

**An-Najah National University
Faculty of Graduate Studies**

Investigating the Critical Success Factors of E-Learning in the Public Secondary Schools in the West Bank

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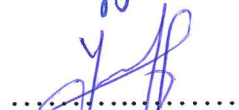
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Dedication

This thesis is dedicated to my great parents who never stop giving of themselves in countless ways. Also, it is dedicated to my dearest wife, who leads me through the valley of darkness with light of hope and support, my beloved brothers and sisters and my beloved kids: Ahmad, Abdurrahman and Elein whom I cannot force myself to stop loving. Furthermore, I dedicate this tremendous work to my friends who encourage and support me. Finally, to all the people in my life who touch my heart, I dedicate this research.

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الإقرار

أنا الموقع أدناه، مقدم الرسالة التي تحمل العنوان:

التحقق من عوامل نجاح التعلم الإلكتروني في
المدارس الثانوية الحكومية في الضفة الغربية

**Investigating the Critical Success
Factors of E-Learning in the Public
Secondary Schools in the West Bank**

أقر بأن ما اشتملت عليه هذه الرسالة إنما هي نتاج جهدي الخاص، باستثناء ما تمت الإشارة إليه حيثما ورد، وأن هذه الرسالة ككل، أو أي جزء منها لم يقدم من قبل لنيل أية درجة علمية أو بحث علمي أو بحثي لدى أية مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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List of Abbreviations

E-	Electronic Learning
MOE	Ministry of Education
PNA	Palestinian and National Authority
ICT	Information Communication Technology
BOU	Bangladesh Open University
QOU	Al-Quds Open University
ANOVA	One-way ANOVA of Variance
WWW	World Wide Web
PEI	Palestinian Educational Initiative
WBL	Web Based Learning
WBI	Web Base Instruction
IBT	Internet Based Training
DL	Distributed Learning
ADL	Advanced Distributed Learning
DL	Distance Learning
OL	Online Learning
ME	Middle East
VC	Virtual Class
CMS	Content Management System
VS	Video Streaming
AP	Academic Portal
PEU	Perceived Ease of Use
PU	Perceived Usefulness
CA	Content Availability
NEPAD	New Partnership for Africa's Development
CD –ROM	Compact Disk Read- Only Memory
SPSS	Statistical Package for the Social Sciences

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Abstract

The world is experiencing a scientific and technological revolution, which affects all aspects of daily life. To keep pace, new educational systems, such as e-learning, are needed to help students learn whenever and wherever they like. This study investigates the factors for and challenges to the successful implementation of e-learning in secondary public schools from the perspectives of supervisors, principals, teachers, and students. The study sample comprises 12 English, mathematics, and technology supervisors in the directorates of education in the West Bank; 205 principals; 297 English, mathematics, or technology teachers; and 383 students. In order to achieve the study's aims, the researcher employed the mixed methods research approach, using qualitative and quantitative methods to answer the study's questions. Qualitative data was collected by conducting interviews with 12 supervisors from the directorates of education in Nablus, Jenin, Tulkarm, Ramallah and Al- Bereh, Bethlehem, Hebron, and Qabatya. The quantitative data was collected by distributing questionnaires to a random sample of principals, teachers, and students. The results show that the overall degrees of success of e-learning

implementation in public schools in the West Bank from the perspectives of principals, teachers, and students are 4.06, 3.99, and 4.08 out of 5 respectively. The level of response to the themes of the study measured as “high” for principals, students, and teachers. This result does not contradict the results of the interviews with supervisors in terms of the success factors established for implementing e-learning in secondary public schools (which included computer skills, attitudes, infrastructure, interaction between students and teachers, cultural awareness, content design, and administrative support for schools) and the challenges. In addition, the results found that males are more confident in dealing with technology than females due to social restrictions. The results also show that new teachers have positive attitudes toward using e-learning in their teaching due to the change in teaching methods. Furthermore, new teachers depend more on technology, and this has led them to accept the use of technology in their teaching methods. The researcher proposes a managerial framework for policymakers and recommends developing schools’ infrastructure in line with implementing e-learning and providing teachers with appropriate training regarding content design. Finally, the study recommends that the Ministry of Education focuses on new teachers and communicates with private sector institutions in order to get financial and technical support for e-learning implementation infrastructure.

Chapter One

Introduction

1.1 An overview

Education is one of the essential facets that develops nations and constructs civilizations. Education provides humans with the required information in all fields of knowledge and widens their ability to suggest, imagine, and be creative in many areas of life.

According to Harandi (2015), the traditional model of education is composed of a classroom with a teacher giving a lesson and students listening and taking notes. The second millennium has changed many aspects of our lives. The emergence of the technological revolution has impacted on the progress and development of education processes and systems.

E-learning can be defined as a creative approach to education delivery that improves the learner's knowledge, skills, and performance through the use of new multimedia technologies (Bhuasiri et al., 2012; Mbarek & Zaddem, 2013). Some developed countries, such as the UK, France, and Australia, have successfully adopted e-learning. Since the mid-1990s, the UK nations have developed strategies and action plans to employ ICT in education. Similarly, the French government has enacted a policy that aims to increase the use of ICT in primary and secondary education. Finally, the Australian government has taken a leading role in

preparing the most appropriate environment to benefit from what has become known as the information economy (Oye et al., 2011).

Many students worldwide can now access all kinds of courses online without leaving the comfort of their homes. They are given opportunities to learn from competent educators and interact with other students from different locations. However, e-learning is one of the causes of social isolation because students do not see their teachers and classmates face-to-face anymore. Interaction is very limited or nonexistent (Al- Hajaya, 2013).

According to Arkorful and Abaidoo (2015), e-learning is flexible when issues of time and place are taken into consideration. Every student can choose the place and time that suits them. In addition, e-learning provides ease of access to a huge amount of information. Moreover, Sabbah (2020) found that e-learning transformed teacher and student behavior in Palestinian schools, as active learning strategies made teaching more effective and learning more enjoyable.

Concerning the emergence of e-learning in Palestine, according to Shraim and Khlaif (2010), e-learning has grown rapidly across the higher education sector in Palestine as an increasing number of educators and policymakers have recognized the benefits of e-learning since the Palestinian Educational Initiative (PEI) was launched in 2005. However, there were challenges during the implementation of virtual classrooms (VC) in Palestine. According to Issa (2016), the Palestinian Ministry of

Education and the Belgian Development Agency jointly implemented an e-learning project to introduce the use of e-learning to education in order to enhance student-centered learning in public schools.

E-learning has gone through many stages in recent years. Still, research on e-learning in Palestine should continue in order to develop the Palestinian educational system via e-learning. Consequently, this study investigates the factors that greatly influence the implementation of e-learning and explores the challenges facing the implementation of e-learning in secondary schools in the West Bank.

1.2 Problem statement

E-learning has witnessed many global and local developments in the world as it transformed from an idea to an actual reality, playing a vital role in international and regional human resources development. E-learning has been developed in the Arab world increasingly to cope with technological developments. The Palestinian National Authority (PNA) cooperated with the Belgium government to support the development of e-learning in Palestinian primary and secondary schools. The aim was to achieve the Palestinian Ministry of Education and Higher Education's vision, which sought to improve the quality of the educational process and to create an interactive environment between students and teachers inside and outside classrooms (Al-Malah, 2010).

Consequently, it is imperative to investigate the factors that influence the successful implementation of e-learning in public secondary schools from the perspectives of school principals. This study will help decision-makers at the Ministry of Education make future decisions concerning e-learning in public secondary schools in the West Bank. The study is expected to determine the most influential factors on and the challenges to the implementation of e-learning in public schools in the West Bank.

1.3 Study objectives

This study aims to achieve the following goals:

1. Investigate the factors that influence the success of e-learning implementation in public schools in the West Bank.
2. Investigate the challenges that might be faced during e-learning implementation in public schools in the West Bank.
3. Study the influence of various independent variables on the implementation of e-learning in public schools in the West Bank.

1.4 Study questions

This study aims to answer the following questions:

1. What critical factors influence the success of e-learning implementation in public secondary schools in the West Bank?

2. What are the challenges that might be faced during the implementation of e-learning in public schools in the West Bank?
3. What influence do the demographics of the teachers sampled (subject, gender, experience, qualifications, e-learning use, and training sessions) have on the implementation of e-learning in public schools in the West Bank?
4. What influence do the demographics of the principals sampled (specialization, gender, age, experience, qualifications, training sessions, and e-learning environment) have on the implementation of e-learning in public schools in the West Bank?
5. What influence do the demographics of the students sampled (residence, gender, educational branch, grade, computer skills, and internet access) have on the implementation of e-learning in public schools in the West Bank?

1.5 Study scope

This study investigates the factors that influence the implementation of e-learning in public schools in the West Bank. Furthermore, it examines the perceptions of principals, teachers, and students about the success factors and challenges of e-learning implementation in the West Bank. The study is conducted in public secondary schools in the West Bank.

1.6 Thesis motivation

The COVID-19 pandemic and Israeli anti-Palestinian measures (namely, closures and roadblocks), have necessitated that Palestinian students, who travel through checkpoints every day, find alternative ways to access educational material. This motivated the researcher to study the possibility of developing an e-learning system to better serve the educational process, particularly as a number of weaknesses in the implementation of the existing system have emerged. This also motivated the researcher to investigate the factors that influence the success of e-learning implementation in public schools in the West Bank.

1.7 Thesis contributions

The study measures the factors that influence the success of e-learning implementation in public schools in the West Bank. Moreover, the challenges that might be faced during its implementation in public schools in the West Bank are identified according to supervisors, principals, teachers, and students. Finally, this study investigates the influence of the participants' demographic variables on the implementation of e-learning in public schools in the West Bank. A theoretical managerial framework is proposed to help policymakers create policies for e-learning systems in the West Bank.

1.8 The structure of the thesis

This study consists of five chapters. The first chapter introduces an overall overview of e-learning in education and its significance. After that, the researcher defines the problem of the study in order to introduce the goals, questions, and motivation for this study in order to have a clear perception of the study. After defining the previously mentioned sections, it defines the motivation of the study in order to clarify that the reason behind choosing this topic is its significance in light of its contributions to decision-makers. Finally, the scope of the study is highlighted. The second chapter sheds light on e-learning definitions in order to pave the way to discussing e-learning in developing countries, Palestine, and in public secondary schools in the West Bank. After that, it talks about the success factors for and challenges to the successful implementation of e-learning in public secondary schools in the West Bank. The third chapter focuses on the research instruments used in this study, namely, interviews and questionnaires. The fourth chapter consists of the data analysis. Finally, the fifth chapter provides recommendations for decision-makers and future studies.

Chapter Two

Literature Review

The internet and networks, as the cornerstone of modern communication, form the world as we know it nowadays. In other words, access to digital services is typically available anytime and anywhere. Furthermore, the development of ICT paved the way for the emergence of e-learning (Al-Gahtani, 2016).

Since the introduction of e-learning began in 1990, e-learning has become a central component of the instructive process. E-learning is broadly understood as the term for electronic learning but different names have been utilized, such as web-based learning (WBL), web-based instruction (WBI), web-based training (WBT), internet-based training (IBT), distributed learning (DL), advanced distributed learning (ADL), distance learning (DL), online learning (OL), and mobile learning (m-learning) (Taha, 2014).

E-learning is claimed to be today's generation's tool for education and communication, especially after the significant improvement in the features of smart phones and personal computers (Bhuasiri et al., 2012; Malik, 2010; Odunaike et al., 2013).

This chapter will discuss several topics, such as e-learning in developed countries, e-learning in developing countries, e-learning in

Palestinian public schools, and the main challenges facing the implementation of e-learning in public secondary schools.

2.1 E-Learning definitions

E-learning has become a significant trend in the educational application of the latest technologies. E-learning is defined as: a method of teaching and learning that fully or partially signifies the educational model used, based on the use of electronic media and devices as tools for enhancing availability of training, communication, and interaction, and that helps in accepting novel ways of comprehending and establishing learning. (Sangrà et al., 2012, p. 150)

According to Krishnan and Hussin (2017), e-learning uses various forms of technology and media. An important element of e-learning is the use of electronic media, and currently, e-learning is explained as learning through different computational devices, such as computers, mobile phones, tablets, and virtual environments. Therefore, the students of e-learning become involved in educational activities, employing technology as an intermediate tool for learning. They use different devices for this purpose to access data and to communicate with others.

Nevertheless, researchers are yet to agree on the definition of e-learning. According to Tarhini et al. (2016), the delivery of teaching materials through electronic media—for instance intranets, extranets, internet, broadcast, and satellite—is referred to as e-learning. E-learning is

viewed as web-based learning that employs collaboration, web-based communication, training, and knowledge transfer (Al-Busaidi, 2013; Almaiah et al., 2016; Damnjanovic et al., 2015; Pribeanu et al., 2017).

2.2. E-Learning in developed countries

Many developed countries have implemented e-learning. For example, Zormanová (2016) examined distance learning in individual European countries and the Czech Republic. She analyzed and compared the development of distance learning and the supply of study options in the form of distance learning in European countries. The analysis shows an emphasis on lifelong learning and that the development of distance learning has become a priority. Also, Kapasia et al. (2020) stressed that the Indian government is keen to implement certain digital reforms that may be a major catalyst for growth of the e-learning industry. The government has been aiding research and development (R&D) projects financially for different educational institutes in the area of e-learning. The government's financial support covers programs in content development, human resource development projects, R&D/technology development projects, and faculty training.

Teo et al. (2020) highlighted that one of the most significant changes in the field of education in this information age is the paradigm shift from teacher-centered to learner-centered education. Along with this paradigm shift, an understanding of students' e-learning adoption behavior across various countries is urgently needed. South Korea's dense student

population and high educational standards made investment in e-learning a very cost-effective solution.

Kumar Basak et al. (2018) cited American sources that report that there are more than three million enrollments in online courses in the USA. They investigated the role of online studies within the American educational system and tried to find out more about the exact meaning of this extremely high figure. Their research discovered astonishing facts, such as that public schools offer more online courses (82%) than private schools, and 52% of all online courses are offered by two-year colleges for associate degrees (and only 8% for a bachelor's degree). The majority of online courses fulfill the role of "remedial courses" that serve for "credit recovery".

2.3 E-Learning in developing countries

Many developing countries have expressed an interest to implement e-learning (Grönlund & Islam, 2010), but they faced challenges such as limited infrastructure, limited space and number of facilitators among others (Kituyi & Tusubira, 2013)

Concerning the implementation of e-learning at Universities, Akugizibwe and Ahn (2020) explored public perceptions toward online learning application in Indonesia. Many studies about online learning were done in developed countries and only a few in developing countries. Moreover, these studies used a qualitative approach which limits the

results to be applied in different settings. For instance, the Bangladesh Open University (BOU) provides distance education to 300,000 students all over Bangladesh. The major problems include low throughput, lack of interaction between teachers and students, traditional inefficient teaching methods, and underdeveloped use of local learning centers (Grönlund & Islam, 2010).

Bhuasiri et al. (2012) examined different aspects of e-learning in the developing countries including technology-based components, student and teacher satisfaction, the effectiveness of e-learning, participants' interaction in online environments and the student experience. Hamidi et al. (2011) studied the use of e-learning in Iran. Some observations reveal that there is a division between students' opportunity to use ICT. This gap is because the same lessons are offered to all levels without any difference. Furthermore, lack of development of the curriculum hinders the accessibility of e-learning students in Iran. Kuli and Usman (2020) noticed that there is a lack of human resources and skills in the field of technology in developing countries. Consequently, there is an increasing need to implement e-learning to increase students' numbers by following learner's centered constructive model especially in schools.

The use of the internet in the Middle East has been a late follower when it comes to the adoption of e-learning. This can be greatly attributed to the delay in the adoption of the Internet as a whole by most governments of the region. The Israeli occupation enjoys the highest rate of Internet

users in the Middle Eastern (ME) country with around 73%, followed by the UAE with almost 61%, Bahrain with 55%, Qatar with 52%, Iran with 48.5%, Kuwait with around 37%, and Saudi Arabia with around 27%. Lebanon and Jordan have Internet penetrations of just less than 24%, while the remaining ME countries have internet penetrations of less than 20% (Mirza & Al-Abdulkareem, 2011).

2.4 E-Learning in Palestine

Rapid technological and economic developments require students to upgrade their knowledge and critical thinking skills in order to adapt to global change (Abuzyarova et al., 2019). Shraim and Khlaif (2010) studied one of the aspects of this global change, which is the emergence of e-learning and virtual classrooms (VC) in Palestine. Its implementation faced a number of challenges, such as the digital gap, difficult access to the internet, and a lack of IT skills.

Alzaza (2012) studied the use of mobile learning in Palestinian higher education institutions and found that experience with mobile learning was successful anywhere, regardless of time. M-learning enables students to accomplish their education anywhere and anytime. Generally speaking, 85.2% of the respondents were eager for their university to provide them with m-learning services. Furthermore, about 50.3% of the participants revealed that their university provided a wireless network on campus.

Naser et al. (2014) studied the use of social media in higher education and found that many of the features of social networks have already been implemented, but the question was how to adapt social networks for e-learning. To begin with, Palestinian students created a closed group for the Information Technology College, which is used to post advertisements or topics for discussion. The second use is for communicating with each other anytime. Finally, teachers upload course materials in the form of various files, such as PowerPoints, videos, and word documents, for the students to access, as well as support materials for any topics.

Osaily (2013) tackled the use of e-learning at Al-Quds Open University (QOU). The study mentioned that QOU had nearly 67,000 students, who attend classes face-to-face and virtually via the internet. Consequently, e-learning is the cornerstone of QOU's development strategy. Communicating with those students via an e-learning system would be of great benefit to both the students and the university. In addition, Sabbah (2010) explored the implementation of e-learning at QOU that started in the academic year 2008–2009. QOU applied multiple models, such as Elluminate Live! virtual classrooms (VC), learning management systems (LMS), content management systems (CMS), video streaming (VS), and QOU's web-based academic portal (AP).

2.5 E-Learning in secondary schools

The rapid pace of technology has placed greater demand on education systems. Therefore, it was crucial to implement e-learning at schools especially in Palestine. For public schools, Palestine is still in the process of planning for e-learning. For example, the Palestinian Educational Initiative (PEI) was launched in 2005 to assist the Palestinian people to fulfill their commitment towards integrating ICT in the educational system (PEI, 2006). Then, the issue of the readiness of the Palestinian schools to use e-learning was the target by many scholars.

For example, Issa (2016) stressed the world's increasing interest in e-learning and measured the e-readiness of the teachers of the Public governmental schools in 11 directorates in the West Bank. He measured e-readiness according to Perceived Ease of Use (PEU), Perceived Usefulness (PU) and Content Availability (CA). He found that the overall readiness of the Palestinian public schools was at high level.

On the other hand, Affouneh and Raba (2017) studied the adoption of An-Najah National University of e-learning and used Tony Bates' model of planning for e-learning, which includes encouragement, planning and sustainability. Ayere et al. (2010) studied the implementation of e-learning in the Kenyan Secondary Schools. They found out that e-learning results are far better in teaching and learning outcomes in the Kenyan Secondary School. In fact, the results indicated that the use of ICT in teaching other subjects in New Partnership for Africa's Development

(NEPAD) schools was significantly more frequent than non-NEPAD schools because of the availability of the Internet and other ICT equipment material such as LCD, projectors, smart boards and e-libraries.

Cheok et al. (2017) studied the case of the Malaysian teachers who are constantly challenged with many new technologies that are believed to enable them to perform their job better. As schools are becoming increasingly disconnected from society, teachers withdrawing into their old familiar landscapes of teaching and learning can no longer be accepted. Being the implementers in the classrooms, their perceptions of any innovation are important if the innovation is to be implemented. Measures to improve the present condition in order to sustain and increase e-learning uptake can only be enforced if we know the situations and conditions teachers encounter.

Redempta et al. (2012) examined the E-readiness implication on the adoption of e-learning in secondary schools in Kenya. They provided an opportunity for reflection on e-learning adoption and the potential role ICT can play in education. The review had established that up to date, less than 10% of secondary schools in Kenya offer computer studies as a subject in the curriculum despite its perceived potential. The few schools that had an ICT programme limit the number of candidates who take up the subject considering it a specialty irrespective of its being an essential subject as other compulsory subjects like Mathematics and Languages. Whereas the processing of information to build knowledge is one of the

essential literacy skills vital for the workforce in the 21st century, it is often overlooked in current educational practices. The question of e-readiness of Kenyan schools cannot be overlooked if Kenya plans to use education as a platform for becoming an e-society of the 21st century as envisaged in Vision 2030.

Ouma et al. (2013) dealt with a number of issues important for the success of e-learning initiatives in public secondary schools in Kenya. They concluded that the degree of readiness of teachers, principals and students is moderate that they need to learn about e-learning. Furthermore, in order to achieve an effective implementation of e-learning in public secondary schools, the government should develop comprehensive framework for e-learning adoption in schools.

Mathevula and Uwizeyimana (2014) discussed the use of ICT in secondary schools in South Africa. They found that most of the teachers cannot access the Internet or even rarely use it in school's environment due to the lack of useful equipment's and the lack of technological skills. Thus, the competencies of the teachers were divided into five aspects such as productivity, research, communication, presentation, and media. Almanthari et al. (2020) examined the views of secondary school mathematics teachers on E-learning implementation barriers during the COVID-19 pandemic at four barrier levels, namely teacher, school, curriculum and student. Furthermore, it assesses the relationship between barrier levels with teachers' demographic background. Data was collected

through an online questionnaire, involving 159 participants from lower and upper secondary schools in Indonesia. The findings of this study suggest that student level barrier had the highest impact on e-learning use. In addition, the student level barrier showed strong positive correlation with the school level barrier and curriculum level barrier. The study showed that teachers' backgrounds had no impact on the level of barriers.

