and evaluation. Sage Publications. London, New Delhi.

Mellar, H., Peytcheva-Forsyth, R., Kocdar, S., Karadeniz, A., & Yovkova. B. (2018). Addressing cheating in e-Assessment using student authentication and authorship checking systems: teachers' perspectives. *International Journal for Educational Integrity, 14*(2). DOI: 10.1007/s40979-018-0025-x

Migocka-Patrzałek, M., Dubińska-Magiera, M., Krysiński, D., & Nowicki, S. (2021). The attitude of the academic community towards distance learning: A lesson from a national lockdown. *Electronic Journal of e-Learning*, *19*(4), 262-281. https://doi.org/10.34190/ejel.19.4.2405

Moore, J. L., Dickson-Deane, C., & Galyen, K. (2011). E-Learning, online learning, and distance learning environments: Are they the same? *The Internet and Higher Education*, *14*(2), 129–135.

Moralista, R.B., & Oducado, R. (2020). Faculty Perception toward Online Education in a State College in the Philippines during the Coronavirus Disease 19 (COVID-19) Pandemic. *Universal Journal of Educational Research, 8*(10), 4736 - 4742. DOI: 10.13189/ujer.2020.081044.

Muir, T., Milthorpe, N., Stone, C., Dyment, J., Freeman, E., & Hopwood, B. (2019). Chronicling engagement: Students' experience of online learning over time. *Distance Education, 40*(2), 262–277. https://doi.org/10.1080/01587919.2019.1600367

Naji, K. K., Du, X., Tarlochan, F., Ebead, U., Hasan, M. A., & Al-Ali, A. K. (2020). Engineering Students' Readiness to Transition to Emergency Online Learning in Response to COVID-19: Case of Qatar. *EURASIA Journal of Mathematics, Science and Technology Education, 16*(10). https://doi.org/10.29333/ejmste/8474

National Education Association (2019). Guide to teaching online courses. Washington, DC: Author. Retrieved from https://www.nea.org/assets/docs/onlineteachguide.pdf

Nieuwoudt, J. E. (2020). Investigating synchronous and asynchronous class attendance as predictors of academic success in online education. *Australasian Journal of Educational Technology, 36*(3), 15-25. https://doi.org/10.14742/ajet.5137

Noori, A. (2019). Attitudes of Afghan EFL Lecturers toward Instructional Technology. *TechTrends, 63 (1),* 170–178. https://doi.org/10.1007/s11528-018-0347-9

Oguguo, B., Ocheni, C., & Adebayo, F. (2021). STUDENTS` ACHIEVEMENT IN ONLINE TEST AND MEASUREMENT COURSE IN SYNCHRONOUS AND ASYNCHRONOUS E-LEARNING PLATFORM. *European Journal of Open Education and E-learning Studies, 6*(2). http://dx.doi.org/10.46827/ejoe.v6i2.3966

Ohanu, I.B., & Chukwuone, C.A. (2018). Constraints to the use of online platform for teaching and learning technical education in developing countries. *Education and Information Technologies, 23* (1), 3029–3045. https://doi.org/10.1007/s10639-018-9757-8

Oyedotun, T. D. (2020). Sudden change of pedagogy in education driven by COVID-19: Perspectives and evaluation from a developing country. *Research in Globalization, 2* (1), 100029. https://doi.org/10.1016/j.resglo.2020.100029

Pang, L., & Jen, C.C. (2018). Inclusive dyslexia-friendly collaborative online learning environment: Malaysia case study. *Education and Information Technologies, 23*(1), 1023–1042. https://doi.org/10.1007/s10639-017-9652-8

Paudel, P. (2021). Online education: Benefits, challenges and strategies during and after COVID-19 in higher education. *International Journal on Studies in Education, 3*(2), 70-85. https://doi.org/10.46328/ijonse.32

Peimani, N., & Kamalipour, H. (2021). Online Education and the COVID-19 Outbreak: A Case Study of Online Teaching during Lockdown. *Education Sciences*, *11*(2), 72. http://dx.doi.org/10.3390/educsci11020072

Pham, L., Limbu, Y.B., Bui, T.K., Nguyen, H. T., & Pham, H. T. (2019). Does e-learning service quality influence e-learning student satisfaction and loyalty? Evidence from Vietnam. *International Journal of Educational Technology in Higher Education, 16* (1), 7. https://doi.org/10.1186/s41239-019-0136-3

Phillips, R. (2005). Challenging the primacy of lectures: The dissonance between theory and practice in university teaching. *Journal of University Teaching and Learning Practice*, *2*(1), 4-15. http://ro.uow.edu.au/jutlp/vol2/iss1/2

Qays, S., Ketabi, S., Pirnajmuddin, H., & Amirian, Z. (2022). The impact of blended learning on Iraqi students' achievement in English literature courses and their attitudes towards it. *Teaching English Language*, *16*(1), 119-139. DOI: 10.22132/TEL.2022.149211

Rajabalee, Y.B., & Santally, M.I. (2021). Learner satisfaction, engagement and performances in an online module: Implications for institutional e-learning policy. *Education and Information Technologies, 26* (1), 2623–2656. https://doi.org/10.1007/s10639-020-10375-1

Ramaha, N. T., & Karas, I. R. (2021). Maintain Learners' Motivation within Asynchronous E-Learning Environments: How Can Interactive Avatars Help? *European Journal of Advances in Engineering and Technology, 8* (9), 9-14. https://ejaet.com/

Rapanta, C., Botturi, L., Goodyear, P., Gu`ardia, L., & Koole, M. (2020). Online university teaching during and after the covid-19 crisis: Refocusing teacher presence and learning activity. *Postdigital Science and Education*, *2*(1), 923–945. https://doi.org/10.1007/s42438-020-00155-y

Rinekso, A. B., & Muslim, A. B. (2020). Synchronous online discussion: teaching English in higher education amidst the covid-19 pandemic. *Journal of English Educators Society, 5*(2), 155-162. https://doi.org/10.21070/jees.v5i2.646

Rodrigues, H., Almeida, F., Figueiredo, V., & Lopes, S. L. (2019). Tracking e-learning through published papers: A systematic review. *Computers & Education, 136* (1), 87-98. https://doi.org/10.1016/j.compedu.2019.03.007

Rosário, P., Cunha, J., Nunes, A. R., Moreira, T., Núñez, J. C., & Xu, J. (2019). Did you do your homework? Mathematics teachers' homework follow-up practices at middle school level. *Psychology in the Schools*, *56*(1), 92-108. https://doi.org/10.1002/pits.22198

Rose Sr., M. (2018). What are some key attributes of effective online teachers? *Journal of Open, Flexible and Distance Learning*, *22*(2), 32–48. https://search.informit.org/doi/10.3316/informit.141206361011226