2.6 E-Learning success factors

Although it may increase learning opportunities, students express negative attitudes toward e-learning and suffer from some shortcomings, such as lack of involvement, motivation, human interaction, and emotional problems. Consequently, it is imperative to study the factors that lead to the successful implementation of e-learning and also the challenges (Sabbah, 2020).

Al-Nefaie (2015) highlighted that educational institutions around the world and particularly institutions in developed countries offer web-based courses using complex learning management systems (LMS), such as WebCT. He focused on three main factors, namely, learners' interactions with each other, learners' ability to use the web, their capability with the LMS, the provision of materials by course leaders, their technical competence, student–instructor interactions, and learners' attitudes toward the use of the LMS, such as Moodle, Canvas, and Google Classroom. Moreover, Sabbah (2010) explored the factors that influence students' e-learning adoption. He focused on two main factors: awareness and

perception. Neyland (2011) studied the factors influencing the level of successful integration of e-learning in Australian schools. He examined a number of factors, including perceptions and attitudes, capabilities and understanding, equipment, training, technical support, time, institutional support, and local partnerships.

Taha (2014) examined teachers' and students' perceptions of critical factors in secondary schools in Bahrain. The study results reveal that there are four sets of factors that influence the success of e-learning in school education. These are students' characteristics (computers skills, motivation, and attitudes), teachers' characteristics (attitudes, control of technology, and pedagogy and teaching style), technology (quality of technology and effectiveness of infrastructure), and design and content (perceived ease of use and quality of content).

Antwi-Boampong (2020) stressed that the use of blended learning in teaching and learning can improve the quality of education. In this regard, the acceptance of blended learning is considered critical in determining the success of the technology implementation. However, the studies examining the acceptance of blended learning have largely focused on students' perceptions of blended learning. Few studies have considered teachers' perceptions as an important element in blended learning, especially in higher education institutions. It is questionable whether the technology acceptance models that previously have been developed can be used to examine the acceptance of blended learning by teachers in the education

sector. Bhuasiri et al. (2012) tackled learners' perceptions of the efficiency and effects of adopting e-learning in developing countries. Priatna et al. (2020) analyzed the key success factors (KSFs) of e-learning implementation so that e-learning can work well and provide maximum benefits for the learning activities process in higher education. The method used in this research investigates the determinant factors based on the results of literature studies and survey techniques.

Al Kurdi et al. (2020) sought to determine what factors influence students' acceptance of e-learning and how these factors determine students' intentions to employ e-learning. A theoretical framework was developed based on the technology acceptance model (TAM). To obtain information from the 270 university students who utilized the e-learning system, a questionnaire was formulated. The results revealed that "social influence, perceived enjoyment, self-efficacy, perceived usefulness, and perceived ease of use" are the strongest and most important predictors of students using e-learning systems.

Kisanjara (2020) contributed to the understanding of the new factors, such as social, pedagogical, and environmental factor, which were inadequately addressed in the existing similar e-learning implementation models. Furthermore, all factors were collectively used to develop a model for improving e-learning implementation in Tanzanian universities and other countries with similar characteristics.

2.7 E-learning challenges in Palestine

The evolution of e-learning as a tool of communication and information offers great advantages for the educational process, especially for students and teachers. Yet, successful implementation of e-learning requires an understanding of the issues that promote the effective use of the technologies (Al-Harbi, 2011). According to Muresan and Gogu (2013), the main challenges to e-learning implementation are a lack of ICT infrastructure, a lack of digital skills, and a lack of cultural awareness.

However, Al-Harbi (2011) noted other challenges to the implementation of e-learning, such as a lack of flexibility and training. In addition, students' acceptance of the use of e-learning depends on the flexibility of the e-learning, ease of access to the courses, and sufficient training to use it easily.

Mirza and Al-Abdulkareem (2011) explored the reasons behind the passive attitude of the Middle East in response to e-learning. One of the main reasons for this attitude is the very low rate of internet usage among the general public due to the high initial costs associated with internet access, low speed and quality internet connections, and the fear that an internet connection will bring immoral values and corruption to the family.

Oye et al. (2011) studied the challenges of implementing e-learning in Nigerian universities. They found that the main challenges were internet connectivity, energy-related problems, and limited expertise. Moreover, e-

learning requires technical and academic confidence, social support and motivation, technical skill and competency, and a stable technical infrastructure (Alkharang & Ghinea, 2013; Kwofie & Henten, 2011). Shraim and Khlaif (2010) classified the challenges according to the characteristics of the individual, student, or the teacher as either technological challenges; contextual challenges; or organizational, cultural, and societal challenges.

Additionally, Naresh and Reddy (2015) discussed the challenges of implementing e-learning in developed countries, including the existence of a gap between technology and teachers' pedagogy, the increasing student dropout rate, and the possibility of replacing teachers with e-learning.

2.8 Comments on the previous studies

Through exploring the aforementioned studies, the researcher found that there very few studies related to investigating the success factors and challenges of e-learning implementation in public secondary schools in the West Bank (Issa, 2016). Shraim and Khlaif (2010) studied the implementation of e-learning in secondary schools from the perspectives of students. They found that students had positive attitudes toward using virtual classrooms, but this did not mean that e-learning should replace traditional learning: rather, virtual classrooms should supplement the existing educational process. Taha (2014) examined the factors for successful e-learning implementation in secondary schools in Bahrain from the perspectives of students and teachers, focusing on four factors:

students' and teachers' characteristics, infrastructure readiness, and content design. Issa (2016) tackled the assessment of the level of readiness of public schools in the West Bank, focusing on the technical readiness. Furthermore, he studied schools' readiness according to teachers' perspectives only. However, this study investigated the success factors of e-learning implementation in public schools in the West Bank and its challenges from the perspectives of supervisors, principals, teachers, and students. This chapter reviewed the previous studies about e-learning implementation, describing how developing and developed countries implemented e-learning systems. Furthermore, it talked about the e-learning background in Palestinian public schools and concluded with the main challenges facing e-learning implementation.

Chapter Three

Research Methodology

This chapter discusses the methodology used to determine what factors influence the success of e-learning implementation in public secondary schools and also what challenges might be faced during its implementation. Therefore, this chapter firstly reviews different research approaches and strategies and then justifies the use of the most appropriate ones.

3.1 Methodology design

The current study relied on the mixed research methods design with a descriptive approach, which is considered appropriate for such a study as it describes the phenomenon being studied as it is and, through the description, attempts to explain it. This study used a cross-sectional design, based on questionnaires. The study design involved observation of a representative sample. It employed descriptive and inferential design. The primary goal was to try to provide as comprehensive a description as possible, whereas the cross-sectional design focused on individuals at fixed events during life. The research also follows a qualitative methodology that is used to uncover trends in thought and opinions and dive deeper into the problem. Qualitative data collection methods vary, using unstructured or semi-structured techniques. The study adopted a semi-structured interview design.

3.2 Study population

The study population consists of 1,314 teachers, 438 principals and 52,007 students. The Palestinian Ministry of Education was contacted to receive the names and mobile numbers of the principals of the chosen schools. Based on the data provided the targeted population counted 53,759 students, teachers, and principals, as shown in table one.

Table (2): The population of the study

No.	Category	Population
1	Teachers	1314
2	Students	52007
3	Principals	438
Total		53759

3.3 Sampling procedure

A stratified random sample representing the study population was chosen. Accordingly, the sample consisted of 297 teachers, 205 principals, and 383 students at schools in the academic year 2018–2019. About 885 questionnaires were distributed to the sample selected by the simple random sampling method. However, the total number of useable returned responses were only 764, constituted of 189 principals, 322 students, and 253 teachers. The response percentage was 85% of the teachers, 92% of the principals, and 84% of the students, as shown in table two.

Table (3): The distribution of responses of the sample

No.	Category	Questionnaires Distributed	Questionnaires retrieved and used for analysis	Responses %
1	Teachers	297	253	85%
2	Students	383	322	84%
3	Principals	205	189	92%
Total		885	764	86%

3.4 Data collection methods

Data collection is the process of gathering the acquired data to be used in the analysis in order to answer the required research questions. In this study, two main instruments were used, namely, questionnaires and interviews. To achieve the objectives of the study, the researcher used three questionnaires (one for each target group) adapted from the previous literature.

3.4.1 Interviews

Interviews were used as a tool to collect data from public schools. The interviews consisted of ten questions, and the researcher conducted the interviews face-to-face with the supervisors. The interviews were recorded, and transcribed. Each participant was interviewed more than once because the questions were amended. The codebook for recording the interview data is illustrated Appendix D.

The researcher conducted semi-structured personal interviews with the supervisors of English, technology, and mathematics in seven directorates. The final draft of the questions of the interviews consisted of ten questions agreed upon after conducting the first interview to serve the goal and questions of the study. After introducing the main subject of the thesis and the aim of the interview, the interviews were recorded. Supervisors were selected because they visit most of the randomly selected schools, so they were expected to have their own contribution to the investigation of e-learning success factors in public secondary schools.

3.4.2 Questionnaires

The questionnaire used in this study comprised two parts. The first part included personal information, such as gender, specialization, age, years of experience, and permanent address. The second part included 48 items on the principals' questionnaire, 46 items on the teachers' questionnaire, and 41 items on the students' questionnaire. The principals' and teachers' questionnaires included eight themes, while the students' questionnaire included seven. The scores of responses for each theme were calculated according to a five-point Likert scale, in which strongly agree scored five points, agree scored four points, neutral scored three points, disagree scored two points, and strongly disagree scored one point. Tables A.2, A.3, and A.4 represent the distribution of teachers, students, and principals' sample according to the study's independent variables (see appendix A).

The final draft of the questionnaires (See Appendix B) focuses on the success factors of implementing e-learning in the public schools in the West Bank which consisted of nine inspected success factors:

1. Computer skills: (5 items)
2. Attitudes: (7 items)
3. Infrastructure (5 items)
4. Interaction between students and teachers (5 items)

5. Cultural awareness (5 items)
6. Training (5 items)
7. Content design (5 items)
8. Administrative support (6 items)
9. Challenges (9 items)

3.5 Validity and reliability

Validity and reliability are two factors that any qualitative researcher should focus on while designing data collection, analyzing results, and judging the quality of their research (Patton, 2002).

3.5.1 Validity

To ensure the validity of the questionnaires, they were rated by a jury of experts in the fields of education and engineering at An-Najah National University. The respondents' comments and the jury's suggestions were taken into consideration to modify and improve the questionnaire's content and wordings by omitting, adding, or rephrasing themes and items bringing the number of items to 41 for each questionnaire. In doing so, the questionnaires were validated, and the final draft of the questionnaires took shape.

3.5.1.1 Validity of the interviews

Ensuring the validity of the semi-structured interview data collection is critical. To create an effective interview, the researcher used a number of steps adopted from McCracken's (1998) and Sabbah (2020), as follows:

- A. Each interview transcript should be reviewed twice to fully understand the content and identify patterns.
- B. Participants in the interview were randomly chosen from the statistical department in the Palestinian Directorate of Education. The participants were distributed among educational supervisors, and specialists in English, technology, and mathematics.
- C. A preliminary coding scheme was employed to develop pattern codes. In addition, shared topics and patterns were identified. The questions of the interviews should be discussed with potential interviewees in terms of the vocabularies used, and relevance and importance of the questions.
- D. Common themes and patterns were classified in tables using Microsoft excel. The data were cleaned and notes were documented.
- E. Questions were modified based on participants' feedback and the gaps between the questions and responses. The coding was examined to confirm correct coding and remove inconsistent codes.

3.5.2 Reliability

Boateng et al. (2018) defined reliability as “the extent to which the scores from a measure represent the variable they are intended to”. When a measure has good test–retest reliability and internal consistency, researchers can be more confident that the scores represent what they are supposed to.

The reliability of the questionnaire was calculated through Cronbach’s alpha. The following table illustrates the results.

Table (4): Cronbach alpha test for the study instruments

Study tool	Items	Cronbach alpha
Teachers’ questionnaire	41	0.930
Principals’ questionnaire	40	0.941
Students’ questionnaire	41	0.927

The results in table three illustrate that Cronbach’s alpha coefficients were 0.930 for the teachers’ questionnaire, 0.941 for the principals’ questionnaire, and 0.927 for the students’ questionnaire. These values are excellent and acceptable for the purpose of the study. In order to evaluate the results of Cronbach’s alpha, the following scale was used, as demonstrated in table four.

Table (5): Cronbach alpha internal consistency

Cronbach alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.7 \leq \alpha < 0.9$	Good
$0.6 \leq \alpha < 0.7$	Acceptable

Source: (Tavakol & Dennick, 2011).

3.5.2.1 Reliability of the interviews

With the intention of attaining interviews instrument reliability, the researcher adheres to Hruschka et al. (2004) in four phases:

- A. The researcher segments the text before coding. This meaningful units of text represent responses to individual questions.
- B. The researcher developed a draft codebook using MS Excel and assessed the responses in order to propose a group of related themes and sub-themes.
- C. The researcher started an iterative process of coding, codebook modification, and recoding. The researcher considers all responses in the interview to capture appropriate variation. If there is inconsistency in the coding occurs, the coding process is repeated.
- D. The researcher classified and coded the entire interviews according to the final codebook revision. Finally, the reliability for each code should be assessed.

3.6 Procedure for collecting data

To begin with, the final versions of the questionnaires were distributed using Qabatya directorate's mail system and personally handed to the responsible department for distribution in schools in Nablus, Jenin, Tulkarm, Ramallah & Al Bereh, Bethlehem, Hebron and Qabatya directorates. It took about five weeks for the questionnaires to be distributed, collected, and returned. After preparing the questionnaires in

their final draft, the interview questions were developed. Then, the researcher got the details of the supervisors to be interviewed: 12 supervisors, specializing in English, technology, and mathematics. After that, the researcher coordinated with the supervisors to book appointments for the interviews. After making appointments, the researcher interviewed the chosen supervisors, and their interviews were transcribed and analyzed in order to conclude the results.

3.7 The quantitative study's variables

This quantitative study examined seven independent variables for principals and teachers and five for students because some variables, such as “years of experience,” are not applicable to students. Each group's variables are detailed below.

3.7.1 Teachers' variables

- a. Courses taught (three categories: mathematics, English, and technology).
- b. Gender (two categories: male and female).
- c. Age (four categories: 20–30, 31–40, 41–50, and 51–60).
- d. Years of experience (four categories: less than 5, 6–10, 11–20, and more than 20).
- e. Qualifications (four categories: PhD, MA, BA, and diploma).
- f. Training courses (two categories: yes and no).

- g. Using the e-learning environment (two categories: yes and no).

3.7.2 Principals' variables

- a. Specialization (two categories: humanities and science).
- b. Gender (two categories: male and female).
- c. Age (four categories: 25–30, 31–40, 41–50, and 51–60).
- d. Years of experience (four categories: less than 5, 6–10, 11–20, and more than 20).
- e. Qualifications (four categories: PhD, MA, BA, and diploma).
- f. Training course (two categories: yes and no).
- g. Using the e-learning environment (two categories: yes and no).

3.7.3 Students' variables

- a. Place of residence (three categories: city, village, and camp).
- b. Gender (two categories: male and female).
- c. Branch (five categories: science, humanities, trade, industrial, and technology).
- d. Having computer skills (two categories: yes and no).
- e. Internet service availability (two categories: yes and no).

3.8. Statistical procedures

The collected data were analyzed using SPSS to provide answers to the research questions. The researcher used the following statistical tests:

1. Means, frequencies, standard deviations, and percentages in order to estimate the relative percentage of every theme.
2. T-tests for independent variables to test the assumptions related to gender, computer skills, internet availability, using the e-learning environment, specialization, and training.
3. One-way analysis of variance (ANOVA) to test the variables of age, experience, qualification, and place of residence.
4. Post hoc tests indicate the difference in the assumptions rejected by one-way ANOVA.
5. Cronbach's alpha was used to test the consistency of the themes in the questionnaires.

Interviews were voice-recorded, written down on paper, and then entered onto the computer. The researcher determined the similarities and differences in the interviewees' responses.

Then, these differences and similarities were organized in a table according to theme. Thematic analysis is a method of analyzing qualitative data (Braun & Clarke, 2006). It is usually applied to a set of texts, such as interview transcripts. The researcher closely examines the data to identify

common themes—topics, ideas, and patterns of meaning that come up repeatedly. The researcher followed the following procedures:

Familiarization: The first step was to get to know the data. It was important to get a thorough overview of all the data we collected before we started analyzing individual items. This involved transcribing data, reading through the text, making initial notes, and generally looking through the data to get familiar with it.

Coding: The researcher coded the data. Coding means highlighting sections of the text—usually phrases or sentences—and coming up with shorthand labels or “codes” to describe their content (see appendix D).

Generating themes: The researcher looked over the codes that were created, identified patterns among them, and started coming up with themes.

Reviewing themes: The researcher made sure that the themes were useful and accurate representations of the data. Here, the researcher returned to the dataset and compare the themes against it.

3.9 Ethical considerations

This study adheres the ethical standards of human studies, especially regarding maintaining the confidentiality of the respondents who provided the required data. The data were used for research purposes, keeping in mind to protect the participants’ and interviewees’ identities.

This chapter explored the main research methods used in this study, namely, questionnaires and interviews. Also, it highlighted the study's sample. The validity and reliability of the questionnaires were presented in order to highlight the main variables in this study. Finally, this chapter talked about the statistical procedure used to analyze the questionnaires, which was SPSS, while the interviews were analyzed using thematic coding.

Chapter Four

Data Analysis and Results

This chapter presents the results of the structured interviews and the survey. The first portion of this chapter analyzes the findings from the interviews, and the second portion addresses the information gathered from the surveys.

As indicated in the previous chapter on methodology, SPSS was used to analyze the data from the surveys using one-way ANOVA tests and independent sample t-tests. The researcher relied on post hoc tests to shed light on significant differences resulting from a particular independent variable. Thematic analysis was used to analyze the data collected from interviews.

4.1 Interviews analysis

The study used semi-structured interviews, which were voice-recorded and conducted in locations that were convenient for the participants, most commonly their home or workplace. The researcher transcribed the interviews. The researcher summarized the participants' demographic information (see appendix C).

The researcher employed selective coding to retrieve all the codes and to group the codes of similar phenomenon, idea, explanation, or activity in one category. Accordingly, the researcher created the following six major categories as shown in the Table 5.

Table (6): The summary of the themes and codes of the study

Themes		Codes
1	Availability of adequate infrastructure for e-learning.	Resources and tools, Electronic educational resources, computerized tools, the local community and the MOE support, number of computers is not enough, Internet speed and power out.
2	Availability of qualified academic personnel.	Sufficient skills, training courses on content design, well-trained teachers, technological skills, ability to design educational content, trained teachers are ready to use e-learning, training teachers on new apps., readiness of the teacher due to their conviction.
3	Availability of educational content and curricula capable of supporting the idea of e-learning.	Interactive curriculum, huge educational content, curricula are available at all times, content design courses, training courses on content design, curriculum changes
4	Availability of the interactive dynamic relationship between the elements of the educational process.	Interactive lessons, reprogramming the educational unit, interactive learning environment, interaction among students and teachers, Students' teachers' interaction, Interact well with e-sources, discussion groups and new teachers interact better than the old ones.
5	The importance of the availability of necessary, supportive, and up-to-date resources for e-learning.	Fun way, exerting less effort and time, creating motivation in students, communication and interaction, fun and interesting, students' motivation, academic achievements, attracting their attention, social media, supporting programs or applications.
6	Availability of modern teaching methods that support e-learning.	Modern technology, content design programs, availability of modern devices , teaching style, teachers break the routine, getting away from traditional learning style, Interact well with e-sources, motivates them through using audio-visual electronic teaching.

1- Availability of adequate infrastructure for e-learning

The interviewees agreed on the importance of an **adequate infrastructure for e-learning** in order to support the idea of e-learning. Nowadays, setting up e-learning in schools has become a big challenge; An interviewee, S. Z., stated *“Most schools lack good infrastructure which enhance using e-learning that most of the computer devices are old and the internet speed is slow at schools”*.

The Ministry of Education provides the necessary infrastructure containing the basic elements necessary for successful e-learning. The main problem indicated by the interviewees is the availability of modern computers, as most schools suffer from having old computers. Schools also require laboratories that contain the equipment, devices, and applications necessary for successful e-learning implementation; this is confirmed by M.M who said *“... challenges include internet speed, infrastructure...”*

Also, this environment should have fast internet connections, capable of downloading and retrieving data, and also not be affected in the event of a power outage. This is assured by N. A. who said *“E-learning saves effort and time as it enables learners, if the necessary infrastructure is available”*. Therefore, in order to set up a school for good e-learning experiences from scratch, the basic elements of hardware, software, and support team need to be considered.

2- Availability of qualified academic personnel

The participants in the interviews agreed that the availability of trained and qualified personnel which is weak in schools, is the key to the success of the e-learning experience, as the most important element of training lies in improving attitudes toward the idea of e-learning as interviewee, S. A., stated *“Lack of electronic environment in all schools except for the ones which have special programs and training teachers on new applications which are not available at schools.”* The participants in the interviews agreed that new teachers have a positive attitude toward e-learning unlike teachers who have a long experience in traditional education. The interviewees agreed that training on modern technologies and technologies for e-learning should be continuous through regular courses for teachers.

As with the development of technology, educational methods differed, as well as many other processes. As communication between teachers and students occur mostly online, F.J. confirmed *“There are many available tools, but teachers don’t have the sufficient skills. Sometimes, there aren’t the available tools, but teachers have the right skills.”* The researcher found that e-learning is understood to have two main formats: a synchronous format in which a group of students and a teacher conduct an online meeting, and an asynchronous format, wherein individuals achieve self-training in computer environments. Students can access course contents whenever they want and communicate with peers or teachers via

communication tools, such as email and forums. For a distance e-learning system to be successful, the program must be planned as both synchronous and asynchronous, this is evident as stated by N. A., “*the curriculum changes and this requires new courses on content design*”. Therefore, when educational staff is confident in this medium, they automatically adapt to the lack of visual cues that can lead to difficulty communicating for the least skilled. Educational staff controls language, tone, and style to ensure that learners hear them loud and clear. Therefore, educational staff must be trained quickly to be clear and targeted in their communication.

3- Availability of educational content and curricula capable of supporting the idea of e-learning

Most of the interviewees agreed that the traditional curriculum does not support e-learning. They agreed that the curriculum provided by the Ministry of Education should support the ideas upon which e-learning is based and include a full explanation of the applications that the teacher and student should use, as well as the appropriate method for transferring knowledge to the student in the e-learning environment. This result is a repeated topic in interviews, for example, as one participant, R.F., stated “*Teachers should be trained on content design and PowerPoint*” The participants of the interviews also wanted the curriculum to contain appropriate and fair evaluation methods and the interviewees indicated that the educational content must be effective, able to attract the student, and improve their motivation toward education, as well as improve the

interactive relationship between the teacher and the student, this is reflected by, S. Z., who stated *“Using technology is different from employing it that employing it is designing interactive lessons in the content while using it is using tools.”*

The participants in the interview indicated that the reality of the situation reveals teachers' weakness in creating their own electronic educational content. They confessed that they copy designs for educational content from other teachers, which might not be suitable for their classes.

The researcher thinks that the design and development of the e-learning cycle is a huge task that needs to be carefully planned and managed while following all the formal practices that are part of the e-learning management cycle. Effective learning depends on well-designed content delivered to the right student at the right time; this is confirmed by some interview participants such as, M.A.H. who observed that *“Teachers who attended content design courses can design their own content, while the ones who did not use others' designs.”* While technology can simplify how content is created, packaged, shared, and measured, it is not a substitute for effective e-learning development.

4- Availability of the interactive dynamic relationship between the elements of the educational process

The participants in the interviews agreed that, on the one hand, e-learning may contribute to improving the interactive relationship between

the student and the educational material as the electronic medium is more attractive to students and is within their reach in any time or place, as one of those interviewed, S. A., said *“Lack of electronic environment in all schools except for the ones which have special programs and training teachers on new applications which are not available at schools.”* Thus, it can improve students’ motivation toward learning and improve their performance and educational attainment; as one of the interviewees, Z. S., confirmed, *“Sometimes the interaction is good if the teacher and students are motivated.”*

On the other hand, parents’ support for the idea of e-learning is essential. It is based on continuous interaction, and it also gives all students the opportunity to participate. Shy students can participate in class discussions between students and the teacher. The participants in the interviews also agreed that the school principal, in their role as a school leader, must make efforts to support teachers and also provide everything they need to perform their work.

The researcher highlights the importance of interaction between educational staff and students when redesigning e-learning education management. This result is confirmed by some interview participants such as the interviewee, N.A., observed *“The interaction among students and teachers is high due to creating Facebook groups and discussion groups. It attracts students’ attention due to using educational videos and hi-tech devices, which increase students’ motivation toward learning.”*

There are different types of interaction in online learning, and it begins with communication between management and teachers, and teachers and students. The key to achieving this is for staff to develop their social presence as one of the interviewees, M. M., said “*Encouraging students to use their mobiles in producing videos to link the information with their real life to be projected inside the classroom as part of the Qualitative Assessment.*” This means that they display themselves—and their teaching methods and knowledge—through the online platform.

Some of the participants interviewed indicated the importance of community support and its approval of the concept of e-learning. The importance of community cannot be overstated. Whether a community is a large, regionally united tribe or a small group for online learning, we know that success, participation, satisfaction, and growth all heavily depend on the support and sense of identity that comes from the community. Community support is important and could be a challenge to e-learning process.

5- The importance of the availability of necessary, supportive, and up-to-date resources for e-learning

The participants in the interviews agreed that the resources for e-learning should be available and also homogeneous. Among the most prominent of the sources mentioned by the interviewers are those related to the use of social media, such as Facebook and WhatsApp, as well as other examples, such as Microsoft Teams and Zoom. As one participant, N.A.

stated “*teachers should be trained on new apps every time*” The participants indicated the availability of other applications that are greatly important, such as PowerPoint and Movie Maker.

The researcher believes that the novelty of the e-learning experience has led to a kind of confusion and instability in the specific applications that the Palestinian Ministry of Education considers the official tools to use. Hence the availability of the tools and equipment necessary to meet the requirements of e-learning in schools must be reviewed. That is why we should be aware of the tools that can help, conduct, manage, and organize e-learning courses. This is found in one participant, N. A., who expressed this topic in saying “*The inability to implement it on the whole curriculum.*” While the world of online education is exciting because it can reach individual students, the tools available to educators are changing rapidly. As a result, it is important to consider technologies that have already been implemented with educational success through specific online learning tools; since the interviewee, N. A., stressed the “*to access educational resources, in their print, audio and visual formats, with the press of a finger.*” The researcher affirms the importance of resource management in activating administrative processes in e-learning. Resource management is the process by which the Palestinian Ministry of Education and its affiliated directorates reach schools effectively. These resources can be intangible (such as qualified personnel) and tangible (such as equipment, materials, and money). It requires planning so that the right resources are allocated to the right tasks as the interviewee Z. S.

highlighted the importance of tools and materials by saying “*E-learning is one of the types of learning by using the computerized tools and materials synchronically and non- synchronically*” Some of the interviewees mentioned the importance of reforming the curriculum to match the redesign of e-learning processes. When school principals and teachers embark on a project to embrace e-learning for the first time, the immediate temptation is to wipe everything and put it on the internet. While pure digitization may be a fast way to deliver online learning to students and educators, it is not always the best way to engage students and teachers. E-learning provides an opportunity to go beyond the limits of current teaching approaches.

6- Availability of modern teaching methods that support e-learning

Most of the study participants agreed about the importance of reconsidering traditional teaching methods, and relying more on the strength of e-learning, as the latter has the benefits of student empowerment, flexibility, accommodation, personalization, cooperation, and creativity; this is evident by the interviewee: M. M., who stated “*teacher’s use of modern technology such as Laptops, smart board and all its applications in order to develop teaching methods.*” Students are empowered through online learning in a number of ways. They are free to access the materials whenever and wherever they want; using a system they feel comfortable with. This flexibility allows students to learn in a way where they can succeed; as one of those interviewed, S.A., said

“Students and teachers interact more using e-learning methods than traditional methods because technology offers methods that are easier to use. Teachers can reach more people via e-learning than traditional methods.” They are empowered to make choices about how to explore the content, which is appropriate for different learning styles. One of those interviewed (S. Z.) disclosed, *“From the point of view of most of the supervisors, most school teachers don’t have the required skills to design electronic content due to the lack of experience, so they need training courses specialized in this field in order to be able to offer what is appropriate for their students.”* For example, a student can watch a video lecture if they prefer visual learning or listen to the same lecture while driving or playing sports if they prefer audio, or even read a text if textual learning is their preference.

4.2 Survey analysis

This study aims at investigating the success factors of e-learning in the public secondary schools in the West Bank according to teachers', principals' and students' perspectives. It also aims at identifying the effect of demographic variables of teachers, principals and students on their perceptions.

In order to answer the research questions, the means and the standard deviations of the success factors were calculated. The researcher approved the following scale to estimate the level of e-learning implementation:

Estimation Level = (highest value-lowest value) / (5) = $5-1/5=0.8$

4.2 - 5: Very High	3.41 – 4.20: High	2.61–3.40: Moderate
1.81- 2.60: Low	less than 1.81: Very Low	

Furthermore, the results were as follows:

4.2.1 The success factors and challenges

To measure the teachers' perceptions about the successful factors of implementing e-learning system, means and standard deviations and estimation levels are calculated as shown in the Table six.

Table (7): Overall teachers' perceptions of the success of e-learning

No.	Factor	Means	Standard deviations	Estimation level
1	Computer skills	4.31	0.55	Very High
2	Attitudes	4.07	0.61	High
3	Infrastructure	3.59	0.82	High
4	Interaction between students & teachers	4.10	0.59	High
5	Content design	4.01	0.57	High
6	Cultural awareness	3.88	0.72	High
7	Training	3.90	0.77	High
8	Challenges	3.90	0.77	High
Total degree		3.99	0.41	High

Table six illustrates that the total degree of teachers' responses on the Success of E-learning in the public secondary schools in the West Bank was 3.99, which suggests a high level of perception. The highest mean was given to the “Computer Skills” factor which scored 4.31. On the other hand, the lowest mean was given to the “infrastructure” factor which scored 3.59.

Table (8): Teachers' perception levels for each item of success factors

Computer Skills				
No.	Item	Means	Standard Deviations	Estimation Level
1	Possessing technical skills affects principals' use of e-learning system.	4.34	0.72	Very High
2	Using e-learning system contributes in looking up information.	4.38	0.74	Very High
3	Using computers as an educational method inside classrooms enhances the quality of e-learning.	4.32	0.71	Very High
4	Using computers can contribute in communicating with the other elements of the educational process.	4.25	0.74	Very High
5	E-learning contributes in completing work easily	4.27	0.75	Very High
Attitudes				
No.	Item	Means	Standard Deviations	Estimation Level
1	I see that using e-learning in the educational process motivates students to learn.	4.10	0.78	High
2	I find that e-learning system helps me organize my time.	3.99	0.93	High
3	I see that e-learning supports students positively towards self-learning.	4.01	0.84	High
4	I enjoy using e-learning in teaching courses.	4.05	0.82	High
5	E-learning as an educational method raises teachers' level of satisfaction.	4.11	0.85	High
6	E-learning attracts students' attention to teachers' lessons via using digital material.	4.10	0.88	High
7	E-learning encourages students to look up information and educational sources widely.	4.16	0.81	High
Infrastructure				
No.	Item	Means	Standard Deviations	Estimation Level
1	Permanent access to the internet at school contributes in implementing e-learning.	3.67	1.19	High
2	There is an equipped e-learning environment at school sufficient for achieving an effective e-learning.	3.36	1.22	Moderate
3	E-learning environment is available to grant children the chance to participate and interact in electronic classes.	3.79	0.87	High

4	There is an IT specialist to assist teachers and students continuously.	3.83	1.14	High
5	There is an effective infrastructure for e-learning environment.	3.37	1.22	Moderate
Interaction Between Students and Teachers				
No.	Item	Means	Standard Deviations	Estimation Level
1	The availability of discussion forums for teachers and students that help them exchange ideas.	4.11	0.81	High
2	E-learning contributes in sharing data among colleagues.	4.06	0.77	High
3	E-learning offers the possibility of communication among learners and teachers off- duty.	4.12	0.81	High
4	I think e-learning eases communication among learners and teachers.	4.05	0.94	High
5	E-learners enables students go over feeling shy whenever expressing his/her opinion.	4.18	0.75	High
Content Design				
No.	Item	Means	Standard Deviations	Estimation level
1	Designing and preparing electronic content wastes time and requires more effort.	3.62	1.13	High
2	Using e-learning eases updating the electronic content more than the traditional system.	4.12	0.78	High
3	Information delivery via electronic tools is clearer.	4.13	0.77	High
4	There are no difficulties in understanding and using electronic application in e-learning.	3.96	0.91	High
5	Using the content of e-learning attracts students' attention.	4.23	0.70	Very High
Cultural Awareness				
No.	Item	Means	Standard Deviations	Estimation level
1	Teachers have the sufficient awareness about the importance of e-learning.	3.66	1.00	High
2	Teachers and learners are aware of the influence of e-learning on the academic achievement of students.	3.69	1.01	High
3	I am aware that using e-learning motivates learners.	4.02	0.83	High
4	I am aware that using e-learning upgrades students' learning process.	4.14	0.85	High

5	Teachers and learners are aware of the influence of e-learning in finishing academic tasks fast.	3.94	0.90	High
Training				
No.	Item	Means	Standard Deviations	Estimation level
1	Training on e-learning increases learners' and teachers' self-confidence	4.09	0.740	High
2	Electronic training helps learners and teachers understand e-learning system.	3.91	0.935	High
3	My educational level is improved after enrolling in e-learning program.	4.05	0.975	High
4	Training quality of e-learning contributes in using it correctly.	3.62	1.101	High
5	Students get a guide for using e-learning system.	3.85	1.039	High
Challenges				
No.	Item	Means	Standard Deviations	Estimation level
1	Students suffer from the lack of some computer skills which makes their desire to use this system low.	3.88	0.87	High
2	Computer technical failures hinder the educational process.	4.23	0.80	Very High
3	Computers' number is not compatible with students' numbers.	4.32	0.80	Very High
4	The unavailability of technical support for the tools of e-learning at schools.	4.07	0.91	High
5	Weakness of the internet network.	4.18	0.93	High
6	Students' inability to buy computers in their homes.	4.13	0.87	High
7	Students' inability to deal with hi-tech devices.	3.98	0.93	High
8	Lack of teachers' practice on using the computerized hi-tech devices in education.	4.06	0.85	High
9	Classrooms are unequipped for implementing e-learning.	4.21	0.99	Very High
Total Degree		3.99	0.41	High

Table seven illustrates those teachers' responses on the success of E-learning in the public schools in the West Bank received a total degree of 3.99 which is considered a high degree of agreement. The items that received the highest rank according to the study sample were "I can use the

computer for looking up information “item. On the other hand, the item that received rank were related to “There is an equipped e-learning environment at school sufficient for achieving an effective e-learning” item.

Concerning the “computer skills,” factor, the estimation level is “very high” because technology is an essential part of teachers’ lives and new teachers attend computer courses held by the MOE.

The researcher explains these results in that e-learning attracts students’ attention and creates encouraging educational environment. In addition, it helps teachers take care of individual differences of students and motivates them by screening videos relating to the technological development. This is due to the integral relationship between computers and people’s lives. Finally, teachers are satisfied with using e-learning tools.

Furthermore, the researcher thinks that the estimation level of the “infrastructure” factors is “high.” This is because not all schools are well-equipped with computers except for the ones funded by the MOE or the local community. As a result, the unfunded schools have poor infrastructure, but they should be developed. On other hand, in the “interaction between students and teachers” factor, the estimation level is “high.” This is because e-learning increases interaction between teachers and learners through group discussion. Additionally, it solves communication problems between teachers and learners.

In the “content design” factor, the estimation level is “high”. Teachers attended extensive courses on content design due to including their schools in the smart learning program. In addition, new teachers can design their own content using their own skills. Furthermore, the main challenge is in the case of the old teachers who resist change due to thinking that e-learning is a waste of time.

The estimation level of “cultural awareness” factor is “high”. This is because teachers are aware of the impact of e-learning on the educational process since it enables them to do their tasks fast.

The researcher thinks that in concerning the “training” factor, the estimation level is “high”; e-learning enhances teachers’ ability to use e-learning system effectively if they are trained well. This creates highly qualified teachers who can deal with the requirements of e-learning with the educational process. The estimation level of the “challenges” factor is “high”. The researcher explains this mainly due the number of computers is not enough for students. Also, schools’ budget is not enough to support such learning system. Besides, the internet speed is weak and e-learning projects are few and limited to specific schools. Furthermore, the period of each project isn’t enough to create a generation of highly qualified teachers. Finally, not all classrooms are equipped with e-learning tools.

Table (9): Overall principals' perceptions of the success of e-learning

No.	Factors	Means	Standard deviations	Estimation level
1	Computer skills	4.22	0.49	Very High
2	Attitudes	4.25	0.52	Very High
3	Infrastructure	3.96	0.63	High
4	Interaction between students & teachers	4.15	0.52	High
5	Cultural awareness	3.98	0.57	High
6	Training	3.99	0.56	High
7	School's administration support	3.99	0.56	High
8	Challenges	4.05	0.53	High
Total degree		4.06	0.36	High

Table eight illustrates that the total degree of principals' responses on the success of E-learning in the public secondary schools in the West Bank factors was 4.06, which suggests a very high level of perception. The highest mean was given to the "attitudes" factor which scored 4.25. On the other hand, the lowest mean was given to the "infrastructure" factor which scored 3.96.

Table (10): Principals' perception levels for each item of success factors

Computer Skills				
No.	Item	Means	Standard deviations	Estimation level
1	Possessing technical skills affects principals' use of e-learning system.	4.19	0.57	High
2	Using e-learning system contributes in looking up information.	4.25	0.58	Very High
3	Using computers as an educational method inside classrooms enhances the quality of e-learning.	4.25	0.63	Very High
4	Using computers can contribute in communicating with the other elements of the educational process.	4.31	0.66	Very High
5	Possessing technical skills affects principals' use of e-learning system.	4.10	0.72	High
Attitudes				
No.	Item	Means	Standard deviations	Estimation level
1	I see that using e-learning in the educational process motivates students to learn.	4.30	0.71	Very High
2	E- learning achieves joy in managing schools' data.	4.26	0.67	Very High
3	There is a role to schools' administration in motivating teachers to attend e-learning training courses.	4.48	0.61	Very High
4	Using e-learning is comfortable compared with the traditional one.	4.12	0.71	High
5	E-learning raises principals' level of satisfaction.	4.22	0.69	Very High
6	Using digital content makes me more satisfied than in learning using traditional methods.	4.13	0.70	High
7	E-learning increases students' motivation towards self-learning.	4.28	0.68	Very High
Infrastructure				
No.	Item	Means	Standard deviations	Estimation level
1	Permanent access to the internet at school contributes in implementing e-learning.	4.17	0.76	High
2	There is an equipped e-learning environment at school sufficient for achieving an effective e-learning.	3.93	0.87	High
3	E-learning environment offers chances to participate and interacts in electronic classes.	3.97	0.82	High
4	There is an IT specialist to assist teachers and students continuously.	3.99	0.85	High
5	There is an interactive lab for students.	3.78	0.97	High

Interaction Between Students and Teachers				
No.	Item	Means	Standard deviations	Estimation level
1	The availability of discussion forums for teachers and students that help them exchange ideas.	4.11	0.65	High
2	E-learning contributes in sharing data among colleagues.	4.14	0.62	High
3	E-learning offers the possibility of communication among learners and teachers off- duty.	4.21	0.67	Very High
4	E-learners enables students go over feeling shy whenever expressing his/her opinion.	4.14	0.79	High
Cultural Awareness				
No.	Item	Means	Standard deviations	Estimation level
1	Teachers have the sufficient awareness about the importance of e-learning.	3.98	0.77	High
2	Teachers and learners are aware of the influence of e-learning on the academic achievement of students.	3.92	0.86	High
3	I am aware that using e-learning motivates learners.	4.02	0.80	High
4	I am aware that using e-learning upgrades students' learning process.	4.11	0.72	High
5	School's administration prepares periodical reports in the area of using e-learning	3.88	0.80	High
Training				
No.	Item	Means	Standard deviations	Estimation level
1	Schools' administration support training courses on using e-learning	4.01	0.828	High
2	Training on e-learning increases learners' and teachers' self-confidence	4.08	0.74	High
3	Training quality contributed in using it properly	4.02	0.74	High
4	Students get a guidance manual including vital information concerning e-learning	4.01	0.72	High
5	Training quality facilitated the design of educational content.	3.85	0.781	High
School's Administrative Support				
No.	Item	Means	Standard deviations	Estimation level
1	School's administration supports e-learning style.	4.01	0.82	High
2	School's administration allocates money in the budget for e-learning.	4.08	0.74	High
3	School's administration upgrades regulations and rules to cope with e-learning.	4.02	0.74	High

4	Offering the direct administrative support is important in creating positive thoughts about e-learning.	4.01	0.72	High
5	School's administration coordinates with special institutions and local community to support the implementation of e-learning.	3.85	0.78	High
Challenges				
No.	Item	Means	Standard deviations	Estimation level
1	Students suffer from the lack of computer skills which makes their desire to use this system low.	3.84	0.75	High
2	Computer technical failures hinder the educational process.	4.07	0.70	High
3	Computers' number is not compatible with students' numbers.	4.04	0.77	High
4	The unavailability of technical support technician for the tools of e-learning tools at schools.	4.02	0.81	High
5	Weakness of the internet.	3.98	0.79	High
6	Students' inability to buy computers at their homes.	4.04	0.78	High
7	Students' inability to deal with the hi-tech devices.	3.61	0.90	High
8	Lack of teachers' practice on using the computerized hi-tech devices in education.	3.63	0.86	High
9	Classrooms are unequipped for implementing e-learning.	3.67	0.95	High
Total Degree		4.06	0.36	High

Table nine demonstrates that the highest mean was given to the item “I can use the computer to communicate with the elements of the educational process.” While the lowest mean was given to the “Students’ inability to deal with the hi-tech devices “item”. Concerning the “computer skills” factor, the estimation level is “very high”. The researcher explains this in that because we live in the technological age, so we have to cope with its developments. The MOE assigns principals who are aware of computer skills. After assigning them, the MOE offers them intensive computer courses.

The researcher explains this result in terms of “attitude” factor; the estimation level is “very high”. Because principals like to consider their school advanced in terms of teaching methods. Furthermore, they are satisfied with using e-learning tools.

The researcher also believes that in relating to “infrastructure”, the estimation level is “high” because the MOE has been working since 2005 to prepare schools to be an appropriate technological environment for students. Not all schools get the sufficient funding to have an interactive lab, so there are equipped and partially equipped schools according to the offered funding from the MOE and the local community. The estimation level of the theme of “interaction between students and teachers” is “high” because teachers and students like to share information and learn from each other’s experiences by joining discussion groups.

The researcher also believes that in relating to estimation level of the “cultural awareness” factor is “high”. Principals are fully aware that employing e-learning enables students and teachers to expand understanding and increase their academic achievement.

The researcher also believes that in relating to estimation level of “training” factor “high”. E-learning training increases teachers’ self-confidence and facilitates the educational process that there should be qualified teachers who are able to deal with the technological development of the educational process. The estimation level of the “schools’ administrative support” factors is “high”. Principals seek help of the MOE

or the local community to cover the required cost. In addition, the administrative support is important in creating positive perceptions towards e-learning.