Roth, J. J., Pierce, M., & Brewer, S. (2019). Performance and satisfaction of resident and distance students in videoconference courses. *Journal of Criminal Justice Education*, *31*(2), 296-310. https://doi.org/10.1080/10511253.2020.1726423

Rudes, J., & Guterman, J.T. (2011). The Value of Social Constructionism for the Counselling Profession: A Reply to Hansen. *Journal of Counseling & Development*, *85* (4), 387-392. https://doi.org/10.1002/j.1556-6678.2007.tb00606.x

Sabbah Khan, N. U., & Yildiz, Y. (2020). Impact of Intangible Characteristics of Universities on Student Satisfaction. *Amazonia Investiga*, *9*(26), 105-116. https://doi.org/10.34069/AI/2020.26.02.12

Sadeghi, M. A. (2019). Shift from Classroom to Distance Learning: Advantages and Limitations. *International Journal of Research in English Education*, *4* (1), 80-88. URL: http://ijreeonline.com/article-1-132-en.html

Salloum, S. A., Al-Emran, M., Shaalan, K., & Tarhini, A. (2019). Factors affecting the E-learning acceptance: A case study from UAE. *Education and Information Technologies*, *24*(1), 509–530.

Scherer, R., Howard, S., K., Tondeur, J., & Siddiq, F. (2021). Profiling teachers' readiness for online teaching and learning in higher education: Who's ready? *Computers in Human Behavior*, *118* (1). https://doi.org/10.1016/j.chb.2020.106675

Schindler, L. A., Burkholder, G. J., Morad, O. A., & Marsh, C. (2017). Computer-based technology and student engagement: a critical review of the literature. *International journal of educational technology in higher education, 14*(1), 1-28.

Schlenz, M.A., Michel, K., Wegner, K., Schmidt, A., Rehmann, P., & Wöstmann, B. (2020). Undergraduate dental students' perspective on the implementation of digital dentistry in the preclinical curriculum: a questionnaire survey. *BMC Oral Health, 20* (78). https://doi.org/10.1186/s12903-020-01071-0

Schneider, M., & Preckel, F. (2017). Variables associated with achievement in higher education: A systematic review of meta-analyses. *Psychological bulletin, 143*(6), 565. https://psycnet.apa.org/doi/10.1037/bul0000098

Shraım, K. (2019). Online Examination Practices in Higher Education Institutions: Learners' Perspectives. *Turkish Online Journal of Distance Education, 20* (4), 185-196. https://doi.org/10.17718/tojde.640588

Simons, D. F., Baron, J. A., Knicely, K. S., & Richardson, J. S. (2002). Online learning: Perspectives of students and faculty in two disciplines–occupational therapy and teacher education. *Occupational Therapy in Health Care, 14*(2), 21-52. https://doi.org/10.1080/J003v14n02_02

Smaldino, S. E., Russell, J. D., Heinich, R., & Molenda, M. (2005). Instructional technology and media for learning (8th Ed.). Upper Saddle River, NJ: Prentice Hall.

Soltanimehr, E., Bahrampour, E., Imani, M.M., Rahimi, F., Almasi, B., & Moattari, M. (2019). Effect of virtual versus traditional education on theoretical knowledge and reporting skills

of dental students in radiographic interpretation of bony lesions of the jaw. *BMC Medical Education, 19*(233). https://doi.org/10.1186/s12909-019-1649-0

Sørum, H. (2022). Interaction Designers of the Future: Shedding Light on Students Entering the Industry. *Human-Computer Interaction. Theoretical Approaches and Design Methods. Part of the Lecture Notes in Computer Science*, 13302 (1), 161-172. Springer, Cham. https://doi.org/10.1007/978-3-031-05311-5_10

Stone, C., & O'Shea, S. (2019). Older, online and first: Recommendations for retention and success. *Australasian Journal of Educational Technology*, *35*(1), 57-69. https://doi.org/10.14742/ajet.3913

Strang, K. D. (2013). University accreditation and benchmarking: Pedagogy that increases student achievement. *International Journal of Educational Research, 62*, 210-219. http://dx.doi.org/10.1016/j.ijer.2013.09.007.

Sumuer, E. (2018). Factors related to college students' self-directed learning with technology. *Australasian Journal of Educational Technology*, *34*(4). https://doi.org/10.14742/ajet.3142

Sun, P. P. (2022). Understanding EFL university teachers' synchronous online teaching belief change. *Language Teaching Research*, *0*(0). https://doi.org/10.1177/13621688221093833

Sweetman, D. S. (2021). Making virtual learning engaging and interactive. *FASEB BioAdvances*, *3*(1), 11-19. DOI: 10.1096/fba.2020-00084

Tarazi, A. & Ortega-Martín, J.L. (2023).Enhancing EFL students' engagement in online synchronous classes: The role of the Mentimeter platform. *Frontiers in Psychology*

Journal, Language Sciences Section, 14 (1), 1127520. https://doi.org/10.3389/fpsyg.2023.1127520

Tarazi, A. & Ruiz-Cecilia, R. (2022). The NAVIO Application to Teach EFL: An Observational Study in Palestinian Primary Schools. *Universal Journal of Educational Research*, *10*(2), 117-128. DOI: 10.13189/ujer.2022.100201.

Tarhini, A., Masa'deh, R., Al-Busaidi, K.A., Mohammed, A.B., & Maqableh, M. (2017). Factors influencing students' adoption of e-learning: a structural equation modeling approach. *Journal of International Education in Business, 10*(2), 164-182. https://doi.org/10.1108/JIEB-09-2016-0032

Tick, A. (2019). An extended TAM model for evaluating eLearning acceptance, digital learning and smart tool usage. *Acta Polytechnica Hungarica, 16* (9), 213–233. http://dx.doi.org/10.12700/APH.16.9.2019.9.12

Tsegay, S. M., Ashraf, M. A., Perveen, S., & Zegergish, M. Z. (2022). Online Teaching during COVID-19 Pandemic: Teachers' Experiences from a Chinese University. *Sustainability*, *14*(1), 568. http://dx.doi.org/10.3390/su14010568

Tulaskar, R., & Turunen, M. (2022). What students want? Experiences, challenges, and engagement during Emergency Remote Learning amidst COVID-19 crisis. *Education and Information Technologies, 27* (1), 551–587. https://doi.org/10.1007/s10639-021-10747-1

Turnbull, D., Chugh, R., & Luck, J. (2021). Transitioning to E-Learning during the COVID-19 pandemic: How have Higher Education Institutions responded to the challenge? *Education and Information Technologies, 26* (1), 6401–6419. https://doi.org/10.1007/s10639-021-10633-w

Unger, S., & Meiran, W. R. (2020). Student attitudes towards online education during the COVID-19 viral outbreak of 2020: Distance learning in a time of social distance. *International Journal of Technology in Education and Science (IJTES), 4*(4), 256-266. https://www.ijtes.net/index.php/ijtes

Vega-Carrero, S., Alejandro-Pulido, M., & Ruiz, N. E. (2017). Teaching English as a second language at a University in Colombia that uses virtual environments: A case study. *Revista Electrónica Educare, 21*(3), 159-179. http://dx.doi.org/10.15359/ree.21-3.9

Virtanen, M. A., Kääriäinen, M., Liikanen, E., & Haavisto, E. (2017). The comparison of students' satisfaction between ubiquitous and web-based learning environments. *Education and Information Technologies, 22*(5), 2565–2581. https://doi.org/10.1007/s10639-016-9561-2.