The researcher also believes that in relating to the estimation level of the “challenges” factor is “high” due to the lack of training courses for teachers on using e-learning devices in the schools which are not included in e-learning projects.

Table (11): Overall students’ perception levels of the success factors

No.	Factor	Means	Standard deviations	Estimation level
1	Computer skills	4.31	0.56	Very High
2	Attitudes	4.09	0.65	High
3	Infrastructure	3.75	0.84	High
4	Interaction between students & teachers	4.18	0.59	High
5	Cultural awareness	4.18	0.59	High
6	Training	4.03	0.62	High
7	Challenges	4.04	0.58	High
Total degree		4.08	0.43	High

Table ten demonstrates that the highest mean was given to the “Computer Skills” factor, while the lowest mean was given to item “challenges” factor. The researcher also believes that in relating to schools suffer from the lack of sufficient number of computers for students because of the lack of funding offered for them.

Table (12): Students' perception levels for each item of success factors

Computer Skills				
No.	Item	Means	Standard deviations	Estimation level
1	I have the required skills for using computer system	4.38	0.65	Very High
2	I can use the computer for looking up information.	4.46	0.66	Very High
3	I can use the computer as an educational tool inside classrooms.	4.26	0.83	Very High
4	I can use the computer to communicate with the elements of the educational process.	4.14	0.82	High
5	I can finish work faster by using the computer.	4.34	0.86	Very High
Attitudes				
No.	Item	Means	Standard deviations	Estimation level
1	I see that using e-learning helps me organize my time.	3.83	0.92	High
2	I enjoy learning courses using e-learning.	4.06	1.02	High
3	E-learning increases students' motivation towards learning.	4.15	0.92	High
4	I feel satisfied when using e-learning as an educational supportive tool.	4.15	0.89	High
5	Using e-learning content makes me feel satisfied more than the traditional one	3.99	1.01	High
6	E-learning encourages students to be creative.	4.14	0.91	High
7	E-learning encourages students to look up information and educational sources widely.	4.33	0.73	Very High
Infrastructure				
No.	Item	Means	Standard deviations	Estimation level
1	There is always internet access at school.	3.68	1.13	High
2	There is an equipped e-learning environment at school.	3.51	1.19	High
3	E-learning environment offers chances for interaction in electronic lessons.	3.98	0.92	High
4	There is a specialized lab supervisor to offer help for teachers and students continuously.	3.84	1.14	High
5	There is an interactive lab for students.	3.76	1.21	High
Interaction Between Students and Teachers				
No.	Item	Means	Standard deviations	Estimation level
1	I see that e-learning offers discussion forums for teachers and students that help them exchange ideas.	4.11	0.96	High

2	I'd like to share information with my colleagues via e-learning tools.	4.13	0.83	High
3	E-learning offers the possibility of communication among learners and teachers off- duty.	4.24	0.79	Very High
4	I think e-learning eases communication among learners and teachers.	4.30	0.78	Very High
5	E-learners enables students go over feeling shy whenever expressing his/her opinion.	4.12	0.95	High
Cultural awareness				
No.	Item	Means	Standard deviations	Estimation level
1	Teachers have the sufficient awareness about the importance of e-learning.	4.17	0.84	High
2	Teachers and learners are aware of the influence of e-learning on the academic achievement of students.	3.98	0.82	High
3	I am aware that using e-learning motivates learners.	4.20	0.83	High
4	I am aware that using e-learning upgrades students' learning process.	4.13	0.83	High
5	Teachers and learners are aware of the influence of e-learning in finishing academic tasks fast.	4.21	0.87	Very High
Training				
No.	Item	Means	Standard deviations	Estimation level
1	Training on e-learning increases learners' and teachers' self-confidence	4.14	0.83	High
2	Electronic training helps learners and teachers understand e-learning system.	4.19	0.75	High
3	My educational level is improved after enrolling in e-learning program.	3.89	1.01	High
4	Training quality of e-learning contributes in using it correctly.	4.21	0.78	Very High
5	Students get a guide for using e-learning system.	3.75	1.09	High
Challenges				
No.	Item	Means	Standard deviations	Estimation level
1	Students suffer from the lack of computer skills which makes their desire to use this system low.	4.33	0.87	Very High
2	Computer technical failures hinder the educational process.	4.31	0.83	Very High
3	Computers' number is not compatible with students' numbers.	4.05	1.04	High

4	The unavailability of technical support technician for the tools of e-learning tools at schools.	3.96	1.07	High
5	Weakness of the internet network.	4.06	1.04	High
6	Students' inability to buy computers in their homes.	4.14	0.93	High
7	Students' inability to deal with the hi-tech devices.	3.85	1.04	High
8	Lack of teachers' practice on using the computerized hi-tech devices in education.	3.91	1.04	High
9	Classrooms are unequipped for implementing e-learning.	3.79	1.25	High
Total Degree		4.08	0.43	High

The estimation level of the “computer skills” factor “very high”. Students are the generation of technology and they use technological devices on daily basis. The researcher also explains the result relating to “attitude”, in the estimation level is “high”. Students have the required skills for using e-learning, so their attitude is positive towards e-learning.

The estimation level of the “infrastructure” factor is “high”. The researcher explains these due to those schools are equipped with e-learning tools, but they should be developed more.

The researcher also believes that concerning the “interaction between students and teachers” factor, the estimation level is “high”. E-learning made communication among learners easier through having discussion groups.

The researcher also believes that in relating to “Cultural awareness” factor is “high”. The researcher believes that this is due to students are convinced that e-learning influences their academic achievements. They are also aware of the importance of e-learning because it enables them to

accomplish their tasks easily and fast. The estimation level of the “training” variable is “high”. Training quality of e-learning contributes in using e-learning correctly since good guidance leads to the success of e-learning students’ implementation. Concerning the “challenges” variable, the estimation level is “high”. Students’ inability to deal with the hi-tech devices.

4.2.2 Influence of teachers’ demographic on e-learning implementation

To study the effect of teachers’ demographic characteristics of the study (teacher’s subject, gender, experience, qualifications, e-learning use and training sessions) on the implementation of e-learning in the public schools in the West Bank, T-tests for Independent Samples, and One-Way Analysis of Variance (ANOVA) and post hoc tests were used and the following tables show the results as thus:

4.2.2.1 Results related to teachers' subject

Table (13): Teachers’ perceptions due to teachers' subject

Success of e-learning	Teachers' subject	N	Mean	S. D
Total	English	87	3.95	0.43
	Technology	74	4.04	0.34
	Math	92	3.98	0.43
Total		253	3.99	0.41

Table (14): One-way ANOVA for teachers' perception due to teachers' subject

Success of e-learning	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Total	Between Groups	0.299	2	0.149	0.892	0.417
	Within Groups	41.851	250	0.167		
	Total	42.150	252			

* The mean difference is significant at the 0.05 level.

Tables 12 and 13 illustrate no statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public schools in the West Bank. This is mainly due to teachers' subject. The significant level is 0.417 which is more than 0.05.

B- Results Related to Teachers' Gender

Table (15): T-test for independent samples of teachers' perceptions due to teachers' gender

Success of e-learning	Gender	N	Mean	S. D	t	Sig.*
Total	Male	123	4.158	0.349	6.696	0.000*
	Female	130	3.835	0.407		

*The mean difference is significant at the 0.05 level.

Table fourteen illustrates statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the Public Secondary schools in the West Bank due to teachers' gender. The significant level is 0.000 which is less than 0.05. These differences are in favor of male teachers due to the mean of 4.15, while the mean of female teachers is 3.84.

C- Results Related to Teachers' Experience

Table (16): Teachers 'perception due to teachers' experience

Success of e-learning	Teachers' experience	N	Mean	S. D
Total	1-5	55	3.93	0.32
	6-10	85	4.09	0.45
	11-20	99	3.98	0.39
	>20	14	3.68	0.41
Total		253	3.99	0.41

Table (17): One-way ANOVA for teachers' due to teachers' experience

Success of e-learning	Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Total	Between Groups	2.455	3	0.818	5.14	0.002*
	Within Groups	39.695	249	0.159		
	Total	42.150	252			

* The mean difference is significant at the 0.05 level.

Tables 15 and 16 illustrate statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public schools in the West Bank due to teachers' experience. The significant level is 0.002, which is less than 0.05. In order to know the differences, LSD post hoc was used and the following table illustrates the results:

Table (18): LSD post hoc for e-learning due to teachers' experience

Total degree	Level	1-5	6-10	11-20	>20
	1-5	--	0.16309	0.04737	0.25414*
	6-10	--	--	0.11572	0.41723*
	11-20	--	--	--	0.30151*

* The mean difference is significant at the 0.05 level.

Table seventeen illustrates that there are differences in the total degree between (>20) and (1-5, 6-10 and 11-20) in favor of (1-5, 6-10 and 11-20).

D- Results Related to Teachers' Qualification

Table (19): Teachers 'perceptions due to teachers' qualification

Success of e-learning	Teachers' qualification	N	Mean	S. D
Total	PhD	5	4.04	0.28
	MA	71	4.20	0.42
	BA	166	3.89	0.39
	Diploma	11	4.02	0.06
Total		253	3.99	0.41

Table (20): One-way ANOVA for teachers' perceptions due to teachers' qualification

Success of e-learning	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Total	Between Groups	4.598	3	1.533	10.15	0.000*
	Within Groups	37.551	249	0.151		
	Total	42.150	252			

* The mean difference is significant at the 0.05 level.

Tables 18 and 19 illustrate statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public schools in the West Bank due to teachers' qualification. The significant level is 0.000 which is less than 0.05. In order to know the differences, LSD post hoc was used and the following table illustrates the results:

Table (21): LSD post hoc for e-learning due to teachers' qualification

	Level	PhD	MA	BA	Diploma
Total degree	PhD	-	0.15808	0.14866	0.02258
	MA	-	-	0.30675*	0.18066
	BA	-	-	-	0.12609

* The mean difference is significant at the 0.05 level.

Table 20 illustrates that there are differences in the total degree between (BA) and (MA) in favor of (MA).

E- Results Related to Using the Electronic Environment

Table (22): T-test for samples of teachers' perceptions due to using the electronic environment

Success of e-learning	E-environment	N	Mean	S. D	T	Sig.*
Total	Yes	218	4.03	0.41	3.975	0.000*
	No	35	3.74	0.26		

*The mean difference is significant at the 0.05 level.

Table 21 illustrates statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public schools in the West Bank due to using the electronic environment. The significant level is 0.000 which is less than 0.05. These differences are in favor of (Yes) level due to the mean of 4.03, while the mean of (No) level is 3.74.

F. Results Related to Teachers' Training Sessions

Table (23): T-test for independent samples of teachers' perceptions due to teachers' training sessions

Success of e-learning	Training	N	Mean	S. D	t	Sig.*
Total	Yes	190	4.03	0.40	2.715	0.007*
	No	63	3.87	0.41		

* The mean difference is significant at the 0.05 level.

Table 22 illustrates statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public schools in the West Bank due to teachers' training sessions. The significant level is 0.007 which is less than 0.05. These differences are in favor of (Yes) level due to the mean of 4.03, while the mean of (No) level is 3.87.

4.2.3 Influence of principals' demographic on e-learning implementation

A- Results Related to Principals' Specialization

Table 23 illustrates no statistically significant differences at ($\alpha = 0.05$) on the total degree of E-learning in the public secondary schools in the West Bank due to principals' specialization. The significant level is 0.193 which is more than 0.05.

Table (24): T-test for independent samples of principals' perceptions due to principals' specialization

Success of e-learning	Specialization	N	Mean	S. D	t	Sig.*
Total	Scientific	81	4.02	0.40	-1.307	0.193
	Humanities	108	4.09	0.32		

*The mean difference is significant at the 0.05 level.

B- Results Related to Principals' Gender

Table (25): T-test for independent samples of principals' perceptions due to principals' gender

<i>Success of E-learning</i>	Gender	N	Mean	S. D	T	Sig.*
Total	Male	83	4.07	0.24	0.417	0.677
	Female	106	4.05	0.43		

***The mean difference is significant at the 0.05 level.**

Table 24 illustrates no statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to principals' gender. The significant level is 0.677 which is more than 0.05 because principals seek to develop his/her institution and they attend extensive courses before handling their responsibilities.

C- Results Related to Principals' Age

Table (26): Principals' perceptions due to principals' age

Success of e-learning	Principals' age	N	Mean	S. D
Total	25-30	6	4.04	0.26
	31-40	52	4.09	0.39
	41-50	88	4.04	0.39
	51-60	43	4.06	0.26
Total		189	4.06	0.36

Table (27): One-way ANOVA for principals' perceptions due to principals' age

Success of e-learning	Source of variance	Sum of Squares	Df	Mean Square	F	Sig.
Total	Between Groups	0.073	3	0.024	0.182	0.908
	Within Groups	24.708	185	0.134		
	Total	24.781	188			

*** The mean difference is significant at the 0.05 level.**

Tables 25 and 26 illustrate no statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public secondary schools in

the West Bank due to principals' age. The significant level is 0.908, which is more than 0.05.

D- Results Related to Principals' Experience

Table (28): Principals' perceptions due to principals' experience

Success of e-learning	Principals' experience	N	Mean	S. D
Total	1-5	18	4.08	0.23
	6-10	30	4.05	0.36
	11-20	85	4.10	0.34
	20 >	56	3.99	0.41
Total		189	4.06	0.36

Table (29): Results of One-way ANOVA for principals' perceptions due to principals' experience

Success of e-learning	Source of Variance	Sum of Squares	Df	Mean Square	F	Sig.
Total	Between Groups	0.409	3	0.136	1.034	0.379
	Within Groups	24.372	185	0.132		
	Total	24.781	188			

* The mean difference is significant at the 0.05 level.

Tables 27 and 28 illustrate no statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public secondary schools in the West Bank due to principals' experience. The significant level is 0.379, which is more than 0.05.

E. Results Related to Principals' Qualification

Table (30): Principals' perceptions due to principals' qualification

Success of e-learning	Principals' qualification	N	Mean	S. D
Total	PhD	2	4.1896	0.09133
	MA	64	4.1154	0.37869
	BA	116	4.0699	0.29021
	Diploma	7	3.4244	0.70526
Total		189	4.0627	0.36306

Table (31): One-way ANOVA for principals' perceptions due to principals' qualification

Success of e-learning	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Total	Between Groups	3.068	3	1.023	8.713	0.000*
	Within Groups	21.713	185	0.117		
	Total	24.781	188			

* The mean difference is significant at the 0.05 level.

Tables 29 and 30 illustrate statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public secondary schools in the West Bank due to principals' Qualification. The significant level is (0.000) which is less than 0.05. In order to know the differences, LSD post hoc was used and the following table illustrates the results:

Table (32): LSD post hoc for e-learning due to principals' qualification

	Level	PhD	MA	BA	Diploma
Total degree	PhD	-	0.07417	0.11969	0.76518*
	MA	-	-	0.04552	0.69101*
	BA	-	-	-	0.64549*

* The mean difference is significant at the 0.05 level.

Table 31 illustrates that there are differences in the total degree between (Diploma) and (PhD, MA and BA) in favor of (PhD, MA and BA).

F- Results Related to Principals' Training Sessions

Table (33): T-test for independent samples of principals' perceptions due to principals training sessions

Success of e-learning	Training	N	Mean	S. D	T	Sig.*
Total	Yes	156	4.10	0.31	3.874	0.000*
	No	33	3.84	0.47		

*The mean difference is significant at the 0.05 level.

Table 32 illustrates statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to training sessions. The significant level is 0.000 which is less than 0.05. The differences are in favor of (Yes) level due to the mean 4.10 while the mean of (No) level is 3.84.

G- Results Related to Principals' E- learning Environment

Table (34): T-test for samples of principals' attitudes due to principals' e-learning environment

Success of e-learning	E- learning environment	N	Mean	S. D	t	Sig.*
Total	Yes	168	4.10	0.30	4.251	0.000*
	No	21	3.75	0.58		

*The mean difference is significant at the 0.05 level.

Table 33 illustrates statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to e- learning environment. The significant level is 0.000 which is less than 0.05. The differences are in favor of (Yes) level due to the mean 4.10 while the mean of (No) level is 3.75.

4.2.4 Influence of students' demographic on e-learning

To answer question “what the influence of the independent variables of the students is (residence, gender, branch, grade, computer skills, and internet availability) on the implementation of e-learning in the public schools in the West Bank?”-tests for Independent Samples and One-Way Analysis of Variance (ANOVA) were used and the following tables show the results:

A- Results Related to Students' Place of Residence

Table (35): Means and standards deviations of students' perceptions due to students' place of residence

Success of e-learning	Students' place of residence	N	Mean	S. D
Total	City	76	4.06	0.41
	Village	239	4.08	0.43
	Camp	7	4.28	0.36
Total		322	4.08	0.43

Table (36): One-way ANOVA for students' perceptions due to students' place of residence

Success of e-learning	Source of variance	Sum of Squares	Df	Mean Square	F	Sig.
Total	Between Groups	0.291	2	0.145	0.784	0.457
	Within Groups	59.155	319	0.185		
	Total	59.446	321			

* The mean difference is significant at the 0.05 level.

Tables 34 and 35 illustrate no statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to students' place of residence. The significant level is 0.457 which is more than 0.05.

B- Results Related to Students' Gender

Table (37): T-test for independent samples of students' perceptions due to students' gender

Success of e-learning	Gender	N	Mean	S. D	T	Sig.*
Total	Male	136	4.13	0.45	1.565	0.118
	Female	186	4.05	0.40		

*The mean difference is significant at the 0.05 level.

Table 36 illustrates no statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to students' gender. The significant level is 0.118 which is more than 0.05.

C- Results Related to Students' Branch

Table (38): students' perceptions toward the success of e-learning due to students' branch

Success of e-learning	Students' branch	N	Mean	S. D
Total	scientific	100	4.01	.492
	humanities	194	4.12	.404
	trade	19	4.09	.402
	industrial	7	4.09	.174
	technology	2	4.07	.022
Total		322	4.08	0.43

Table (39): One-way ANOVA for students' due to students' branch

Success of e-learning	Source of variance	Sum of Squares	df	Mean Square	F	Sig.
Total	Between Groups	0.739	4	0.185	0.998	0.409
	Within Groups	58.707	317	0.185		
	Total	59.446	321			

*** The mean difference is significant at the 0.05 level.**

Tables 37 and 38 illustrate no statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to students' branch. The significant level is 0.409 which is more than 0.05.

D- Results Related to Students' Class

Table 39 illustrates no statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to students' branch. The significant level is 0.264, which is more than 0.05.

Table (40): T-test for independent samples of students' perceptions due to students' class

Success of e-learning	Class	N	Mean	S. D	T	Sig.*
Total	11th	200	4.10	0.43	1.119	0.264
	12th	122	4.05	0.41		

***The mean difference is significant at the 0.05 level.**

E- Results Related to Students' Computer Skills

Table 40 reveals statistically significant differences at $\alpha = 0.05$ on the total degree of E-learning in the public secondary schools in the West Bank due to students' computer skills.

Table (41): T-test for independent samples of students' perceptions due to students' computer skills

Success of e-learning	Computer skills	N	Mean	S. D	t	Sig.*
Total	Yes	297	4.10	0.41	2.415	0.016*
	No	25	3.88	0.55		

***The mean difference is significant at the 0.05 level.**

The significant level is 0.016 which is less than 0.05. The differences are for (Yes) level due to the mean 4.10 while the mean of (No) level is 3.88.

F- Results Related to Students' Internet Availability

Table 41 reveals no statistically significant differences at $\alpha = 0.05$ on the total degree of e-learning in the public secondary schools in the West Bank due to students' internet available. The significant level is 0.402 which is more than 0.05.

Table (42): T-test for independent samples of students' perceptions due to students' internet availability

Success of e-learning	Internet availability	N	Mean	S. D	t	Sig.*
Total	Yes	287	4.07	0.41	-0.839	0.402
	No	35	4.14	0.55		

*The mean difference is significant at the 0.05 level.

4.3 General results

The overall degrees of the responses to the questionnaires for principals, teachers, and student were 4.06, 3.99, and 4.08 out of 5. Their estimation level was high. The researcher noticed through the questionnaires that principals, teachers, and students are enthusiastic about the implementation of e-learning in public secondary schools.

The computer skills factor was the highest factor in the principals', teachers', and students' questionnaires (scoring 4.22, 4.31, and 4.31, respectively). It was apparent to the researcher from the questionnaires that the previously mentioned groups have the right skills but that the old teachers present a challenge.

The attitude factor in the principals', teachers', and students' questionnaires scored 4.25, 4.07, and 4.09, respectively. This concurs with the results of the interviews, which showed a positive attitude toward e-learning among principals, teachers, and students but not older teachers.

The infrastructure factor in the principals', teachers', and students' questionnaires scored 3.96, 3.59, and 3.75. This agrees with the results of the interviews, where some of the interviewees said that the e-learning

infrastructure needs support and development from the government and the local community. The interviews revealed that supported schools are well equipped, whereas the ones that do not receive any support are not well equipped.

The factor of interaction between students and teachers in the principals', teachers', and students' questionnaires reached 4.15, 4.10, and 4.18. This finding echoes the results of the interviews, where there was a reported increase in e-learning interaction among students and teachers through social media and forums in which experiences are exchanged, and interaction happens anywhere and anytime.

The cultural awareness factor in the principals', teachers', and students' questionnaires reached 3.98, 3.88, and 4.18. It agrees with the results of the interviews where the three groups varied in their awareness of the importance of e-learning in the educational process. The researcher noticed that students are highly aware of the importance of e-learning because they prefer using technology in their daily lives.

The training factor in the principals', teachers', and students' questionnaires reached 3.99, 3.90, and 4.03. This concurs with the results of the interviews, where the researcher noticed that teachers who work in the supported schools with e-learning projects have positive attitudes toward e-learning due to having undergone intensive courses to gain technological skills.

The challenges factor is one of the highest-ranking themes in the principals', teachers', and students' questionnaires, scoring 4.05, 3.90, and 4.04. This confirms the results of the interviews that there is agreement on the challenges facing the implementation of e-learning. The main challenges described were internet speed, power problems, the lack of infrastructure, and the unavailability of computers.

4.4 Building a managerial framework

Based on the results of the study, the managerial framework comprises three levels: strategic, tactical, and operational.

4.4.1 Strategic level

A strategic shift in Palestine's education system means thinking in a new way about everything related to the teacher's methods of delivering material to students to achieve a goal, and this includes all the means that a teacher takes to control and manage the classroom. In addition, the general atmosphere that students live in contributes to the process of bringing the students closer to the desired ideas and concepts. The strategies work mainly by stimulating interaction and motivating students to receive the information, thus directing students toward the required change.

Educational strategies depend on several techniques and skills, which educators must master when they work with students. The teacher's ability to employ a strategy also means knowing when to use it and when to use others.

The first part of the strategy is to gather inputs and define vision, mission and objectives of an educational institution. Moreover, it is important to plan the workforce to ensure that the institution can supply teachers with expertise and competencies in the field of e-learning management and the competencies capable of providing rapid maintenance of devices in schools in remote places.

In addition, it is imperative to provide visionaries who seek to abandon the idea of traditional education and transition to e-learning. These visionaries can address the lack of awareness about community-based e-learning. There is an urgent need to empower students and teachers and train them on how to use the internet for learning and teaching. The lack of the necessary cyber security means, people are fearful that e-learning will render them vulnerable to hacking.

The second part of the strategy involves addressing the problems of the lack of financial resources necessary to start work in the field of e-learning. From this perspective, the strategy refers to the options used to achieve a general goal while the tactics are the specific procedures used when implementing those strategic options: the strategy needs tactics to achieve its goals.

4.4.2 Tactical level

The tactic in applying administrative transformation processes to e-learning is to build a conceptual goal to achieve the objective. This

procedure can be executed as one or more tasks, as e-learning represents an educational system. E-learning aims to provide educational or training programs for learners or trainees, at any time, in any place, using information technologies and interactive communications, such as the internet, radio, local or satellite television channels, CDs, email, computerized education, or scientific conferences'-learning intends to provide a multi-resource, interactive learning environment, in a synchronized manner in the classroom, or asynchronous manner via distance learning, without committing to a specific location depending on self-learning, and the interaction between the teacher and the student. In this stage, schools should focus on developing and improving teachers' computer skills by providing them with good training programs.

E-learning has developed in form and shape through employing the means of communication and modern media. The educational process is no longer limited to the category of ordinary students but can include anyone. This process suffers from occupation practices and roads closures in the West Bank, and whether schools adopt traditional education or rely on open education. It categorized them into three main dimensions, namely, the educational dimension, the administrative dimension, and the evaluation dimension.

4.4.3 Operational level

For the sake of the success of administrative engineering operations in terms of the tactical aspect, the operational level represents the

beginning of dealing with the most prominent obstacles to e-learning, such as the lack of effective leadership, the lack of appropriate training, the lack of the necessary equipment and tools, and the lack of technical support for this method of pedagogy.

The challenges of e-learning implementation vary according to the circumstances of each school, its financial capabilities, and its infrastructure, such as laboratories and the availability of the internet. Whether school personnel are prepared to deal with e-learning is also important, as is the school's logistical services.

There is no doubt that one of the most important steps when adopting an e-learning solution is implementation. The successful implementation of this step is closely related to proper planning. Proper planning in relation to tasks, project leaders, cost, and other elements of implementation forms the basis of adequate execution and control.

In reviewing the main factors that determine the success of an e-learning project implementation plan, all relevant departments should be involved, alternatives evaluated, and a plan created to adhere to managerial decisions.

Top management should collect and align all the objectives from the departments related to project objectives. Aligning these goals and expectations is usually a strategic process, as each department is likely to have its own goals.

Gaining support and commitment from the right people plays a major role in successful e-learning implementation since they will be directly responsible for implementation and decision-making

Top management must constantly remember that the goal of learning process is students' learning, which must not be confused with teachers' teaching, as teachers may do their best in terms of education, but students may still only learn a little. In terms of technology skills, most students at school have these.

With some simple training, students can overcome any difficulties they might encounter in this regard. The most difficult remaining challenge is the readiness of students in terms of learning skills, as the students must be self-motivated to learn and have the ability to organize themselves, manage their own time, and communicate effectively.

It seems that there is a need to develop these skills among students, regardless of current circumstances, as these skills are considered necessary in our current era, and every person needs them to succeed in their studies, work life, family, and social life. Perhaps it would be useful for each educational institution to assess the availability of these skills among its students and set plans for their future development. Additionally, the performance of the operational plans should be assessed to make sure outcomes are in line with tactical and strategic goals. If the performance indicators are below the expectations, the plans should be reviewed to better achieve the institutional goals.

Based on the above, there is no unified prescription for all educational institutions to implement e-learning, as there are several factors that determine the method to be followed, including the technological infrastructure and the extent of the institution's application of e-learning, that is, their use of technology in learning during normal situations. However, in order for this process to achieve its desired benefits and not to turn into a burden for students, parents, or teachers.

4.4.3.1 The operational requirements of the school

Organizing a schedule of direct meetings with students is vital, so that the meeting schedule does not constitute a burden on students and parents, especially in the beginning, and can be gradually increased. The focus is on providing students with various e-learning materials and tasks that suit different learning styles, and students can implement them at their own pace. Organizing periodic meetings for teachers to exchange experiences also helps develop the process.

Continuous training for teachers should be organized, focusing on planning and implementing this form of teaching and learning, and setting realistic goals for the e-learning process. Achieving the same goals that are anticipated in normal situations cannot be expected.

4.4.3.2 The operational requirements of the community

Provide a suitable work environment for the student at home, such as an allocated place, separate, if possible, from other home activities, and

involve the student in making this decision. Communicate with the teacher directly regarding any questions, comments, or suggestions. There is no need to feel frustrated if the student does not fully achieve their educational goals. Communicate with their teacher about this and think of supplementary activities. The methods or procedures used by a teacher may include an instructional explanation from the accepted traditional or modern forms, and that the plan that the teacher undertakes to implement an educational goal is the educational strategy. Figure one illustrates the managerial framework suggested for policymakers.

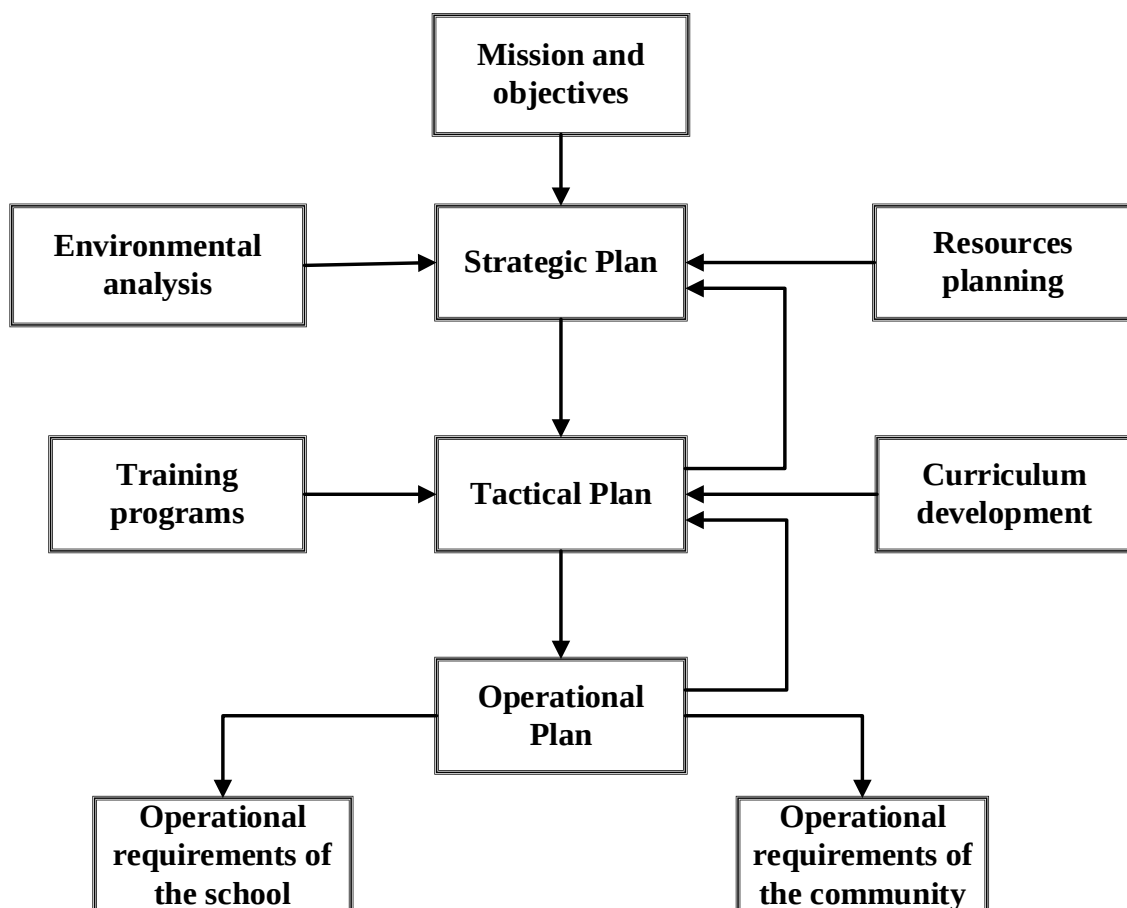


Figure (1): A managerial theoretical framework.

4.5 Managerial and practical implications

Leaders of educational institutions in many countries around the world have adopted e-learning methods since the spread of the new coronavirus. In light of the emergency situation, caused mainly by the lack of a cure for this virus and the acceleration of its spread around the world, ministries of education and universities in many countries had to make decisions quickly, unexpectedly, and without taking into account their level of readiness to use e-learning. Despite the rapid response to the implementation of their decisions and spurred by a deep sense of responsibility, the response of teachers, learners, and parents was critical and affirmed the necessity of providing all requirements for this type of education. Among the most important of those requirements are the following:

- 1- Issuing a deliberate decision to adopt e-learning by the Ministry of Education.
- 2- Formulating policies and strategic directions that define the envisaged developmental impact on education, the broad needs of its providers, and the necessary budget, and including them in the educational systems of educational institutions in line with each institution's specialization.
- 3- Translating these policies from educational institutions into short-, medium-, and long-term practical strategies and plans, through which the objectives and fields of e-learning use are defined,

including how to present strategies, the desired results and performance indicators, the responsible authorities, and the necessary budgets. It is worth noting that these plans may differ according to the educational institution, be it providing general, technical, or vocational education, university education, in addition to all training institutions. Experience under COVID-19 has demonstrated the need to formulate strategies and contingency plans to ensure a smooth transition to e-learning in the future.

- 4- Providing robust infrastructure and tools that are harmonious with the internet and the electricity network and that are capable of continuously delivering electricity, computers, educational digital platforms, operating software, evaluation applications, and electronic libraries. This is in addition to providing print, audio, and visual technologies such as electronic books, CDs, audio recordings, presentations, videos, and YouTube.

It also requires the provision of communication tools, such as chat rooms, audio conferences, video conferences, whiteboards, and email lists. The infrastructure needs regular maintenance by skilled technicians.

- 5- Providing administrative staff, specialists, trainers, and teachers qualified to provide e-learning to train unqualified workers and students on the use of e-learning technologies. Teacher training skills include optimizing the use of technology, preparing

educational content, and learning and skillfully using assessment and evaluation tools and software.

The objectives of technology training include providing teachers with experience in dealing with information and communication technology tools and educational software. Teachers need to be trained to prepare educational content and to work with a team of experts, under the supervision of a specialist unit manager, so that the team includes specialists in the fields of educational content design, programming, network connection, and technology maintenance.

- 6- Providing e-learning development centers in educational institutions, which include administrative staff, specialists, and thinkers. One of these centers' key tasks is to develop educational content, the evaluation process, raise e-learning workers' efficiency, provide the appropriate environment for learning, and spread the culture of e-learning among students, students' families, teachers, and society.

The experience of using remote electronic education during the ongoing COVID-19 pandemic has shed light on this method of education. Society—especially teachers, learners, experts, and parents—addressed the topic in its many aspects and compared its advantages and disadvantages with in-person education. Moreover, the requirements of e-learning were the most important controversy between those who supported its use and those who were skeptical. Undoubtedly, the debate about the extent of our

ability to provide these requirements will continue in a systematic and profound manner after the epidemic recedes, as it is one of the most important factors that will determine the feasibility of adopting it in our educational system.

Chapter Five

Discussion and Recommendations

This chapter discusses the factors for the successful implementation of e-learning in public secondary schools in the West Bank based on this study's findings. It is followed by a detailed discussion of the success factors that examines each questionnaire item and each interview question. Finally, recommendations concerning the implementation of e-learning in public secondary schools in the West Bank and the relationships among them are proposed.

5.1 Discussion of the results

The conducted interviews consisted of ten questions relating to the definition of e-learning; the advantages of e-learning; teachers' and students' possession of the required skills to implement e-learning; infrastructure readiness; a comparison of traditional teaching methods and e-learning in terms of the interaction between teachers and students; teachers' ability to design digital content; students' motivation; teachers' training needs; implementation challenges; and teachers', students', and principals' satisfaction.

Obviously, students find e-learning efficient. Also, participants agree that the estimated level of interaction among students is high since they use technology on a daily basis.

Furthermore, the participants agreed that students are highly motivated when using e-learning compared to traditional learning. However, they agreed that students find that the lack of effective technological infrastructure, including the dearth of computers, worn out computers, weak internet connections, and the lack of teachers' technological experience, is a challenge to employing e-learning successfully in marginalized schools. Still, most of the public secondary schools are equipped with appropriate technological devices. Consequently, this can be considered a factor of successful e-learning implementation in public secondary schools in the West Bank.

The results of the study are in agreement with Kundu and Bej (2020), in that the supervisors agreed that the main challenges facing the implementation of e-learning in public schools in the West Bank relate to the lack of technological infrastructure, the lack of teachers' conviction, and poor internet connections.

Furthermore, the results of the study echo Naveed et al.'s (2020) finding about teachers' ability to design technological content. Interviewees revealed that teachers are not able to design technological content; however, they clarified that there are schools included in the Smart Learning project, which train teachers to use technological tools. Moreover, most of interviewees agreed that students' motivation increases with the use of e-learning in comparison to using traditional pedagogy methods.

These results are consistent with Berger and Wolling (2019) in that the consensus among supervisors is that older teachers are in favor of using their own traditional ways. Younger teachers are more equipped with technological skills more than the older ones. Still, they are reluctant to develop a creative way of demonstrating their lessons because it takes too much time.

5.2 The discussion of the results of the first two questions

This study's results are consistent with Bada et al. (2020) in that the score of computer skills factor was very high based on teachers', students', and principals' perceptions because we live in the age of technology. In addition, teachers and principals need technological skills to fulfil their work requirements in the light of smart learning projects. Consequently, the Ministry of Education holds computer courses for teachers and principals. These sessions affect teachers' and principals' skills in a large degree.

These results are also consistent with Rasheed et al.'s study (2020) in that the score of attitude factor was high based on teachers', students', and principals' perceptions due to the spread of the culture of e-learning among students because the internet is an integral part of their daily lives. Therefore, it is imperative that all three components of the educational process—teachers, students, and principals—cope with technological developments.

These results are also consistent with Diamond's study (2020) in that there was a variance in the readiness of the infrastructure of schools that were included in technological projects, such as Digitization. It is noticed that infrastructure is the most important challenge for teachers, students, and principals due to the fact that the financial factors are still weak in the Palestinian context.

In addition, the study results are also in line with the evidence from Alsubhi et al.'s study (2020), which found that e-learning solves some problems related to the relationship between students and teachers. For example, it helps shy students to express their opinions. Furthermore, the researcher explains that in the extensive content design course targeting teachers, many projects might facilitate their tasks because they have the knowledge and technology to design their own software. In addition, e-learning is more enjoyable for students. E-learning delivers information easily, attracts students' attention, and allows teachers to develop curriculums effectively. Also, supervisors should make sure that teachers who attended the relevant training courses apply their content design skills in their schools.

Moreover, the results agree with Kim et al.'s study (2020) in that teachers and principals are aware of the influence of e-learning on students' academic achievement, as e-learning motivates students to learn. Furthermore, e-learning develops the educational process and enables teachers and students to do their tasks quickly. The researcher explains this

result in terms that effective training on e-learning tools enhances the ability to use e-learning systems. The trends these days is to create teachers and principals qualified in computer skills in order to deal with students and curricula in the learning process as required.

Finally, the estimation level for the challenge variable was high for teachers, principals, and students because schools do not have a sufficient number of computers due to limited budgets. In addition, the weakness of the internet is a major problem in schools, exacerbated by the lack of any technical support officers. Lastly, it is worth noting that not all students have the ability to buy computers.

5.3 The discussion of the results of the third question

Statistically significant differences did not exist within the teachers' subject variable. The researcher explains this result in terms that new teachers have personal technological skills enabling them to use e-learning without any difficulties, while old teachers face difficulties in dealing with technology. Furthermore, male teachers use technology more than female teachers because of the lack of social restriction on males and because females are wary of using modern devices and the internet.

Moreover, older teachers have few computer skills due to the fact that they did not learn these skills growing up or in their initial teacher training. Older teachers are unable to learn them later in life because they believe that they have no time in their job to practice these skills.

However, the change in teaching methods at universities has made it easier for new teachers to use technological devices, and this makes them remember every piece of information in their specialization. Also, they are highly motivated to use technology in their teaching methods. Furthermore, they are closer to the students in age, so they can understand each other.

In addition, MA graduates' open-mindedness makes them accept any new change easily, without resistance, since they attended courses about using technology in teaching and learned more than the teachers with bachelors' degrees. These findings are in agreement with Farhan et al.'s study (2020). The researcher explains this in terms that teachers who receive training have a positive view of e-learning because they have the necessary skills to use e-learning.

5.4 The discussion of the results of the fourth question

The study found that principals use technology skillfully and that the Ministry of Education assigns highly qualified principals who have computer skills, regardless of their specialization (humanities or science). Principals' gender, age, and experience do not influence the implementation of e-learning because most principals take courses and have smartphones, so they readily adopt technology and e-learning. In addition, they are role models for teachers and students: as such, principals must encourage them to use e-learning and all its tools because the principal's aim is to develop their school's educational system.

However, there is a difference between principals with diplomas and those with degrees (PhD, MA, or BA) in favor of those with degrees. This is because older principals were assigned before computers were in schools, so they lack the required skills and did not receive computer training from the Ministry of Education. Also, school's top management supports e-learning training programs since such programs increase principals' self-confidence and help them understand e-learning systems.

5.5 The discussion of the results of the fifth question

Since technology has reached almost every house in the West Bank and people use smartphones wherever they live, place of residence did not influence the implementation of e-learning. Also, students' gender did not have any effect on the implementation of e-learning because most students have smartphones and this enables them to have the required skills for the implementation of e-learning. Students' educational branch, grade, computer skills and internet access were insignificant variables because this demographic uses technology on a daily basis. Even distant areas have internet service thanks to the 3G network.

5.6 Reflections of the researcher

The findings from this study highlight that the factors that have the biggest impact on the implementation of e-learning in public schools in the West Bank are internet speed, technological infrastructure, teachers' skills,

and older teachers' resistance to change to e-learning. Based on the previous results, the researcher's reflections can be summarized as follows:

1. The overall infrastructure readiness of Palestinian public secondary schools is high because most schools are supported by the Ministry of Education's technological projects and the local community. However, some schools do not have the funding or resources to support teachers with time, software, ICT tools, or sufficient training experiences.
2. Older teachers display lower levels of computer self-efficacy and are found to be especially resistant to adopting e-learning practices, while younger teachers and students with more hands-on experience display higher levels of readiness to adopt e-learning. Teachers who attended more training sessions, used the internet for more hours daily, and had an e-learning system mandated in their schools, arguably possess more hands-on experience.
3. Principals and supervisors want more professional development opportunities in the form of training. One-time, crowded training sessions led by trainers lacking e-learning expertise and who do not account for various levels of e-learning are insufficient to prepare teachers to design and deliver their own e-learning content.
4. The lack of institutional policies and practices that specialize in training and content development serve as a clear challenge to the adoption of e-learning.

5. Interactions among students, teachers, and principals include three groups, namely, principals and teachers, new teachers and students, and student's groups. New teachers' motivation and satisfaction is high, in contrast to older teachers' low levels of motivation and satisfaction. Principals' and students' motivation and satisfaction are high because they use technology daily and because students are the connected generation.

5.7 Recommendations

In light of the aforementioned results, the following recommendations are made:

1. Upgrade schools' infrastructure before implementing e-learning, including computer labs, technologically equipped classrooms, and internet speeds and coverage.
2. Urge the Ministry of Education to increase the financial support for schools to implement e-learning through fostering relationships between the Ministry and the private sector, such as ICT and telecommunication companies.
3. Provide training opportunities for teachers and students to learn how to use e-learning devices and design their own digital content.
4. Provide a technical support system and support teams in schools.

5. Establishing an e-learning platform and provide a digital content depository or open educational resource (OER) that provides free access for schools.
6. Hold periodical technological courses through the Ministry of Education to discuss the updates to e-learning and implement plans to develop e-learning in schools.
7. Provide educational forums via an e-learning portal in order to exchange ideas and experiences about best practice among students and teachers, either from the same school or among different schools.