Walker, K. A., & Koralesky, K. E. (2021). Student and instructor perceptions of engagement after the rapid online transition of teaching due to COVID-19. *Natural Sciences Education, 50*(1), e20038. https://doi.org/10.1002/nse2.20038

Wang R., & Liu, C. (2019). The relation of dental students' learning styles to their satisfaction with traditional and inverted classroom models. *BMC Medical Education, 19* (315). https://doi.org/10.1186/s12909-019-1749-x

Wang, S., Bajwa, N.P., Tong, R., & Kelly, H. (2021). Transitioning to Online Teaching. In: Burgos, D., Tlili, A., Tabacco, A. (eds) Radical Solutions for Education in a Crisis Context. Lecture Notes in Educational Technology. Springer, Singapore. https://doi.org/10.1007/978-981-15-7869-4_12

Warren, L., Reilly, D., Herdan, A., & Lin, Y. (2021). Self-efficacy, performance and the role of blended learning. *Journal of Applied Research in Higher Education, 13* (1), 98-111. https://doi.org/10.1108/JARHE-08-2019-0210

Watts, L. (2016). Synchronous and asynchronous communication in distance learning: A Review of the Literature. *Quarterly Review of Distance Education, 17*(1), 23-32, 56. https://www.proquest.com/scholarly-journals/synchronous-asynchronous-communication-distance/docview/1794526758/se-2

Yao, J., Rao, J., Jiang, T., & Xiong, C. (2020). What Role Should Teachers Play in Online Teaching during the COVID-19 Pandemic? Evidence from China. *Sci Insigt Edu Front, 5*(2), 517-524.https://ssrn.com/abstract=3565608

Yasin, A., Al-Tarawneh, L., El-Issa, F., & Al-Zoubi, A. (2022). Students' achievement in an online course on technical writing and communication skills. *Interactive Technology and Smart Education, 19* (4), 526-543. https://doi.org/10.1108/ITSE-05-2022-0057

Zhu, X. (2018). Facilitating effective online discourse: Investigating factors influencing students' cognitive presence in online learning. Master Theses. 1277. https://opencommons.uconn.edu/gs_theses/1277

Zhu, X., & Liu, J. (2020). Education in and After Covid-19: Immediate Responses and Long-Term Visions. *Postdigital Science and Education, 2*(1), 695–699. https://doi.org/10.1007/s42438-020-00126-3

Zou, C., Li, P., & Jin, L. (2021). Online college English education in Wuhan against the COVID-19 pandemic: Student and teacher readiness, challenges and implications. *PLoS ONE, 16*(10): e0258137. https://doi.org/10.1371/journal.pone.0258137

Appendices

Appendix (A)

Department of Didactics of Languages and their Literatures

Faculty of Education Sciences

Doctoral Program in Educational Sciences

University of Granada

Dear University Teachers,

The following questionnaire has been developed to collect the necessary information for accomplishing a study entitled " The Role of Online Teaching Platforms in Enhancing Students' Engagement and Academic Performance levels: An Analytic Study in Universities of Palestine".

The researcher will be grateful if you answer the questionnaire items appropriately and honestly. Your answers will be strictly confidential and the given information will be used for research purposes only.

Thanks for your cooperation,

The researcher:

Ayat Tarazi

Appendix (A): Faculty member questionnaire

Welcome! Please answer all questions based on your experience in the online teaching.

Part (I): Background information

Please put the mark (x) in the place that suits your case:

1) Academic rank

1. Adjunct Instructor.
2. Graduate Teaching Assistant.
3. Professor.
4. Assistant Professor.
5. Full Professor.

2) University

1. Al-Quds Open University
2. An-Najah National University
3. Arab American University

3) Years of experience

1. Less than 5
2. 6-10
3. More than 10

4) How many online English-language courses do you teach at the undergraduate level this semester?

1. One
2. Two
3. Three
4. Four
5. Five

Part (II): This part consists of faculty members' perceptions toward the utilization of online platforms in teaching online courses of English as a foreign language.

No.	**Dimension 1: Instructors' perceptions toward the role of online teaching platform in enhancing students' engagement during online learning**	Disagree	Strongly disagree	Neutral	Agree	Strongly agree
1	Most students do not participate actively in the communicative process of the online lecture.					
2	Students are unmotivated to interact during online lectures.					
3	Students are reluctant to use the online platform to completing their assignments.					

4	Students' participation is mandatory in online lectures.					
5	Only a small percentage of students complete their assignments and projects.					
6	Low-level students study and comment on the writing assignment.					
7	The majority of students actively participate in the online discussion.					
8	The chosen online platform cannot cover all of the English course content.					
9	Both instructors and students receive technical assistance to deal with unexpected situations.					
10	Awareness programs on the benefits of online learning are conducted at regular intervals for the university community.					
	Dimension 2: Instructor's role and skills in online teaching					
11	During online lectures, I employ a variety of instructional strategies to help students improve their performance.					
12	I regularly evaluate my students and provide them with feedback on their development.					
13	I prepare emergency plans ahead of time to manage possible problems.					
14	To guarantee that an online course is delivered effectively, I modify my teaching speed.					
15	I take steps to increase the scope and depth of student participation.					
16	I've had enough experience producing online materials and delivering online lectures.					
17	I have a lot of experience teaching language courses online.					
18	I have sufficient computer knowledge and IT skills to manage my online courses.					
	Dimension 3: Instructor's attitudes toward online teaching platform					
19	I am in favor of online teaching.					
20	Conducting online lecture through platform requires more effort in comparison to face-to-face instructions.					
21	Online platform has different tools that facilitate teaching online English courses and support me to achieve course objectives.					
22	Lack of interaction between students and instructors results in low academic performance.					