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Appendix (A)

Table A. 1

The dimensions and factors of the study along with the previous studies

Dimension	Factor	Literature
Students' Characteristics	Computer Skills	Garrison (2011); UNESCO (2004); Ouma et al. (2013)
	Attitude	Muresan and Gogu (2013); Kwofie and Henten (2011); Alkharang and Ghinea (2013); Neyland (2011); Taha (2014)
	Motivation	Kwofie and Henten (2011); Alkharang and Ghinea (2013),
Teachers' Characteristics	Computer Skills	Muresan and Gogu (2013); Ouma et al. (2013)
	Attitude	Mirza and Al-Abdulkareem (2011); Kwofie and Henten (2011); Shraim and Khlaif (2010); Ouma et al. (2013); Neyland (2011); Taha (2014)
	Motivation	Affounah and Raba (2017); Taha (2014)
Principals' Characteristics	Personal Characteristics	Muresan and Gogu (2013); Kwofie and Henten (2011); Taha (2014)
	Institutional Characteristics	Al-Nefaie, (2015); Taha (2014)
Technological Characteristics	Availability	Oye et al. (2011); Osaily (2017); Sabbah (2010); Osaily (2017); Issa (2016)
	Quality	Affounah and Raba (2017); Issa (2016); Taha (2014)
Content Characteristics	Ease of Use	Al-Harbi (2011); Muresan and Gogu (2013); Osaily (2017); Sabbah (2010); Affounah and Raba (2017); Bates (2000); Issa (2016); Mathevula and Uwizeyimana (2014).
	Ease of Access	Oye et al. (2011); Osaily (2017); Sabbah (2010); Osaily (2017); Affounah and Raba (2017); Issa (2016); Mathevula and Uwizeyimana (2014)

Table A. 2

Distribution of teachers' sample according to independent variables

Variable	Class	Frequency	Percentage %
Subject	English	87	34.4
	Technology	74	29.2
	Math	92	36.4
Gender	Male	123	48.6
	Female	130	51.4
Age	20-30	67	26.5
	31-40	125	49.4
	41-50	54	21.3
	51-60	7	2.8
Experience	1-5	55	21.7
	6-10	85	33.6
	11-20	99	39.1
	20 >	14	5.5
Qualification	PhD	5	2.0
	MA	71	28.1
	BA	166	65.6
	Diploma	11	4.3
Training	Yes	190	75.1
	No	63	24.9
Using the Electronic Environment	Yes	218	86.2
	No	35	13.8
Total		253	100%

Table A. 3

Distribution of principals' sample according to independent variables

Variable	Class	Frequency	Percentage %
Specialization	Scientific	81	42.9
	Humanities	108	57.1
Gender	Male	83	43.9
	Female	106	56.1
Age	25-30	6	3.2
	31-40	52	27.5
	41-50	88	46.6
	51-60	43	22.8
Experience	1-5	18	9.5
	6-10	30	15.9
	11-20	85	45.0
	20 >	56	29.6
Qualification	PhD	2	1.1
	MA	64	33.9
	BA	116	61.4
	Diploma	7	3.7
Training	Yes	156	82.5
	No	33	17.5
Using the Electronic environment	Yes	168	88.9
	No	21	11.1
Total		189	100%

Table A. 4

Distribution of students' sample according to independent variables

Variable	Class	Frequency	Percentage %
Place of residence	City	76	23.6
	Village	239	74.2
	Camp	7	2.2
Gender	Male	136	42.2
	Female	186	57.8
Branch	Scientific	100	31.1
	Literary	194	60.2
	Vocational	19	5.9
	Financial	7	2.2
	Technology	2	.6
Class	11 th	200	62.1
	12 th	122	37.9
Computer skills	Yes	297	92.2
	No	25	7.8
Internet availability	Yes	287	89.1
	No	35	10.9
Total		322	100%

Appendix (B)



جامعة النجاح الوطنية

كلية الدراسات العليا

برنامج الإدارة الهندسية

الأخ/ الأخت المحترم/ة

استبانة عن رأي مدراء المدارس الثانوية الحكومية حول التعلم الإلكتروني في التعليم الثانوي في الضفة الغربية

تحية طيبة وبعد،

يقوم الباحث بدراسة حول: " التحقق من عوامل نجاح التعلم الإلكتروني في المدارس الثانوية الحكومية في الضفة الغربية من وجهات نظر مختلفة" وهذه الدراسة تقع ضمن متطلبات الحصول على درجة الماجستير، وقد صمم الباحث هذه الاستبانة كأحد الأدوات التي ستطبق في الدراسة والتي تهدف إلى فحص العوامل المؤثرة في تطبيق التعلم الإلكتروني في المدارس الثانوية في الضفة الغربية. ويعرف التعلم الإلكتروني على أنه استخدام وسائل الاتصال الحديثة من حاسوب وشبكة انترنت ووسائط مثل الصوت والصورة والفيديو سواء كان ذلك في الفصل أو التعلم عن بعد وذلك بأقل وقت وجهد وأكبر فائدة.

ولأهمية آرائكم أمل التكرم بالإجابة بدقة على عبارات الاستبانة وسوف تستغرق حوالي 10 دقائق من وقتك القيم وستعامل البيانات التي تدلون بها فقط لأغراض البحث العلمي ونتعهد لكم بالمحافظة على عدم إظهار هوية المشاركين في هذه الاستبانة.

ولكم جزيل الشكر

الباحث: إياد حمدان

جامعة النجاح الوطنية

ماجستير إدارة هندسية

أولاً: المعلومات الشخصية:

<u>التخصص:</u>	<u>الجنس:</u>	<u>السن:</u>	<u>عدد سنوات الخبرة:</u>
☐ ذكر	25-30	☐ 5 سنوات فأقل	
☐ أنثى	31-40	☐ 6-10	
	41-50	☐ 11-20	
	51-60	☐ 20 سنة فأكثر	

المؤهل العلمي:☐ دكتورة ☐ نعم☐ ماجستير ☐ لا☐ بكالوريوس☐ دبلوم

هل استخدمت بيئة التعلم الإلكتروني من قبل:

☐ نعم☐ لا

يرجى وضع إشارة (x) أمام الإجابة الموضحة لوجهة نظرك:

1	2	3	4	5	السؤال	#	المتغير
معارض بشدة	معارض	محايد	موافق	موافق بشدة			
					تؤثر المهارات التقنية لمدير المدرسة على استخدام نظام التعلم الإلكتروني	1	مهارات الحاسوب
					يسهم استخدام الحاسوب كوسيلة تعليمية داخل الغرف التعليمية في تحسين جودة التعلم الإلكتروني.	2	
					تساعد مهارة استخدام الحاسوب في التواصل مع عناصر العملية التعليمية.	3	
					يسهم استخدام نظام التعلم الإلكتروني في العثور على المعلومات.	4	
					يساعد التعلم الإلكتروني في إنجاز العمل بسهولة.	5	
					أرى أن استخدام التعلم الإلكتروني في العملية التعليمية يحفز الطلبة للتعلم.	1	الاتجاهات
					يحقق التعلم الإلكتروني المتعة في إدارة بيانات المدرسة.	2	
					هناك دور لإدارة المدرسة في تحفيز المعلمين على حضور الدورات التدريبية في مجال التعلم الإلكتروني.	3	
					استخدام التعلم الإلكتروني يبعث على الارتياح والرضا أكثر من التعلم التقليدي.	4	
					يرفع استخدام التعلم الإلكتروني مستوى الرضا لدى مدراء المدارس.	5	
					استخدام المحتوى الرقمي يبعث على الرضا أكثر من التعلم التقليدي.	6	
					يزيد التعلم الإلكتروني من دافعية الطلبة للتعلم الذاتي	7	
					الوصول إلى خدمة الإنترنت بشكل دائم في المدرسة يسهم في تطبيق التعلم الإلكتروني.	1	البنية التحتية
					توفر المدرسة بيئة تعلم إلكترونية مجهزة بكل ما يلزم في تحقيق تعلم الكتروني فعال.	2	
					توفر بيئة التعلم الإلكتروني فرصا للمشاركة والتفاعل في الدروس الإلكترونية	3	
					توفر فني مختبر حاسوب يسهم في تقديم المساعدة للمعلمين والطلبة باستمرار.	4	
					توفر مختبر تفاعلي للطلبة يسهم في تفاعل الطلبة في العملية التعليمية.	5	

					توفر منتديات نقاش للمتعلمين تساعدهم على تبادل الأفكار والمعلومات	1	التفاعل بين المعلمين والطلبة
					يسهم التعلم الإلكتروني في رفع مشاركة المعلومات بين الزملاء.	2	
					يوفر التعلم الإلكتروني إمكانية التواصل بين المتعلمين خارج أوقات الدوام الرسمية.	3	
					أستطيع التواصل مع المعلمين والطلبة خارج أوقات الدوام.	4	
					أستطيع التواصل مع المعلمين والطلبة خارج أوقات الدوام.	5	
					يكسر التعلم الإلكتروني حاجز خجل الطالب من إبداء رأيه أمام الطلبة.	6	
					لدى المعلمين والمتعلمين الوعي الكافي لأهمية التعلم الإلكتروني	1	الوعي الثقافي
					لدى المعلمين والمتعلمين الوعي بأثر التعلم الإلكتروني على التحصيل الدراسي للطلبة	2	
					لدى الوعي الكافي بأن استخدام التعلم الإلكتروني يحفز على التعلم.	3	
					لدى الوعي الكافي بأن استخدام التعلم الإلكتروني يرتقي بالعلمية التعليمية.	4	
					تعد إدارة المدرسة نشرات دورية في مجال استخدام التعلم الإلكتروني.	5	
					تدعم إدارة المدرسة برامج التدريب على استخدام التعلم الإلكتروني.	1	التدريب
					زاد التدريب على التعلم الإلكتروني الثقة بالنفس لدى المعلمين والمتعلمين	2	
					ساعد التدريب الإلكتروني على فهم نظام التعلم الإلكتروني	3	
					نوعية التدريب على التعلم الإلكتروني سهّل تصميم المحتويات التعليمية.	4	
					يتلقى الطلاب دليل إرشادي يتضمن المعلومات المهمة المتعلقة بالتعلم الإلكتروني.	5	
					تدعم إدارة المدرسة نمط التعلم الإلكتروني.	1	دعم الإدارة المدرسية
					ترصد إدارة المدرسة ميزانية خاصة للتعلم الإلكتروني	2	
					تقوم إدارة المدرسة بتحديث القوانين والتعليمات لتتماشى مع التعلم الإلكتروني	3	
					تلتزم إدارة المدرسة بتنفيذ خطط مشاريع التعلم الإلكتروني.	4	
					تقديم الدعم الإداري المباشر مهم في خلق تصورات ايجابية نحو نظام التعلم الإلكتروني.	5	
					تتسق إدارة المدرسة مع المؤسسات الخاصة والمجتمع المحلي لدعم تطبيق التعلم الإلكتروني.	6	
					ضعف مهارات استخدام الحاسوب عند الطلبة يقلل من رغبتهم من استخدامه في التعلم.	1	المعوقات

					2	الأعطال الفنية في أجهزة التعلم الإلكتروني تعيق من العلمية التعليمية.
					3	عدم وجود عدد كاف من أجهزة الحاسوب بالمقارنة مع أعداد الطلبة.
					4	عدم وجود فني صيانة لأجهزة التعلم الإلكتروني داخل المدرسة.
					5	ضعف في شبكة الإنترنت الموجودة داخل المدرسة.
					6	عدم قدرة بعض الطلبة على شراء جهاز حاسوب خاص به بالمنزل.
					7	عدم قدرة الطلبة على التعامل مع التقنيات الحديثة.
					8	ضعف التأهيل والتدريب على استخدام التقنيات الحديثة للحاسوب والانترنت في التعلم.
					9	الغرف الدراسية غير مجهزة لتطبيق التعلم الإلكتروني.

يمكنك مشكوراً تقديم مقترحات إضافية للمساهمة في بناء وتصميم تعلم إلكتروني فعال.

ملاحظات أخرى:

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شكراً على تعاونكم



جامعة النجاح الوطنية

كلية الدراسات العليا

برنامج الإدارة الهندسية

الأخ/ الأخت المحترم/ة

استبانة عن رأي المعلمين حول التعلم الإلكتروني في التعليم الثانوي في الضفة الغربية

تحية طيبة وبعد،

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ولأهمية آرائكم أمل التكرم بالإجابة بدقة على عبارات الاستبانة وسوف تستغرق حوالي 10 دقائق من وقتك القيم لتعبئة هذا الاستبيان وستعامل البيانات التي تدلون بها فقط لأغراض البحث العلمي ونتعهد لكم بالمحافظة على عدم إظهار هوية المشاركين في هذه الاستبانة.

ولكم جزيل الشكر

الباحث: إياد حمدان

جامعة النجاح الوطنية

ماجستير إدارة هندسية

أولاً: المعلومات الشخصية:

<u>المادة التي تدرس:</u>	<u>الجنس:</u>	<u>السن:</u>	<u>عدد سنوات التدريس:</u>
☐ اللغة الإنجليزية	☐ ذكر	☐ 20-30	☐ 5 سنوات فأقل
☐ التكنولوجيا	☐ أنثى	☐ 31-40	☐ 6-10
☐ الرياضيات	☐ 41-50	☐ 11-20	
	☐ 51-60	☐ 20 سنة فأكثر	

المؤهل العلمي: هل التحقت بدورة تدريبية لاستخدام جهاز الحاسوب☐ دكتورة ☐ نعم☐ ماجستير ☐ لا☐ بكالوريوس☐ دبلوم

هل استخدمت بيئة التعلم الإلكتروني من قبل:

☐ نعم☐ لا

المتغير		السؤال	5	4	3	2	1
			موافق بشدة	موافق	محايد	معارض	معارض
مهارات الحاسوب	1	تؤثر المهارات التقنية للمعلمين على استخدام نظام التعلم الإلكتروني.					
	2	يسهم استخدام الحاسوب في العثور على المعلومات.					
	3	يسهم استخدام الحاسوب كوسيلة تعليمية داخل الغرف التعليمية في تحسين جودة التعليم الإلكتروني.					
	4	تساعد مهارة استخدام الحاسوب في التواصل مع عناصر العملية التعليمية.					
	5	يساعد التعلم الإلكتروني في إنجاز العمل بسهولة.					
الاتجاهات	1	أرى أن استخدام التعلم الإلكتروني في العملية التعليمية يحفز الطلبة للتعلم.					
	2	أجد أن نظام التعلم الإلكتروني يساعدني على تنظيم الوقت.					
	3	أرى أن التعلم الإلكتروني يدعم الطلبة إيجابيا نحو التعلم الذاتي.					
	4	أستمتع في تعليم المواد باستخدام التعلم الإلكتروني.					
	5	يرفع استخدام التعلم الإلكتروني كأداة تعليمية مساعدة مستوى الرضا لدى معلمي المدارس.					
	6	يجذب التعلم الإلكتروني انتباه الطلبة لشرح المعلم من خلال المواد الرقمية.					
	7	يشجع التعلم الإلكتروني الطلبة على البحث عن المعلومات والمواد العلمية بشكل أوسع.					
البنية التحتية	1	الوصول إلى خدمة الإنترنت بشكل دائم في المدرسة يسهم في تطبيق التعلم الإلكتروني.					
	2	توفر بيئة تعلم إلكترونية مجهزة بكل ما يلزم يسهم في تحقيق تعليم الكتروني فعال.					
	3	توفر بيئة التعلم الإلكتروني فرصا للمشاركة والتفاعل في الدروس الإلكترونية					
	4	توفر فني مختبر حاسوب يسهم في لتقديم المساعدة للمعلمين والطلبة باستمرار.					
	5	البنية التحتية لبيئة التعلم الإلكتروني فعالة وذات كفاءة عالية.					

ثانياً: يرجى وضع إشارة (x) أمام الإجابة الموضحة لوجهة نظرك:

التفاعل بين المعلمين والطلبة	1	توفر منتديات نقاش للمتعلمين تساعدهم على تبادل الأفكار والمعلومات				
	2	يسهم التعلم الإلكتروني في رفع مشاركة المعلومات بين الزملاء.				
	3	يوفر التعلم الإلكتروني إمكانية التواصل بين المتعلمين خارج أوقات الدوام الرسمية.				
	4	أرى أن التعلم الإلكتروني يسهل عملية التواصل بين المتعلمين في أسرع وقت.				
	5	يكسر التعلم الإلكتروني حاجز خجل الطالب من إبداء رأيه أمام الطلبة.				
التصميم والمحتوى	1	تصميم وإعداد المحتوى الإلكتروني يستهلك الجهد ويضيع الوقت				
	2	استخدام التعلم الإلكتروني يسهل عملية تحديث المحتوى الإلكتروني أكثر من التعلم التقليدي.				
	3	إيصال المعلومات عن طريق المحتوى التعليمي الإلكتروني أكثر وضوحاً.				
	4	لا توجد صعوبة في فهم واستخدام تطبيقات وتوضيحات التعلم الإلكتروني.				
	5	استخدام محتوى التعلم الإلكتروني يجذب انتباه الطلبة للمادة الدراسية.				
الوعي الثقافي	1	لدى المعلمين والمتعلمين الوعي الكافي لأهمية التعلم الإلكتروني				
	2	لدى المعلمين والمتعلمين الوعي بأثر التعلم الإلكتروني على التحصيل الدراسي للطلبة				
	3	لدى الوعي الكافي بأن استخدام التعلم الإلكتروني يحفز على التعلم.				
	4	لدى الوعي الكافي بأن استخدام التعلم الإلكتروني يرتقي بالعلمية التعليمية.				
	5	لدى المعلمين والمتعلمين الوعي بأثر التعلم الإلكتروني على سرعة إنجاز المهام الأكاديمية.				
التدريب	1	زاد التدريب على التعلم الإلكتروني الثقة بالنفس لدى المعلمين والمتعلمين				
	2	ساعد التدريب الإلكتروني على فهم نظام التعلم الإلكتروني				
	3	ساهمت نوعية التدريب على التعلم الإلكتروني على استخدامه بشكل صحيح.				

					4	يتلقى الطلاب دليل إرشادي يتضمن المعلومات المهمة المتعلقة بالتعلم الإلكتروني.
					5	نوعية التدريب على التعلم الإلكتروني سهل تصميم المحتويات التعليمية.
					1	ضعف مهارات استخدام الحاسوب عند الطلبة يقلل من رغبتهم من استخدامه في التعليم.
					2	الأعطال الفنية في أجهزة التعلم الإلكتروني تعيق من العملية التعليمية.
					3	عدم وجود عدد كاف من أجهزة الحاسوب بالمقارنة مع أعداد الطلبة.
					4	عدم وجود فني صيانة لأجهزة التعلم الإلكتروني داخل المدرسة.
					5	ضعف في شبكة الإنترنت الموجودة داخل المدرسة.
					6	عدم قدرة بعض الطلبة على شراء جهاز حاسوب خاص به بالمنزل.
					7	عدم قدرة الطلبة على التعامل مع التقنيات الحديثة.
					8	ضعف التأهيل والتدريب على استخدام التقنيات الحديثة للحاسوب والإنترنت في التعليم.
					9	الغرف الدراسية غير مجهزة لتطبيق التعلم الإلكتروني.

المعوقات

يمكنك مشكوراً تقديم مقترحات إضافية للمساهمة في بناء وتصميم تعلم إلكتروني فعال.
ملاحظات أخرى:

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شكراً على تعاونكم



جامعة النجاح الوطنية

كلية الدراسات العليا

برنامج الإدارة الهندسية

الأخ/ الأخت المحترم/ة

استبانة عن رأي الطلبة حول التعلم الإلكتروني في التعلم الثانوي في الضفة الغربية

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يقوم الباحث بدراسة حول: " التحقق من عوامل نجاح التعلم الإلكتروني في المدارس الثانوية الحكومية في الضفة الغربية من وجهات نظر مختلفة" وهذه الدراسة تقع ضمن متطلبات الحصول على درجة الماجستير، وقد صمم الباحث هذه الاستبانة كأحد الأدوات التي ستطبق في الدراسة والتي تهدف إلى فحص العوامل المؤثرة في تطبيق التعلم الإلكتروني في المدارس الثانوية في الضفة الغربية. ويعرف التعلم الإلكتروني على أنه استخدام وسائل الاتصال الحديثة من حاسوب وشبكة انترنت ووسائط مثل الصوت والصورة والفيديو سواء كان ذلك في الفصل أو التعلم عن بعد وذلك بأقل وقت وجهد وأكبر فائدة.

ولأهمية آرائكم أمل التكرم بالإجابة بدقة على عبارات الاستبانة وستعامل البيانات التي تدلون بها فقط لأغراض البحث العلمي وسوف تستغرق حوالي 10 دقائق من وقتك القيم لتعبئة هذا الاستبيان ونتعهد لكم بالمحافظة على عدم إظهار هوية المشاركين في هذه الاستبانة.

ولكم جزيل الشكر

الباحث: إياد حمدان

جامعة النجاح الوطنية

ماجستير إدارة هندسية

أولاً: المعلومات الشخصية:

مكان السكن	الجنس:	الفرع:	الصف:
☐ مدينة	☐ ذكر	☐ علمي	☐ الحادي عشر
☐ قرية	☐ أنثى	☐ أدبي	☐ الثاني عشر
☐ مخيم		☐ رياضي	
		☐ صناعي	
		☐ تكنولوجي	

هل تتوفر خدمة الإنترنت في المنزل:

☐ نعم

☐ لا

هل لديك القدرة على استخدام الحاسوب:

☐ نعم

☐ لا

ثانيا: يرجى وضع إشارة (x) إمام الإجابة الموضحة لوجهة نظرك:

المتغير		السؤال	5	4	3	2	1
معارض بشدة	موافق بشدة	موافق	محايد	معارض	معارض بشدة		
مهارات الحاسوب	1	لدي المهارات اللازمة لاستخدام الحاسوب.					
	2	أستطيع استخدام الحاسوب للعثور على المعلومات.					
	3	أستطيع استخدام الحاسوب كوسيلة تعليمية داخل الغرف التعليمية.					
	4	أستطيع استخدام الحاسوب في التواصل مع عناصر العملية التعليمية.					
	5	أستطيع انجاز العمل بسرعة وسهولة باستخدام الحاسوب.					
الاتجاهات	1	أجد أن نظام التعلم الإلكتروني يساعدني على تنظيم الوقت.					
	2	أستمتع في تعليم المواد باستخدام التعلم الإلكتروني.					
	3	يزيد التعلم الإلكتروني من دافعية الطلبة للتعلم الذاتي					
	4	أشعر بالرضا عند استخدام التعلم الإلكتروني كأداة تعليمية مساعدة.					
	5	استخدام محتويات التعلم الإلكتروني يبعث على الرضا أكثر من التعلم التقليدي.					
	6	يشجع التعلم الإلكتروني الطلبة على الإبداع					
	7	يشجع التعلم الإلكتروني الطلبة على البحث عن المعلومات والمواد العلمية بشكل أوسع.					
البنية التحتية	1	يتوفر في المدرسة خدمة الوصول إلى الإنترنت بشكل دائم					
	2	يتوفر في المدرسة بيئة تعلم إلكترونية مجهزة بكل ما يلزم لتحقيق تعليم الكتروني فعال.					

					توفر بيئة التعلم الإلكتروني فرصا للمشاركة والتفاعل في الدروس الإلكترونية	3	
					يتوفر في المدرسة فني مختبر حاسوب لتقديم المساعدة للمعلمين والطلبة باستمرار .	4	
					يتوفر مختبر تفاعلي للطلبة.	5	
					أرى أن التعلم الإلكتروني يوفر منتديات نقاش للمتعلمين تساعد على تبادل الأفكار والمعلومات	1	التفاعل بين المعلمين والطلاب
					أود أن أشارك زملائي بالمعلومات من خلال أدوات التعلم الإلكتروني	2	
					يوفر التعلم الإلكتروني إمكانية التواصل بين المتعلمين خارج أوقات الدوام الرسمية.	3	
					أرى أن التعلم الإلكتروني يسهل عملية التواصل بين المتعلمين في أسرع وقت.	4	
					يكسر التعلم الإلكتروني حاجز خجل الطالب من إبداء رأيه أمام الطلاب.	5	
					لدي الوعي الكافي لأهمية التعلم الإلكتروني	1	الوعي الثقافي
					لدى المتعلمين الوعي بأثر التعلم الإلكتروني على التحصيل الدراسي للطلبة	2	
					لدي الوعي الكافي بأن استخدام التعلم الإلكتروني يحفز على التعلم.	3	
					لدي الوعي الكافي بان استخدام التعلم الإلكتروني يرتقي بالعلمية التعليمية.	4	
					لدى المتعلمين الوعي بأثر التعلم الإلكتروني على سرعة إنجاز المهام الأكاديمية.	5	
					زاد التدريب على التعلم الإلكتروني الثقة بالنفس لدى المعلمين والمتعلمين	1	التدريب
					ساعد التدريب الإلكتروني على فهم نظام التعلم الإلكتروني	2	
					تم تحسين مستواي بشكل كبير بعد انخراطي ببرنامج التدريب على نظام التعلم الإلكتروني.	3	

					ساهمت نوعية التدريب على التعلم الإلكتروني على استخدامه بالشكل الصحيح.	4	
					يتلقى الطلاب دليل إرشادي يتضمن المعلومات المهمة المتعلقة بالتعلم الإلكتروني.	5	
					ضعف مهارات استخدام الحاسوب عند الطلبة يقلل من رغبتهم من استخدامه في التعليم.	1	المعيقات
					الأعطال الفنية في أجهزة التعلم الإلكتروني تعيق من العملية التعليمية.	2	
					عدم وجود عدد كاف من أجهزة الحاسوب بالمقارنة مع أعداد الطلبة.	3	
					عدم وجود فني صيانة لأجهزة التعلم الإلكتروني داخل المدرسة.	4	
					ضعف في شبكة الإنترنت الموجودة داخل المدرسة.	5	
					عدم قدرة بعض الطلبة على شراء جهاز حاسوب خاص به بالمنزل.	6	
					عدم قدرة الطلبة على التعامل مع التقنيات الحديثة.	7	
					ضعف التأهيل والتدريب على استخدام التقنيات الحديثة للحاسوب والانترنت في التعليم.	8	
					الغرف الدراسية غير مجهزة لتطبيق التعلم الإلكتروني.	9	

يمكنك مشكوراً تقديم مقترحات إضافية للمساهمة في بناء وتصميم تعلم إلكتروني فعال.
ملاحظات أخرى:

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شكراً على تعاونكم

An-Najah National University
Faculty of High Studies
Engineering Management



A Questionnaire about perspective of principals about e-learning in the secondary
education in the West Bank

Dear Sir/Madam,

The researcher is doing a study about “Investigating the Critical Success Factors of E-Learning in Public Secondary Schools in the West Bank from Different Perspectives “: A Descriptive Study” included in the requirements of the Master Degree. The researcher designed this questionnaire as one of the tools applied in this study aiming at investigating the influential factors in the implementation of e-learning in the secondary schools in the West Bank. E-learning can be defined as using hi-tech telecommunication tools including computers, the internet, multimedia means in the classrooms or in distant learning classes with less effort and time and more benefit.

Your opinions are important, so I hope you answer the statements of the questionnaire accurately that it will take you ten minutes of your valuable time to fill the questionnaire. The data will be dealt with for the purposes of the scientific research. The researcher pledges not to show the identity of the participants in this questionnaire.

Thank You for Your Cooperation

Researcher: Iyad Hamdan

An-Najah National University

M.A. in Engineering Management

First: Personal Information

<u>Specialization</u>	<u>Gender</u>	<u>Age</u>	<u>Years of Expertise</u>
	Male ☐	25-30 ☐	5 years and less ☐
	Female ☐	31-40 ☐	6-10 ☐
		41-50 ☐	11-20 ☐
		51-60 ☐	20 years and more ☐

<u>Edu- Qualification</u>	<u>Have you enrolled in Computer Courses</u>
PhD ☐	Yes ☐
MA ☐	No ☐
BA ☐	
Diploma ☐	

Have you used E-Learning before?

Yes ☐

No ☐

Secondly: Please add (x) in front of the answers in your opinion:

Factor	#	Question	5	4	3	2	1
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Computer Skills	1	Possessing technical skills affects principals' use of e-learning system.					
	2	Using e-learning system contributes in looking up information.					
	3	Using computers as an educational method inside classrooms enhances the quality of e-learning.					
	4	Using computers can contribute in communicating with the other elements of the educational process.					
	5	E-learning contributes in completing work easily					
Attitudes	1	I see that using e-learning helps me organize my time.					
	2	I enjoy learning courses using e-learning.					
	3	E-learning increases students' motivation towards learning.					
	4	I feel satisfied when using e-learning as an educational supportive tool.					
	5	Using e-learning content makes me feel satisfied more than the traditional one					
	6	E-learning encourages students to be creative.					
	7	E-learning encourages students to look up information and educational sources widely.					
Infrastructure	1	Permanent access to the internet at school contributes in implementing e-learning.					
	2	There is an equipped e-learning environment at school sufficient for achieving an effective e-learning.					
	3	E-learning environment offers chances to participate and interacts in electronic classes.					
	4	There is an IT specialist to assist teachers and students continuously.					
	5	There is an interactive lab for students.					
Interaction Between Students & Teachers	1	The availability of discussion forums for teachers and students that help them exchange ideas.					
	2	E-learning contributes in sharing data among colleagues					
	3	E-learning offers the possibility of communication among learners and teachers off- duty.					
	4	Possessing technical skills affects principals' use of e-learning system.					
Cultural Awareness	1	Teachers have the sufficient awareness about the importance of e-learning.					
	2	Teachers and learners are aware of the influence of e-learning on the academic achievement of students.					

	3	I am aware that using e-learning motivates learners.					
	4	I am aware that using e-learning upgrades students' learning process.					
	5	School's administration prepares periodical reports in the area of using e-learning					
School's Administration Support	1	School's administration supports e-learning style.					
	2	School's administration specializes money in the budget for e-learning.					
	3	School's administration upgrades regulations and rules to cope with e-learning.					
	4	Offering the direct administrative support is important in creating positive thoughts about e-learning.					
	5	School's administration coordinates with special institutions and local community to support the implementation of e-learning.					
Training	1	Schools' administration support training courses on using e-learning					
	2	Training on e-learning increases learners' and teachers' self-confidence					
	3	Training quality contributed in using it properly					
	4	Students get a guidance manual including vital information concerning e-learning					
	5	Training quality facilitated the design of educational content.					
Challenges	1	Students suffer from the lack of computer skills which makes their desire to use this system low.					
	2	Computer technical failures hinder the educational process.					
	3	Computers' number compatible with students' numbers.					
	4	The unavailability of technical support technician for the tools of e-learning tools at schools.					
	5	Weakness of the internet network.					
	6	Students' inability to buy computers in their homes.					
	7	Students' inability to deal with the hi-tech devices.					
	8	Lack of teachers' practice on using the computerized hi-tech devices in education.					
	9	Classrooms are unequipped for implementing e-learning.					

You can thankfully add any suggest contribution in constructing and designing an effective e-learning education.

Other suggestions:

Thank you for your cooperation,

An-Najah National University

Faculty of High Studies

Engineering Management

Dear Brother, Sister



A Questionnaire about perspective of Teachers about E Learning in the Secondary
Education in the West Bank

Dear Sir/Madam,

The researcher is doing a study about “Investigating the Critical Success Factors of E-Learning in Public Secondary Schools in the West Bank from Different Perspectives “: A Descriptive Study” included in the requirements of the Master Degree. The researcher designed this questionnaire as one of the tools applied in this study aiming at investigating the influential factors in the implementation of e-learning in the secondary schools in the West Bank. E-learning can be defined as using hi-tech telecommunication tools including computers, the internet, multimedia means in the classrooms or in distant learning classes with less effort and time and more benefit.

Your opinions are important, so I hope you answer the statements of the questionnaire accurately that it will take you ten minutes of your valuable time to fill the questionnaire. The data will be dealt with for the purposes of the scientific research. The researcher pledges not to show the identity of the participants in this questionnaire.

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Thank You for Your Cooperation

Researcher: Iyad Hamdan

An-Najah National University
M.A. in Engineering Management

First: Personal Information

<u>Course Taught</u>		<u>Gender</u>		<u>Age</u>		<u>Years of Expertise</u>	
English	☐	Male	☐	20-30	☐	5 years and less	☐
Technology	☐	Female	☐	31-40	☐	6-10	☐
Mathematics	☐			41-50	☐	11-20	☐
				51-60	☐	20 years and more	☐

<u>Edu- Qualifications</u>		<u>Have you enrolled in Computer Courses</u>	
PhD	☐	Yes	☐
MA	☐	No	☐
BA	☐		
Diploma	☐		

Have you used E-Learning before?

Yes	☐
No	☐

Secondly: Please add (x) in front of the answers in your opinion:

Factors	#	Question	5	4	3	2	1
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Computer Skills	1	Possessing technical skills affects principals' use of e-learning system.					
	2	Using e-learning system contributes in looking up information.					
	3	Using computers as an educational method inside classrooms enhances the quality of e-learning.					
	4	Using computers can contribute in communicating with the other elements of the educational process.					
	5	E-learning contributes in completing work easily					
Attitudes	1	I see that using e-learning in the educational process motivates students to learn.					
	2	I find that e-learning system helps me organize my time.					
	3	I see that e-learning supports students positively towards self-learning.					
	4	I enjoy using e-learning in teaching courses.					
	5	E-learning as an educational method raises teachers' level of satisfaction.					
	6	E-learning attracts students' attention to teachers' lessons via using digital material.					
	7	E-learning encourages students to look up information and educational sources widely.					
Infrastructure	1	Permanent access to the internet at school contributes in implementing e-learning.					
	2	There is an equipped e-learning environment at school sufficient for achieving an effective e-learning.					
	3	E-learning environment is available to grant children the chance to participate and interact in electronic classes.					
	4	There is an IT specialist to assist teachers and students continuously.					
	5	There is an effective infrastructure for e-learning environment.					

Interaction Between Students and Teachers	1	The availability of discussion forums for teachers and students that help them exchange ideas.					
	2	E-learning contributes in sharing data among colleagues.					
	3	E-learning offers the possibility of communication among learners and teachers off- duty.					
	4	I think e-learning eases communication among learners and teachers.					
	5	E-learners enables students go over feeling shy whenever expressing his/her opinion.					
Content Design	1	Designing and preparing electronic content wastes time and requires more effort.					
	2	Using e-learning eases updating the electronic content more than the traditional system.					
	3	Information delivery via electronic tools is clearer.					
	4	There are no difficulties in understanding and using electronic application in e-learning.					
	5	Using the content of e-learning attracts students' attention.					
Cultural Awareness	1	Teachers have the sufficient awareness about the importance of e-learning.					
	2	Teachers and learners are aware of the influence of e-learning on the academic achievement of students.					
	3	I am aware that using e-learning motivates learners.					
	4	I am aware that using e-learning upgrades students' learning process.					
	5	Teachers and learners are aware of the influence of e-learning in finishing academic tasks fast.					
Training	1	Training on e-learning increases learners' and teachers' self-confidence					
	2	Electronic training helps learners and teachers understand e-learning system.					
	3	My educational level is improved after enrolling in e-learning program.					
	4	Training quality of e-learning contributes in using it correctly.					
	5	Students get a guide for using e-learning system.					
Chall enges	1	Students suffer from the lack of computer skills which makes their desire to use this system low.					

	2	Computer technical failures hinder the educational process.					
	3	There aren't compatible with students' numbers.					
	4	The unavailability of technical support technician for the tools of e-learning tools at schools.					
	5	Weakness of the internet network.					
	6	Students' inability to buy computers in their homes.					
	7	Students' inability to deal with the hi-tech devices.					
	8	Lack of teachers' practice on using the computerized hi-tech devices in education.					
	9	Classrooms are unequipped for implementing e-learning.					

You can thankfully add any suggest contribution in constructing and designing an effective e-learning education.

Other suggestions:

.....

Thank you for your cooperation,

An-Najah National University
Faculty of High Studies
Engineering Management



A Questionnaire about perspective of students about e-Learning
in the secondary education in the West Bank

Dear Sir/Madam,

The researcher is doing a study about “Investigating the Critical Success Factors of E-Learning in Public Secondary Schools in the West Bank from Different Perspectives “: A Descriptive Study” included in the requirements of the Master Degree. The researcher designed this questionnaire as one of the tools applied in this study aiming at investigating the influential factors in the implementation of e-learning in the secondary schools in the West Bank. E-learning can be defined as using hi-tech telecommunication tools including computers, the internet, multimedia means in the classrooms or in distant learning classes with less effort and time and more benefit.

Your opinions are important, so I hope you answer the statements of the questionnaire accurately that it will take you ten minutes of your valuable time to fill the questionnaire. The data will be dealt with for the purposes of the scientific research. The researcher pledges not to show the identity of the participants in this questionnaire.

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Thank You for Your Cooperation

Researcher: Iyad Hamdan

An-Najah National University
M.A. in Engineering Management

First: Personal Information

<u>Place of Residence</u>	<u>Gender</u>	<u>Branch</u>	<u>Class</u>
City ☐	Male ☐	Scientific ☐	11 th ☐
Village ☐	Female ☐	Humanities ☐	
Camp ☐		Trade ☐	12 th ☐
		Industrial ☐	
		Technology ☐	
		Agricultural ☐	

<u>Do you have the ability to use computer</u>	<u>Internet availability</u>
Yes ☐	Yes ☐
No ☐	No ☐

Secondly: Please add (x) in front of the answers in your opinion:

Factor	#	Question	5	4	3	2	1
			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Computer Skills	1	I have the required skills for using computer system					
	2	I can use the computer for looking up information.					
	3	I can use the computer as an educational tool inside classrooms.					
	4	I can use the computer to communicate with the elements of the educational process.					
	5	I can finish work faster by using the computer.					
Attitudes	1	I see that using e-learning in the educational process motivates students to learn.					
	2	I find that e-learning system helps me organize my time.					
	3	I see that e-learning supports students positively towards self-learning.					
	4	I enjoy using e-learning in teaching courses.					
	5	I feel satisfied when using e-learning as an educational supportive tool.					
	6	E-learning attracts students' attention to teachers' lessons via using digital material.					
	7	E-learning encourages students to look up information and educational sources widely.					
Infrastructure	1	There is always internet access at school.					
	2	There is an equipped e-learning environment at school.					
	3	E-learning environment offers chances for interaction in electronic lessons.					
	4	There is a specialized lab supervisor to offer help for teachers and students continuously.					
	5	There is an interactive lab for students.					
Interaction Between Students & Teachers	1	I see that e-learning offers discussion forums for teachers and students that help them exchange ideas.					
	2	I'd like to share information with my colleagues via e-learning tools.					
	3	E-learning offers the possibility of communication among learners and teachers off- duty.					
	4	I think e-learning eases communication among learners and teachers.					
	5	E-learners enables students go over feeling shy whenever expressing his/her opinion.					
Cultural Awareness	1	Teachers have the sufficient awareness about the importance of e-learning.					
	2	Teachers and learners are aware of the influence of e-learning on the academic achievement of students.					
	3	I am aware that using e-learning motivates learners.					
	4	I am aware that using e-learning upgrades students' learning process.					

	5	Teachers and learners are aware of the influence of e-learning in finishing academic tasks fast.					
Training	1	Training on e-learning increases learners' and teachers' self-confidence					
	2	Electronic training helps learners and teachers understand e-learning system.					
	3	My educational level is improved after enrolling in e-learning program.					
	4	Training quality of e-learning contributes in using it correctly.					
	5	Students get a guide for using e-learning system.					
Challenges	1	Students suffer from the lack of computer skills which makes their desire to use this system low.					
	2	Computer technical failures hinder the educational process.					
	3	There aren't compatible with students' numbers.					
	4	The unavailability of technical support technician for the tools of e-learning tools at schools.					
	5	Weakness of the internet network.					
	6	Students' inability to buy computers in their homes.					
	7	Students' inability to deal with the hi-tech devices.					
	8	Lack of teachers' practice on using the computerized hi-tech devices in education.					
	9	Classrooms are unequipped for implementing e-learning.					

You can thankfully add any suggest contribution in constructing and designing an effective e-learning education.

Other suggestions:

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Thank you for your cooperation,

Appendix (C)

The Demographic Information of the Interviewees

Gender	Male				Female		
	7				5		
Age	Less than 30		31-40		41-50	More than 50	
	0		4		3	5	
Qualifications	Diploma		BA		MA	PhD	
	0		6		6	0	
Specialization	Technology			English		Math	
	5			4		3	
Directorate	Qabatya	Nablus	Tulkarm	Jenin	Hebron	Qalqilia	Ramallah & Al-Bereh
	2	1	1	1	1	3	3

حضرة المشرف/ة المحترم/ة:

تحية طيبة وبعد،

يقوم الباحث بدراسة حول "التحقق من عوامل نجاح التعلم الإلكتروني في المدارس الثانوية الحكومية في الضفة الغربية" وهذه الدراسة تقع ضمن متطلبات الحصول على درجة الماجستير، وقد اعتبر الباحث هذه المقابلات كأحد الأدوات التي ستطبق في الدراسة والتي تهدف إلى فحص العوامل المؤثرة في تطبيق التعلم الإلكتروني في المدارس الثانوية في الضفة الغربية. ويعرف التعلم الإلكتروني على أنه استخدام وسائل الاتصال الحديثة من حاسوب وشبكة انترنت ووسائل مثل الصوت والصورة والفيديو سواء كان ذلك في الفصل أو التعلم عن بعد وذلك بأقل وقت وجهد وأكبر فائدة.

لذا يرجى من حضرتكم التكرم بالإجابة عن تساؤلات المقابلة الشخصية بدقة وعناية، للتعرف إلى آرائكم ومقترحاتكم حول تطبيق التعلم الإلكتروني في المدارس الثانوية الحكومية في الضفة الغربية والرفع من شأنها والاستفادة منها، علما ان البيانات لن تستخدم إلا لأغراض البحث العلمي فقط وسيتم الحفاظ على سرية المعلومات.

شاكرين لكم حسن تعاملكم

الباحث: إياد حمدان

جامعة النجاح الوطنية

ماجستير إدارة هندسية

القسم الأول: المعلومات الشخصية

أولاً: المعلومات الشخصية:

الجنس	السن	عدد سنوات الخبرة	المؤهل العلمي	المادة
☐ ذكر	☐ 30-25	☐ 5 سنوات وأقل	☐ دكتوراة	☐ اللغة الإنجليزية
☐ أنثى	☐ 40-31	☐ 10-6	☐ ماجستير	☐ التكنولوجيا
☐	☐ 50-41	☐ 20-11	☐ بكالوريوس	☐ الرياضيات
☐	☐ 60-51	☐ 20 سنة وأكثر	☐ دبلوم	

ثانياً: أسئلة المقابلة:

1. هناك تعريفات كثيرة للتعليم الإلكتروني، ما التعريف الأنسب له من وجهة نظرك؟
2. ماهي إيجابيات تطبيق التعلم الإلكتروني للعملية التعليمية
3. ما هي المهارات المطلوبة لتطبيق التعلم الإلكتروني لدى المعلمين والطلبة؟
4. ما مدى تفاعل الطلاب والمعلمين في استخدام نظام التعلم الإلكتروني مقارنة مع التعلم التقليدي؟
5. ما مدى جاهزية المدارس لتطبيق التعلم الإلكتروني؟
6. ما هي درجة مهارات المعلمين في تصميم المحتوى التعليمي؟
7. كيف يزيد نظام التعليم الإلكتروني دافعية الطلاب نحو التعليم؟
8. ما هي الاحتياجات التدريبية المطلوبة للوصول إلى تعلم الكتروني أفضل؟
9. ما مدى رضا الطلاب والمعلمين والمدراء عن التعليم الإلكتروني المطبق داخل المدارس؟
10. ما هي أهم التحديات والمعوقات التي تواجه تطبيق التعلم الإلكتروني في المدارس؟

Dear Sir/Madam,

The researcher is doing a study about “Investigating the Critical Success Factors of E-Learning in Public Secondary Schools in the West Bank from Different Perspectives “: A Descriptive Study” included in the requirements of the Master Degree. The researcher has conducted these interviews as one of the tools applied in this study aiming at investigating the influential factors in the implementation of e-learning in the public secondary schools in the West Bank. E-learning can be defined as using hi-tech telecommunication tools including computers, the internet, multimedia means in the classrooms or in distant learning classes with less effort and time and more benefit. Consequently, would you be kind to answer the questions of the interview in order to track your point of views about the implementation e-learning in the public secondary schools in the West Bank highlighting that data will be used for scientific research only and the confidentiality of data will be taken in consideration.