23	Students are more motivated to participate in online lectures than in face-to-face lectures.					
24	The following platform supports the distribution of notes and digital materials via multimedia.					
25	Students and teachers can connect, collaborate, and exchange information using a variety of Internet-based tools through online teaching platforms.					
26	Online teaching platform make assessment process more complicated and unreliable.					
27	Reviewing the process of digital transformation of universities is important for successful e-learning.					

Part (III): This part consists of open- ended questions.

1. What are the pros and cons of the followed online teaching platform that you use for teaching online English courses?

2. What are the different online tools and strategies you apply during the online lectures to improve students' performances and engagement?

Appendix (B)

Department of Didactics of Languages and their Literatures

Faculty of Education Sciences

Doctoral Program in Educational Sciences

University of Granada

Dear E-Learning Center Members,

The following questions have been developed to collect the necessary information for accomplishing a study entitled " The Role of Online Teaching Platforms in Enhancing Students' Engagement and Academic Performance levels: An Analytic Study in Universities of Palestine".

The researcher will be grateful if you answer the questions appropriately and honestly. Your answers will be strictly confidential and the given information will be used for research purposes only.

Thanks for your cooperation,

The researcher:

Ayat Tarazi

Appendix (B): Interview questions

1. What kind of online platform is used by your university? Describe the pros and cons of the chosen platform.

2. What are your attitudes toward using online platforms in university teaching?

3. What are the obstacles that hinder the usefulness of E- learning at your university?

4. What are the solutions and recommendations that must be considered to improve E-learning in universities of Palestine?

Appendix (C)

Department of Didactics of Languages and their Literatures

Faculty of Education Sciences

Doctoral Program in Educational Sciences

University of Granada

Dear students,

The following questionnaire has been developed to collect the necessary information for accomplishing a study entitled " The Role of Online Teaching Platforms in Enhancing Students' Engagement and Academic Performance levels: An Analytic Study in Universities of Palestine".

The researcher will be grateful if you answer the questionnaire items appropriately and honestly. Your answers will be strictly confidential and the given information will be used for research purposes only.

Thanks for your cooperation,

The researcher:

Ayat Tarazi

Appendix(C): The Student questionnaire

Welcome! Please answer all questions based on your experience in the online learning.

Part (I): Background Information

1) Year of study

    1. First year
    2. Second year
    3. Third year
    4. Fourth year

2) University
    1. Al Quds Open University
    2. An- Najah National University
    3. Arab American University

3) What kind of online course are you currently taking?

    1. Online (synchronous [live] -such as Google meeting or zoom)
    2. Online (asynchronous -such as Moodle)
    3. Blended (in-person and online [any form of online]; synchronous and asynchronous)
    4. None of the above

Part (II): This part consists of four dimensions about Bachelor students' perceptions of online learning platforms.

Dimension 1: Student's attitudes toward online teaching platforms	Disagree	Strongly disagree	Neutral	Agree	Strongly agree
1. In an online course, I spend more time doing tasks than in an in-person course.					
2. When I'm taking an online course, I spend a lot of time fixing technical problems.					
3. I am satisfied with the online lectures I am taking.					
4. During online classes, I find it difficult to express my ideas, comments, and answers.					
5. Asynchronous classes (e.g., Moodle) are easier than synchronous classes (e.g., Zoom).					
6. Overload information of online course make learning more difficult.					
7. The design of online learning activities encourages me to interact actively.					
Dimension 2: The role of online teaching platform on enhancing students' engagement level					

8. Reading everyone's responses kept me interested and helped me learn more.					
9. The online platform increases the number of opportunities to engage in meaningful conversation with professors and other students.					
10. I engage and perform actively in online lectures because the materials are properly arranged, from simple to complicated, and from knowing to practicing.					
11. The wide range of online learning activities allows me to choose activities that are suitable for my level of English.					
12. Breakout groups, discussion boards, discussion forums, wikis, and resource sharing foster my interaction with other students and help me comprehend content easily.					
13. I share information and resources with other students and instructors easily.					
14. Online platform encourages positive cooperation among students and instructors.					
15. Online platforms offer a variety of resources that aid in the development of my knowledge and comprehension in online courses.					
16. My online teaching platform increases my interest for taking English classes.					
17. An online teaching platform encourages active learning and strengthens connections between students.					
18. Online platform help me to interact with online course content in more than one format (e.g., text, video, audio, interactive games, or simulations).					
Dimension 3: Online platforms and student's academic performance level					
19. My grades are improving because to the online platform.					
20. My ability to learn independently has improved.					
21. Learning through an online platform increased my achievement level.					
22. I have limited skill and knowledge in using online platforms, which affects my achievement on online exams.					

23. The materials on the online platform help me in improving my online course achievement.					
24. I don't have enough time to complete exams and submit assignments on time which results in a low achievement.					
25. Poor connectivity affects my achievement negatively in some online courses.					
26. Large assignments and information overload in online courses lead to poor performance.					
Dimension 4: Students' perspectives toward Instructor's Role in Online Learning					
27. My professor doesn't have enough resources and skills in online teaching.					
28. My professor delivered online learning materials in a different ways.					
29. My professor gives me enough time to engage in and understand the online course material.					
30. My professor provides regular feedback.					
31. Our professor teach us how to use the online platform correctly and provide us advice.					
32. Online learning materials are sufficiently explained by professor.					

Appendix (D)

Qualitative Results (Study 3)

MAXQDA 2020 2/9/2022

- Academic affairs follow-up and control courses and their validity for teaching through learning platforms.
- Holding workshops for academic staff to design electronic exams to ensure the credibility of the evaluation and reduce the fraud in exams as much as possible.
- Holding educational workshops for academic staff optionally in the context of e-education and its importance and working to advance the educational process through it, how to conduct and present the lecture electronically, how to design and conduct exams electronically, how to use the Zoom platform.
- Provide technical support to all parties in the educational process.
- Continue to launch some courses electronically, such as general culture and Arabic, as an initial step to promote e-education at the university.
- Work to force students who do not have computers to come to university for exams.
- Double the speed of the Internet for teachers only with the support of the Palestinian telecommunications company.
- A number of staff in the Department of Systems were temporarily assigned to the Faculty of Information Technology to support and assist staff in the Center for E-Learning.
- Purchase licenses to take advantage of the Zoom platform effectively and appropriately.
- Photography of lectures in a small way and for some teachers.
- Filming videos from inside the university campus.
- Reliance on Zoom formally.
- Work on the development of the university's systems.
- Conduct a course for a specific number of teachers on how to manage students' interaction electronically.

Code: ● what are the solutions and recommendations that must be consider > Solutions
Weight score: 0

Question4 > Interview H- Arab American University-Q4, Pos. 3-16

- Provide Virtual Reality-based courses.
- Set up modern e-learning rooms with smart screens.
- Work to develop experiences effectively in line with digital education.
- Using 21st-century strategies for electronic lecture presentation.
- Offering frequent and intensive courses for both instructors and students on online teaching and learning.
- Design electronic courses for all disciplines through a specialized unit.
- Work to increase the number of employees in the e-learning center to increase its productivity.
- Increase the number of teachers' workshops throughout the year and hold them compulsorily.
- Work on the application of the virtual reality project and enhancement at the Arab American University.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview H- Arab American University-Q4, Pos. 18-26

Conducting training workshops for students on how to deal with educational platforms and how to find technical solutions if they exist, in addition to providing better technological infrastructure to deliver what is needed to students better and faster.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview E- Al Quds Open University -Q4, Pos. 2

- Academic staff training
- Training students
- Ministry of higher education should adopt the e-learning.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview D-Al Quds Open University-Q4, Pos. 2

The use of smart screens inside e-learning halls to help integrate students into the educational process.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview C- Arab American University-Q4, Pos. 3

- Encourage students to use the model system.
- Prepare interactive seminars and training workshops for teachers and students.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview B- Arab American University-Q4, Pos. 2-3

Internet service can be improved.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview A- Arab American University-Q4, Pos. 2

- Providing open educational resources.
- Provide technical support to faculty members and students and provide assistance at the level of e-university services.
- Raising the skills and skills of faculty members and students in e-learning.
- Promote global standards-compliant online learning and training methodologies.
- Meet the educational needs, different patterns of learners, and the needs of the digital generation.
- Spreading the e-learning culture
- Developing digital content using the best learning strategies and the latest trends in technology in line with all platforms and devices to support the quality of education and learning.
- Provide a flexible and innovative electronic learning environment according to global specifications and standards.
- Achieve quality and performance indicators in e-learning and integrated learning through a specialized unit.
- Increase the capacity and add a server to solve the problem of pressure on sites due to increasing the number of students at a time.
- Assisting teachers in montage and graphic courses.
- Offering training, induction, and development workshops in each classroom for teachers.

- Recorded lectures.
- Offer all university branches and students free access to the internet.
- Offer a production and broadcasting center via Internet rather than satellite.
- Holding workshops on virtual digital reality; educating professors on the concept of virtual reality, its traits, and best practices; differentiating between virtual reality and augmented reality; showcasing the applications of virtual reality in education; and introducing the virtual reality educational scenario.
- Filming seminars with the intention of engaging students and assisting them in meeting the necessary learning objectives during times of emergency or any obstacles that prevent students from taking part in face-to-face lectures.

Code: ● what are the solutions and recommendations that must be consider > Solutions Weight score: 0

Question4 > Interview I -Al Quds Open University-Q4, Pos. 3-19

- Work on building infrastructure across the university's several departments.
- Develop evaluation techniques that are appropriate for e-learning and its results.
- Create electronic content that is appropriate for 21st-century skills.
- Remaining current with innovations and shifts in e-learning and education.
- Install smart screens in all branches and various classrooms.
- Providing appropriate support for the university's systems' continued development as well as more human and technical resources to help the university fulfill its mission and achieve its goal of being the first Palestinian institution in open education.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview I -Al Quds Open University-Q4, Pos. 21-26

- Design e-courses and use Google's technical tools to learn how to design.
- Computerized exams.
- Conduct training courses and workshops for faculty members, optionally.
- Photography and dissemination of lectures for students and the community.
- Use of open sources.
- Use inverted grade.

- Enhancing the skills of the 21st century.
- Publish awareness videos.
- Follow-up e-learning
- Nomination for the E-Learning Award.
- Provide technical support.
- Work on computing all university courses.
- Provide compact and available courses with Zoom links.
- Provide 3G packages to ensure that the Internet is not disconnected through the telecom company.
- Launch a campaign to borrow laptops for students in need.
- Purchase licenses to solve Zoom problems in the lecture, especially at the time and number allowed for participating students.
- Control the cheating and performance of students in exams by reducing the time of answering each question, scribbling questions, not allowing the change of answers, and finishing the exam at the same time for all students.
- Providing a relatively large question bank.
- Create a course on how to learn electronically for all students to raise their awareness and experience.

Code: ● what are the solutions and recommendations that must be consider > Solutions Weight score: 0

Question4 > Interview G- An Najah National University-Q4, Pos. 3-21

- Developing course design methods.
- Infrastructure development.
- Promote the culture of e-learning among students and teachers.
- Provide a competent department to examine the quality of electronic courses.
- Implementation of a project to equip two rooms with smart screens to ensure the progress of the online and offline educational processes.
- Holding workshops on improving the quality of e-learning.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview G- An Najah National University-Q4, Pos. 23-28

Spreading the culture of e-learning education among students, teachers and society in general.

Code: ● what are the solutions and recommendations that must be consider > Recommendations Weight score: 0

Question4 > Interview F-Al Quds Open University-Q4, Pos. 2

- The culture of education and e-learning does not exist properly in the university and in Arab society in particular.
- Administrative decisions stand in the way of the advancement and development of e-education and its needs, which adversely affects the outputs of e-learning.
- Technological impediments and teachers' lack of expertise in the use of technology in e-learning.
- Political conditions.
- Power failure
- The small number of employees in the e-learning center.
- Internet detachment problems.
- The lack of a competent unit to examine the quality of e-learning.
- There are no computers available when ordering.
- The majority of academic staff and students do not possess the expertise and skills for e-learning.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview H- Arab American University-Q3, Pos. 2-11

The lack of complete infrastructure for some students, and thus receiving information and benefit varies from one student to another.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview E- Al Quds Open University-Q3, Pos. 2

- Academic staff skills
- Students’ skills and background.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview D- Al Quds Open University-Q3, Pos. 2

- The internet speed of students.
- There are power shortages in some student areas.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview B-Arab American University-Q3, Pos. 2-3

Particular students hesitate to use and make the best use of some educational platforms in the teaching and learning process.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview C- Arab American University- Q3, Pos. 2

The main obstacle to education in Palestine is the Internet because both electricity and the internet are frequently subject to disruptions and occasionally have insufficient speed to support lectures.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview A- Arab American University-Q3, Pos. 2

- An imbalance in academic staff's experience and skills with regard to e-education.
- Internet speed.
- Lack of Internet access in marginalized and remote areas south of Hebron.
- The problem of credibility and safety in assessments was minimal.
- Political, social, and economic constraints of the State of Palestine in particular.
- The number of university branches and their spread across cities and governorates.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview I-Al Quds Open University-Q3, Pos. 3-8

Problems of Internet separation, infrastructure, lack of computers on some sides of the educational process, and lack of smart screens in the classrooms to ensure that the educational process proceeds in an adequate manner. The majority of faculty members also have insufficient background and experience to teach and develop online courses. Additionally, one of the biggest obstacles is the gap in e-educational potential and expertise among teachers, as well as the culture of e-education and teacher communication.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview G-An Najah National University-Q3, Pos. 2

Acceptance of the parties concerned with this system, and availability of the necessary infrastructure. Lack of efficient assessments systems.

Code: ● what are the obstacles that hinder the usefulness of E-learning Weight score: 0

Question 3 > Interview F-Al Quds Open University-Q3, Pos. 2

The use of social networking sites with standards defined by the university, as the freedom to use social networking sites can have a negative impact in certain areas.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview E- Al Quds Open University -Q2, Pos. 2

It's an efficient way to continue teaching and learning process especially during the spread of epidemics and the difficult political and military conditions that prevent students and teachers from being able to attend the university

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview F- Al Quds Open University -Q2, Pos. 2

Due to the fact that e-learning only started in 2018 and coincided with the beginning of the coronavirus epidemic in practice, trends at Arab American universities toward these platforms are generally weak.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview H- Arab American University- Q2, Pos. 2

I think it is important issue to integrate the learning process with online platforms and using modern methods to enhance teaching process.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview D- Al Quds Open University-Q2, Pos. 2

The model is adaptable and simple to utilize when applying. It is simple to plan and prepare for lectures and exams. To assist students and teachers in using the many events of the model, there are training courses.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview B- Arab American University-Q2, Pos. 2

Promote the use of online e-learning platforms because they give both students and teachers flexibility in terms of time and location.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview C- Arab American University-Q2, Pos. 2

E-learning at the university is flexible. The members of the center provide permanent assistance to students and teachers. There are training courses for both students and teachers on the Model platform.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview A- Arab American University -Q2, Pos. 2

Positive trends and with e-education in all its cases, especially in the Palestinian context of its special status as a state under occupation.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview G-An Najah National University-Q2, Pos. 2

I tend to be positive of e-education and its platforms. Since 2008, the Open Education Center has been working to promote online learning environments and spread the university's philosophies in open and integrated education. The Open Education Center is one of the technical and educational centers of the Al-Quds Open University, which was the first Palestinian institution to adopt open education. The Center aims to provide technology-enhanced teaching strategies, improve collaborative and self-learning abilities, and promote creativity. Additionally, it works to create and build e-curricula and various supplementary learning aids in accordance with best practices in educational design, learning strategy, and the most recent technological trends as well as international standards.

Code: ● what are your attitudes toward using online platforms in university Weight score: 0

Question 2 > Interview I-Al Quds Open University-Q2, Pos. 2

Zoom platform.

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview H- Arab American University -Q1, Pos. 2

Simple use by both students and instructors.

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview H- Arab American University -Q1, Pos. 4

The necessity to buy licenses in order to expand the class size and lecture duration.

Code: ● what kind of online platform is used by your university? Describe > Cons Weight score: 0

Question 1 > Interview H- Arab American University -Q1, Pos. 6

Moodle Learning system

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview F- Al Quds Open University-Q1, Pos. 2

Provide a lot of learning tools and student assessment methods

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview F- Al Quds Open University-Q1, Pos. 2

Model system

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview E- Al Quds Open University-Q1, Pos. 2

Ease of use and delivery of everything the student needs in one platform.

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview E- Al Quds Open University-Q1, Pos. 2

MODUL, BBB and YouTube Channels.

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview D- Al Quds Open University-Q1, Pos. 2

1. Flexibility 2- availability 3- Variety 4- openness 5- Ease.

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview D- Al Quds Open University-Q1, Pos. 4

1. Fast internet connection 2- Technical support 3- strong curriculum 4- strong IT background for academic staff 6- online platform designers.

Code: ● what kind of online platform is used by your university? Describe > Cons Weight score: 0

Question 1 > Interview D- Al Quds Open University-Q1, Pos. 6

Moodle Learning system

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview I-Al Quds Open University-Q1, Pos. 2

Provide a lot of learning tools and student assessment methods

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview I-Al Quds Open University-Q1, Pos. 2

Using Model's electronic content platform. To feed the diverse sources to enhance students' concepts and knowledge, a q-tube platform has been created for a video sharing, a slide share platform for file sharing, and a web page e-course for all e-courses.

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview I-Al Quds Open University-Q1, Pos. 3

Model and Zoom Platform.

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview G-An Najah National University-Q1, Pos. 2

Model system with the global platform Zoom.

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview C -Arab American University-Q1, Pos. 2

Enables teachers to conduct lectures, administer exams, and communicate with students, among other functions, more easily.

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview C -Arab American University-Q1, Pos. 3

Gaps and issues with communication and course presentation between students during exams. It also differs from the portal system in that the teacher must administer the exam within the model and then send the results to the portal.

Code: ● what kind of online platform is used by your university? Describe > Cons Weight score: 0

Question 1 > Interview C -Arab American University-Q1, Pos. 4

Model website

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview B -Arab American University-Q1, Pos. 2

Gives users the chance to upload educational resources to the model platform, set up educational links on Zoom, and facilitate student-teacher interaction in the learning process. It also gives users the option to prepare for tests and assign duties to students.

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview B -Arab American University-Q1, Pos. 2

Modal platform

Code: ● what kind of online platform is used by your university? Describe Weight score: 0

Question 1 > Interview A -Arab American university-Q1, Pos. 2

Create instructional content and host electronic lectures and access lecture links.

Code: ● what kind of online platform is used by your university? Describe > Pros Weight score: 0

Question 1 > Interview A -Arab American university-Q1, Pos. 2

Appendix (E)

Qualitative Results (Study 2, Section 2)

MAXQDA 2020 2/9/2022

It is a very versatile platform that can be used for multiple purposes from creating interactive lessons to teaching through Zoom, to designing exams

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor A-Arab American University-Q1, Pos. 2

The cons are inherent to any online tool which cannot give you the experience of face- to - face teaching.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor A-Arab American University-Q1, Pos. 2

Online teaching platform has lots of demerits which have to be dealt with effectively.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor ZR- An- Najah National University-Q1, Pos. 2

Lack of authority over students

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor Z- An -Najah National University-Q1, Pos. 2

Online exams as I could not make sure they were not cheating on exam

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor Z- An- Najah National University-Q1, Pos. 2

Another people doing their homework.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor Z- An- Najah National University-Q1, Pos. 2

The shift to online education gave the students the chance to learn how to navigate the different aspects of online resources.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor Y- An- Najah National University-Q1, Pos. 2

The lack of access that may students and teachers suffer from when it comes to technology and software.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor Y- An -Najah National University-Q1, Pos. 2

I mainly use Zoom to deliver online lecture. This App allows me to share knowledge with students and make control over the virtual classroom.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor X- An- Najah National University- Q1, Pos. 2

It turns into a problem when students become more reliant on teachers because they assume that they are only recipients who have nothing to add to the discussion.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor X- An- Najah National University- Q1, Pos. 2

It reinforces the new methods of teaching by having the students themselves act as leaders during the class.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor W- An- Najah National University-Q1, Pos. 2

Most teachers lack the skills necessary to run an effective online class.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor W- An- Najah National University-Q1, Pos. 2

Can reach students in emergency cases, they can access the content and the materials on their pace, they can communicate with their peers easily.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor V- Al Quds Open University- Q1, Pos. 2

Poor connection.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor V- Al Quds Open University- Q1, Pos. 2

More creativity in teaching and learning

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor U-An- Najah National University-Q1, Pos. 2

Complicated evaluation process.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor U-An -Najah National University-Q1, Pos. 2

Easier to contact with students

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor T- Arab American University-Q1, Pos. 2

A way to cheat easily.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor T- Arab American University-Q1, Pos. 2

Encourages them not to study and even not to attend their classes.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor T- Arab American University-Q1, Pos. 2

The entire e-learning thing is a mess

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor S- Arab American University-Q1, Pos. 2

It is all about the negative sides.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor S- Arab American University-Q1, Pos. 2

We could use the time more efficiently plus to the flexibility regarding tasks, time and content.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor R- Arab American University-Q1, Pos. 2

Lack of interaction has badly affected the communication between the teacher and the learners.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor R- Arab American University-Q1, Pos. 3

Moodle has different tools such as videos, PDF and Zoom that suit the needs of every student. The lectures can be recorded.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor Q- Arab American University-Q1, Pos. 2

Some technology issues that need to be solved.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor Q- Arab American University-Q1, Pos. 2

Using Zoom app for teaching is very easy.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor P- Arab American University-Q1, Pos. 2

Students are less active

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor P- Arab American University-Q1, Pos. 2

Also ask others who are more professional to do the assignments for them.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor P- Arab American University-Q1, Pos. 2

I don’t think there is anything good when it comes to online teaching.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor O- Arab American University-Q1, Pos. 2

Access to the student anywhere he is.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor N- An- Najah National University-Q1, Pos. 2

Poor interaction.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor N- An -Najah National University-Q1, Pos. 3

Helps both teachers and students to think out of the box.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor M- An- Najah National University-Q1, Pos. 2

Classes are more flexible, affordable and students or instructors can refer to the recording whenever they want.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor L- Arab American University-Q1, Pos. 2

Takes time to develop

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor K-Al Quds Open University-Q1, Pos. 2

Can reach a wider number of students.

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor K-Al Quds Open University-Q1, Pos. 2

It motivating, attractive enjoyable

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor I- Al Quds Open University- Q1, Pos. 2

This really needs lots of discussion.

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor H- Al Quds Open University- Q1, Pos. 2

Helps students to attend classes wherever they go

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0

Instructor G- Al Quds Open University-Q1, Pos. 2

The lack of computers and availability of the internet

Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0

Instructor G- Al Quds Open University-Q1, Pos. 2

Online teaching enabled me to use modality features anytime during the day

Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0
Instructor F- Al Quds Open University-Q1, Pos. 2
Communicate with my students using the social media.
Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0
Instructor F- Al Quds Open University-Q1, Pos. 2
Lack of motivation among the majority of students
Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0
Instructor F- Al Quds Open University-Q1, Pos. 2
Poor internet speed
Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0
Instructor F- Al Quds Open University-Q1, Pos. 2
The platform is helpful regarding voice
Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0
Instructor E- Al Quds Open University- Q1, Pos. 2
Restricted number of students. It allows only 75 students only.
Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0
Instructor E- Al Quds Open University- Q1, Pos. 2
Everything.
Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0
Instructor D- Al Quds Open University-Q1, Pos. 2
Time and effort consuming.
Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0
Instructor C- Al Quds Open University-Question 1, Pos. 3
Easier access for multiple views of one lecture, access to wider scope of material.
Code: ● what are the pros and cons of the followed online teaching plat > prose Weight score: 0
Instructor B- An- Najah National University- Q1, Pos. 2
Lack of engagement.
Code: ● what are the pros and cons of the followed online teaching plat > cons Weight score: 0
Instructor B- An- Najah National University- Q1, Pos. 3
I have used limited number of these strategies. So I can't be very helpful in this regard.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor ZR- An Najah National University-Q2, Pos. 2
Asking students to play the role of the teacher.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor Z- An Najah National University- Q2, Pos. 2
Breakout rooms when I use zoom
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor Y- An Najah National University- Q2, Pos. 2
Dividing students into separate groups, short presentations, questions and answers, short paragraph writing, and the art of note- taking.

Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor X- An Najah National University-Q2, Pos. 3-7
Forums, assignments, quizzes, worksheets and online material.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor W- An Najah National University-Q2, Pos. 2
Digital materials
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor V- Al Quds Open Univeraity-Q2, Pos. 2
Power-point slides
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor V- Al Quds Open Univeraity-Q2, Pos. 2
Discussion alive
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor V- Al Quds Open Univeraity-Q2, Pos. 2
Brainstorming
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor V- Al Quds Open Univeraity-Q2, Pos. 2
Group work
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor U- An Najah National University-Q2, Pos. 2
Forums
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor U- An Najah National University-Q2, Pos. 2
Provocative assignments
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor U- An Najah National University-Q2, Pos. 2
PowerPoint
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor T- Arab American University-Q2, Pos. 2
Short videos
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor T- Arab American University-Q2, Pos. 2

PowerPoint
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor S- Arab American University-Q2, Pos. 2
Blogs
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor S- Arab American University-Q2, Pos. 2
Share icon on Zoom
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor S- Arab American University-Q2, Pos. 2
YouTube
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor S- Arab American University-Q2, Pos. 2
Google
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor R- Arab American University- Q2, Pos. 2
YouTube
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor R- Arab American University- Q2, Pos. 2
Microsoft programs
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor R- Arab American University- Q2, Pos. 2
Team projects.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor Q- Arab American University-Q2, Pos. 2
Giving them some times to do the exercises
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor P- Arab American University- Q2, Pos. 1
Moodle / zoom.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor O- Arab American University-Q2, Pos. 2
Movies
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0

Question 2- Answers > Instructor N- An Najah National University-Q2, Pos. 2
PowerPoint
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor N- An Najah National University-Q2, Pos. 2
Open-ended questions
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor M- An Najah National University-Q2, Pos. 2
Debate discussion.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor M- An Najah National University-Q2, Pos. 2
Discussions
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor L- Arab American University-Q2, Pos. 2
Projects
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor L- Arab American University-Q2, Pos. 2
Panels and forums.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor L- Arab American University-Q2, Pos. 2
Discussions
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor K- Al Quds Open University-Q2, Pos. 2
Group rooms
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor K- Al Quds Open University-Q2, Pos. 2
Take hold as presenters
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor K- Al Quds Open University-Q2, Pos. 2
Written and live chats
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor K- Al Quds Open University-Q2, Pos. 2
Repetition

Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor I- Al Quds Open University-Q2, Pos. 2
You should have designed it differently.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor H- Al Quds Open University- Q2, Pos. 2
Innovative tools and activities.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor G- Al Quds Open University Q2, Pos. 2
Social media such as WhatsApp and Messenger.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor F- Al Quds Open University- Q2, Pos. 2
PowerPoint slides
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor F- Al Quds Open University- Q2, Pos. 2
Chatting
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor F- Al Quds Open University- Q2, Pos. 2
Visual, Kinesthetic and verbal styles.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor E-Al Quds Open University-Q2, Pos. 2
Interactive activities.
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor D- Al Quds Open University- Q2, Pos. 2
Didn't use any!
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor C- Al Quds Open University- Question 2, Pos. 3
Peer-reviews
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor B- An- Najah National University- Q2, Pos. 2
Group work
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor B- An- Najah National University- Q2, Pos. 2

Collective feedback methods
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor B- An- Najah National University- Q2, Pos. 2
Engaging multimedia and activities
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor B- An- Najah National University- Q2, Pos. 2
Chatting through Zoom
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor A- Arab American University-Q2, Pos. 2
Electronic books
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor A- Arab American University-Q2, Pos. 2
Videos
Code: ● what are the different online tools and strategies you apply du > Strategies Weight score: 0
Question 2- Answers > Instructor A- Arab American University-Q2, Pos. 2

UNIVERSIDAD DE GRANADA

Escuela Internacional de Posgrado

Date: 15/5/2022 **Consent Form**

TITLE OF RESEARCH STUDY

***"The* Role of Online Teaching Platforms in Enhancing Students' Engagement and Academic Performance levels: An Analytic Study in Universities of Palestine".**

You are being invited to participate in a research study investigating the role of online teaching platforms in enhancing bachelor students' engagement and academic performance levels as perceived by bachelor students of English specializations and their instructors at Palestinian universities. And providing a model for effective online learning with recommendations, suggestions, and solutions to the instructors, and members of the E-Learning Centers of the universities to be followed to improve the quality of e-learning education based on the findings of this study. This study is being conducted by doctoral student **Ayat Tarazi**, from the **doctoral program of Educational Sciences**, department of **Didactics of Languages and Literatures** at **Granada University**. The study is being conducted as part of the **dissertation project** requirements.

You were selected as a possible participant in this study to address the beliefs, attitudes, and principles of change that e-learning communities, instructors, and bachelor students hold about the quality of online education; to provide adaptable solutions for issues and obstacles; to meet the objectives of online learning; and to improve online learning techniques that cater to various learning and teaching styles, demands, cultures, and levels.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information you provide will be used for finding out the attitudes of bachelor students, faculty members of English departments , and E-Learning Centre members' toward utilizing online teaching platforms in teaching and learning at Arab American University, An- Najah National University, and Al- Quds Open University . Also,

examining the effects of online learning platforms on students' engagement, academic performance, collaborative learning, attainment level, and experience. In addition, exploring the following strategies by instructors that are used to enhance students' performances during learning e- courses. The questionnaire will take about one hour to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits.

This is a web- based survey is anonymous. As your IP address will not be collected to provide anonymity. Also, no one will be able to identify you or your answers, and no one will know whether or not you participated in the study. Your participation in this study is voluntary. By completing and doing whatever the respondent should do with the completed survey, you are voluntarily agreeing to participate.

If you have any questions about the study, please contact **Ayat Tarazi,** **ayattarazi@correo.ugr.es**, **+34658860676**.

The Human Research Ethics Committee has reviewed my request to conduct this project. If you have any concerns about your rights in this study, please contact email **investigacion@ugr.es**

Sincerely,
Ayat Tarazi

UNIVERSIDAD DE GRANADA

Escuela Internacional de Posgrado

Cover Letter

May 16, 2022

Dear Respondents,

I am a doctoral student in the Didactics of Languages and their Literatures Department at Granada University and I am conducting a study about "The Role of Online Teaching Platforms in Enhancing Students' Engagement and Academic Performance Levels: An Analytic Study in Universities of Palestine". The objective of this dissertation project is to attempt to investigate the role of online teaching platforms in enhancing bachelor students' engagement and academic performance levels as perceived by bachelor students of English specializations and their instructors at Palestinian universities. As well, to provide a model for effective online learning with recommendations, suggestions, and solutions to the instructors, and members of the E-Learning Centers of the universities to be followed to improve the quality of e-learning education based on the findings of this study. Through your participation, I eventually hope to understand how best to find solutions for obstacles and challenges to improve the quality of future online education in Palestinian universities.

Enclosed with this letter is a brief questionnaire that asks a variety of questions about your attitudes toward online teaching platforms. I am asking you to look over the questionnaire and, if you choose to do so, complete the questionnaire and send it back to me.

If you choose to participate, do not write your name on the questionnaire. I do not need to know who you are and no one will know whether you participated in this study. Your

responses will not be identified with you personally, nor will anyone be able to determine which university you work for or study in. Nothing you say on the questionnaire will in any way influence your present or future with your university.

I hope you will take your time to complete this questionnaire. Without the help of people like you. Your participation is voluntary and there is no penalty if you do not participate.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me at ayattarazi@correo.ugr.es . If you have any questions about your rights as a research subject, you may contact the Human Research Ethics Committee by e-mail **investigacion@ugr.es** .

Sincerely,

Ayat Tarazi
Ph.D. Student
Department of Didactics of Languages and their Literatures
Doctoral Program in Educational Sciences
Granada University

1. **For E-learning members**

https://docs.google.com/forms/d/e/1FAIpQLScojK8e0zgnuo3dzBVXWmVvZhX66OASzoZDHSqj30i5-ziLPA/viewform

2. **For instructors**

https://docs.google.com/forms/d/e/1FAIpQLSdpuZHQIBBtCQfh4ZCk9Y8Cruk8l3CcJ8o2chi-xVpf-pmZZQ/viewform

3. **For students**

https://docs.google.com/forms/d/e/1FAIpQLSdcNDoj4Zr4mm6-er8sm2gj7qEdkG4XKT6FHuDNze4_M-wqIw/viewform