Thank You for Your Cooperation

Researcher: Iyad Hamdan

An-Najah National University

M.A. in Engineering Management

First: Personal Information

<u>Edu- Qualification</u>	<u>Gender</u>	<u>Age</u>	<u>Years of Expertise</u>	<u>Subject</u>
PhD ☐	Male ☐	25-30 ☐	5 years and less ☐	English ☐
MA ☐	Female ☐	31-40 ☐	6-10 ☐	Math ☐
BA ☐		41-50 ☐	11-20 ☐	Technolc ☐
Diploma ☐		51-60 ☐	20 years and more ☐	

Second: Questions of the Interviews

1. There are many definitions of e-learning. What is the most suitable one from your point of view?
2. What are the advantages of e-learning on the educational process?
3. What are the required skills for the implementation of e-learning for teachers and students?
4. To What extent do students and teachers interact in e-learning system compared to the traditional one?
5. What is the readiness level of schools for a good e-learning implementation?
6. What is the level of teachers in designing electronic content?
7. How does e-learning system increase students' motivation towards learning?
8. What are the training requirements to achieve the best e-learning system?
9. What is the level of satisfaction of teachers, students and principals in implementing e-learning in school?
10. What are the challenges of the implementation of e-learning in schools?

Appendix (D)

The Codebook of the Interviews

P.	L.	Text	Code	Author	Date
2	6	Employing highly advanced resources and tools in the process of teaching and learning. It is education that depends on modern techniques of communication, which means education using modern means of communication, like computer.	Resources and tools	Fadi Jafar Al-Junedi	19-Feb-2021
2	10	Employing electronic educational resources inside the classrooms by all means possible. I think it is a type of education in which the student and the teacher are at the same time in front of electronic screens	Electronic educational resources	Mohanad Abu Al-Haija	19-Feb-2021
2	14	Using technology is different from employing it that employing it is designing interactive lessons in the content while using it is using tools	Interactive lessons	Sahar Zaid	19-Feb-2021
2	17	E-Learning is the educational system, which is based on using electronic devices such as computers, TVs, acoustic devices in order to serve the process of teaching and learning.	Electronic devices	Saleh Amarna	19-Feb-2021
2	20	Teacher's use of modern technology such as Laptops, smart board and all its applications in order to develop teaching methods and assessing their performance.	Modern technology	Mohammed Mansur	19-Feb-2021
2	23	Using modern devices instead of the traditional ones; it is using high-tech devices to serve the interactive curriculum which increases motivation towards learning.	Interactive curriculum	Salah Al-Din Khadir	19-Feb-2021
3	1	Electronic library is one of the educational systems depending on technology that students use technological sources in delivering information and getting knowledge through employing digital sources	Electronic libraries	Mohammed Abu Hatab	19-Feb-2021
3	5	E-learning is one of the types of learning by using the computerized tools and materials synchronically and non-synchronically.	Computerized tools	Ziad Salhub	19-Feb-2021
3	7	Employing social media in order to achieve educational goals which are about providing students with sources and references.	Social media	Mahasen Sehwal	19-Feb-2021
3	9	Employing technology to increase students' achievement and make learning more fun away from the traditional style.	Fun away	Ruba Farouq Dawood	19-Feb-2021
3	12	E-learning is based on education from a distance from the usual classrooms, and is facilitated and supported by technology based on the use of Internet networks, and is usually accompanied by a number of supporting programs or applications,	Supporting programs or applications	Wafa Ahmad Al-Taweel	19-Feb-2021

P.	L.	Text	Code	Author	Date
3	17	reprogramming the educational unit by using Computers to reflect on students' performance & their level through interactive learning, tools, boards, smart board.	Reprogramming the educational unit	Nihaya AhidInaya	19-Feb-2021
3	23	Exerting less effort in less time with the availability of learning sources and varying learning ,	Exerting less effort and time	Fadi Jafar Al-Junedi	19-Feb-2021
4	2	In addition to creating an appropriate relationship between parents and the school and between the school and the external community, with attention to the interactive environment between teachers and learners.	Interactive learning environment	Mohanad Abu Al-Haija	19-Feb-2021
4	8	Creating motivation in students through the element of intense; Creating interactive learning ; Increasing educational achievement by using reversed learning,	Creating motivation in students	Sahar Zaid	19-Feb-2021
4	12	An advantage of e-learning is getting away from the traditional style of teaching (the black board).	Getting away from traditional learning style	Saleh Amarna	19-Feb-2021
4	22	Encouraging students to use their mobiles in producing videos to link the information with their real life to be projected inside the classroom as part of the Qualitative Assessment.	Mobiles in education	Mohammed Mansur	19-Feb-2021
5	26	Improving the process of communication and interaction among all the elements of the educational process; E-learning also contributes to increasing the motivation of teachers and learners and establishing communication with teachers on daily basis.	Communication and interaction	Salah Al-Din Khadir	19-Feb-2021
5	8	The motivation of students and their interaction with what is being presented. The advantages of e-learning implementation include: Increasing teachers' confidence, Increasing teachers' training abilities and Increasing teachers' passion towards knowledge quests.	Motivation	Mohammed Abu Hatab	19-Feb-2021
5	12	It also ease communication among students and teachers because it is funnier and more interesting. Having better sources in terms of form and quantity.	Easy to communicate	Ziad Salhub	19-Feb-2021
5	21	It is offering a huge educational content for learners that there are many simulation sites.	Huge educational content	Mahasen Sehwal	19-Feb-2021
6	1	The curricula are available at all times and are available to learners at all times, which is a very useful feature for those who want to learn at times that suit them and their circumstances.	Curricula are available at all times	Ruba Farouq Dawood	19-Feb-2021

P.	L.	Text	Code	Author	Date
6	5	The teacher has a huge source of information available in every time and place, and he can send what the student needs at all times. It also helps in motivating students to prepare their lessons.	Motivating students	Wafa Ahmad Al-Taweel	19-Feb-2021
6	8	E-learning saves effort and time, as it enables learners, if the necessary infrastructure is available, to access educational resources, in their print, audio and visual formats, with the press of a finger.	Necessary infrastructure	Nihaya AhidInaya	19-Feb-2021
6	24	There are many available tools, but teachers do not have sufficient skills. Sometimes, there aren't available tools, but teachers have the right skills.	Sufficient skills	Fadi Jafar Al-Junedi	19-Feb-2021
6	26	New teachers and e-learning projects teachers have the required skills while old teachers does not.	Old teachers	Mohanad Abu Al-Haija	19-Feb-2021
7	1	Teachers need training courses in content design and computer skills while students are masters of technology due to using technology every day.	Training courses on content design	Sahar Zaid	19-Feb-2021
7	3	The most important skills in e-learning implementation are having a good command in computer skills, content design programs and technology in general.	Content design programs	Saleh Amarna	19-Feb-2021
7	10	There are well-trained teachers (males and females), but the motivation to implement it is more in the female teachers than males that untrained male teachers didn't implement it that makes males teachers' response less.	Well-trained teachers	Mohammed Mansur	19-Feb-2021
7	13	There are technological abilities for students, but teachers do not have it that there is a gap between the abilities of students and teachers, but teachers should direct knowledge sources.	Technological abilities	Salah Al-Din Khadir	19-Feb-2021
7	16	The required technological skills are having a good level of computer skills and ability to cope with the recent advances in technology. Teachers were divided into two groups, old and new while students are masters of technology.	Technological skills	Mohammed Abu Hatab	19-Feb-2021
7	19	The required skills for e-learning implementation are having the required computer skills as well as the ability to deal with educational programs.	Technological skills	Ziad Salhub	19-Feb-2021
7	21	In order to implement e-learning successfully, students and teachers should have specific skills including computer skills and content design skills.	Content design skills	Mahasen Sehwal	19-Feb-2021

P.	L.	Text	Code	Author	Date
7	23	Teachers should have proper skills in using hi-tech devices especially old teachers.	Skills in using hi-tech devices	Ruba Farouq Dawood	19-Feb-2021
7	24	Teacher and students need skills in computer science and content design.	Skills in computer especially content design	Wafa Ahmad Al-Taweel	19-Feb-2021
8	3	The interaction among students and teachers is high due to creating Facebook groups and discussion groups. It attracts students' attention due to using educational videos and hi-tech devices which increases students' motivation towards learning.	Interaction among students and teachers	Nihaya AhidInaya	19-Feb-2021
8	6	There is interaction among teachers and students in discussion groups which creates interaction among students to increase their academic achievement using Facebook.	Interaction among students	Fadi Jafar Al-Junedi	19-Feb-2021
8	8	Students' teachers' interaction in using e-learning increased especially via Zoom or even Teams strengthening the bonds among students and teachers.	Students' teachers' interaction	Mohanad Abu Al-Haija	19-Feb-2021
8	10	About 95% percent of students interact perfectly with e-sources. About 40% of teachers have the desire to use it because they need motivations and the ability to operate computers.	Interact well with e-sources	Sahar Zaid	19-Feb-2021
8	13	"Students and teachers interact more using e-learning methods than traditional methods because technology offers methods that are easier to use. Teachers can reach more people via e-learning than traditional methods.	Students and teachers interact actively`	Saleh Amarna	19-Feb-2021
8	16	Female teachers interact more actively than males;	Female teachers interact more	Mohammed Mansur	19-Feb-2021
8	18	Interaction of teachers and students in discussion groups that they communicate through websites that 10% of the learners established discussion groups	Discussion groups	Salah Al-Din Khadir	19-Feb-2021
8	22	There is good interaction between students and teachers because they enjoy their classes more than before as teachers break the routine	Teachers break the routine	Mohammed Abu Hatab	19-Feb-2021
9	1	New teachers have the right skills to interact with teachers and students while old teachers vary according to training courses attended.	New teachers interact better than the old ones	Ziad Salhub	19-Feb-2021
9	4	Students and teachers interact with each other in e-learning system more than the old system.	Students and teachers interact	Mahasen Sehweel	19-Feb-2021
9	6	Students and teachers interact with each other successfully because they are convinced that it is fun and interesting.	Fun and interesting	Ruba Farouq Dawood	19-Feb-2021

P.	L.	Text	Code	Author	Date
9	10	Consequently, they interact with each other very well.	Students and teachers interact very well	Wafa Ahmad Al-Taweel	19-Feb-2021
9	13	There is variation among schools, there are unsupportive societies, and others are supportive since the MOE offers tech support for schools according to available projects.	The local community and the MOE support	Nihaya AhidInaya	19-Feb-2021
9	17	Other schools which are not included in technological projects have poor electronic environment.	Poor electronic environment	Fadi Jafar Al-Junedi	19-Feb-2021
9	19	There are well-equipped schools (Digitization Schools/ planning according to outcomes) paving the way to accessing electronic sources.	Well-equipped schools	Mohanad Abu Al-Haija	19-Feb-2021
9	21	Most schools lack good infrastructure which enhance using e-learning that most of the computer devices are old and the internet speed is slow at schools.	Computer devices are old and slow internet speed	Sahar Zaid	19-Feb-2021
9	23	Some schools are well-equipped with others are not because of the availability of technology projects offered to schools.	Availability of technology projects	Saleh Amarna	19-Feb-2021
10	1	Schools' infrastructure is available that there are equipped and unequipped schools. Secondary schools have labs, interactive boards, and LCDs	Equipped and unequipped schools	Mohammed Mansur	19-Feb-2021
10	4	The number of computers is not enough in some schools and	Number of computers is not enough	Salah Al-Din Khadir	19-Feb-2021
10	7	Governmental support: by including them in support projects while other schools are poorly equipped because they didn't receive that kind of support.	Governmental and local support	Mohammed Abu Hatab	19-Feb-2021
10	10	Internet speed which is inappropriate. Also school computer Labs are badly equipped. Some schools suffer from insufficient number of computers for students.	Internet speed which is inappropriate and the number of computers is not enough	Ziad Salhub	19-Feb-2021
10	14	Not all schools are equipped with advanced lab while unsupported schools are poorly equipped	Variation in schools readiness	Mahasen Sehvel	19-Feb-2021
10	16	Internet speed is inappropriate.	Internet speed is inappropriate	Ruba Farouq Dawood	19-Feb-2021
10	17	Schools which are included in digital projects are well equipped while others are poorly equipped.	Variation in schools readiness	Wafa Ahmad Al-Taweel	19-Feb-2021
11	2	Teachers are trained on content design and interactive learning materials' design such as PowerPoint, Photoshop, and Moviemaker.	Content design	Nihaya AhidInaya	19-Feb-2021

P.	L.	Text	Code	Author	Date
11	5	New teachers have the ability to design educational content through developing themselves in courses which were held by the Ministry of Education to schools included	Ability to design educational content	Fadi Jafar Al-Junedi	19-Feb-2021
11	8	Teachers who attended content design courses can design their own content while the ones who did not use others' designs.	Content design courses	Mohanad Abu Al-Haija	19-Feb-2021
11	10	From the point of view of most of the supervisors, most school teachers don't have the required skills to design an electronic content due to the lack of experiences, so they need training courses specialized in this field in order to be able to offer what is appropriate for their students.	Training courses on content design	Sahar Zaid	19-Feb-2021
11	14	Teachers were divided into two groups, namely: new teachers and old teachers. New teachers can design their own educational content while old teachers cannot because they lack training.	New teachers and old teachers	Saleh Amarna	19-Feb-2021
11	17	Teachers are capable of designing educational content through hyperlinks as a self- taught skill, but old teachers lack motivation to design electronic content.	Designing educational content	Mohammed Mansur	19-Feb-2021
11	19	Programs for content design such as the Finnish and the British, there aren't enough teachers practicing content design except for developed schools which are 14 schools.	Programs for content design	Salah Al-Din Khadir	19-Feb-2021
11	23	Teachers who attended training courses can design their own educational content because they attended courses about content design	Design their own educational content	Mohammed Abu Hatab	19-Feb-2021
12	1	Sometimes the interaction is good if the teacher and students are motivated	Interaction and skills	Ziad Salhub	19-Feb-2021
12	3	Teachers who attended content design courses can design their own content	Content design courses	Mahasen Sehweel	19-Feb-2021
12	5	Teachers are divided into two groups, namely: old teacher don't know anything about content design while new teachers can design their own electronic content.	Old teacher and new teachers	Ruba Farouq Dawood	19-Feb-2021
12	7	The targeted teachers have the desire to get more information about content design.	Trained teachers are ready to use e-learning	Wafa Ahmad Al-Taweel	19-Feb-2021
12	11	It increases students' motivation towards learning because of the use of new application such as Facebook, Teams and Viber and they express their ideas freely.	Students' motivation	Nihaya AhidInaya	19-Feb-2021
12	13	It increases students' academic achievements because students use technological tools which they use every day and this motivates them to learn more.	academic achievements	Fadi Jafar Al-Junedi	19-Feb-2021

P.	L.	Text	Code	Author	Date
12	15	motivates them through using audio-visual electronic teaching methods which they use every day. Students' motivation is low that there are some teachers who keep	motivates them through using audio-visual electronic teaching	Mohanad Abu Al-Haija	19-Feb-2021
12	22	the electronic educational system increase students' motivation due to the variety of demonstration styles and because the systems of e-learning	students' motivation	Sahar Zaid	19-Feb-2021
13	1	Fresh teachers are motivated to produce electronic educational means, but for a short time, so this issue should be followed up by supervisors because there is not any internal motivation for teachers to keep using it.	Fresh teachers are motivated to produce electronic educational means	Saleh Amarna	19-Feb-2021
13	4	Teachers have huge motivation to use E-Learning if there is clarity in training which leads to higher response that there are 7 schools in Smart Learning Project in Tulkarm.	Teachers have motivation to use E-Learning if there is clarity in training	Mohammed Mansur	19-Feb-2021
13	7	It increases students' motivation towards learning urging them to get extra information from the internet regardless time and place.	students' motivation towards learning	Salah Al-Din Khadir	19-Feb-2021
13	9	E-learning increased students' motivation through presenting the material in an interesting way attracting their attention.	attracting their attention	Mohammed Abu Hatab	19-Feb-2021
13	11	E-learning increases students' motivation due to the interesting ways of presenting the educational content.	students' motivation	Ziad Salhub	19-Feb-2021
13	14	It increases students' motivation toward learning because e-learning attracts students' attention.	e-learning attracts students' attention	Mahasen Sehweel	19-Feb-2021
13	16	increase students' motivation because they use the means which interest them the most.	increase students' motivation	Ruba Farouq Dawood	19-Feb-2021
13	18	increases students' motivation towards learning because of the use of new apps and programs which make lessons memorable and creative.	students' motivation towards learning	Wafa Ahmad Al-Taweel	19-Feb-2021
14	4	, teachers should be trained on new apps every time the curriculum changes and this requires new courses on content design.	curriculum changes and new courses on content design	Nihaya AhidInaya	19-Feb-2021
14	6	Teachers should join content design courses and courses about employing interactive smart boards.	content design courses	Fadi Jafar Al-Junedi	19-Feb-2021
14	8	a course in content design because they should design their content without resorting to others' designs.	course in content design	Mohanad Abu Al-Haija	19-Feb-2021
14	10	Training teachers by specialists and offering more devices along with following up with the implementation of teachers by their supervisors and principals.	Training teachers by specialists	Sahar Zaid	19-Feb-2021

P.	L.	Text	Code	Author	Date
14	12	Training teachers on content design is required in order to change their conviction	Training teachers on content design	Saleh Amarna	19-Feb-2021
14	13	Training teachers on the concept of e-learning and its components and providing schools with the required electronic environment	Training teachers on the concept of e-learning and its components	Mohammed Mansur	19-Feb-2021
14	15	Old teachers need training on computer skills while fresh ones don't because they receive computer skills training before being appointed.	Old teachers need training on computer skills	Salah Al-Din Khadir	19-Feb-2021
14	17	Teachers need training on content design and computer skills because they are the basis for any implementation of e-learning.	Teachers need training on content design and computer skills	Mohammed Abu Hatab	19-Feb-2021
14	19	Teachers need more training on interactive boards, content design, power point, movie maker and app creator.	Teachers need more training on interactive boards	Ziad Salhub	19-Feb-2021
14	21	Teachers should train on content design, computer skills and smart boards.	teachers should train on content design	Mahasen Sehmel	19-Feb-2021
14	22	Teachers should be trained on content design and PowerPoint	Teachers should be trained on content design and PowerPoint	Ruba Farouq Dawood	19-Feb-2021
14	23	Teachers need training on content design, interactive tools, Prezi, Story show, Powtoon.	interactive tools	Wafa Ahmad Al-Taweel	19-Feb-2021
16	21	the Internet, the speed of the Internet is weak and there are no advanced computers at schools.	the Internet speed and lack of up to date computers	Nihaya AhidInaya	19-Feb-2021
17	1	The challenges of the implementation of e-learning are slow internet speed; teachers are unwilling to design content and lack of infrastructure.	slow internet speed and weakness in infrastructure	Fadi Jafar Al-Junedi	19-Feb-2021
17	6	the insufficient fund in schools' budget, weak internet speed, and lack of external funding due to political situations.	insufficient fund in schools' budget and weakness in internet speed	Mohanad Abu Al-Haija	19-Feb-2021
17	10	The lack of the availability of modern devices and slow Internet speed as well as power load problems.	availability of modern devices , weakness in power load and internet speed	Sahar Zaid	19-Feb-2021
17	18	convictions, their motivation, Internet speed, material and financial cost.	teachers' convictions and internet speed	Saleh Amarna	19-Feb-2021
17	24	Also other challenges include Internet Speed, Infrastructure, Some teachers use it for other purposes, Resistance of the old teachers, Time loss and teachers are not ready.	Internet Speed is slow and old teacher resistance	Mohammed Mansur	19-Feb-2021
18	4	Lack of electronic environment in all schools except for the ones which have special programs and training teachers on new applications which are not available at schools.	Lack of electronic environment and training teachers on new apps.	Salah Al-Din Khadir	19-Feb-2021

P.	L.	Text	Code	Author	Date
18	8	Lack of resources, Lack of professional training, Thenumber of teachers' classes, Professional Proficiency, Changing teachers' idea, style of teaching, Motivation.	Lack of resources and teaching style	Mohammed Abu Hatab	19-Feb-2021
18	14	Beside other challenges such as Internet Speed , Availability of computers, teachers experience, Teachers' conviction and lack of resources.	readiness of the teacher due to their conviction; internat speed	Ziad Salhub	19-Feb-2021
18	19	Weak Internet , Unprepared teachers especially the old teachers (Failing Phobia) , Poor convictions for teachers, Qualitative and lasting learning doesn't exist.	Weak Internet and poor conviction	Mahasen Sehmel	19-Feb-2021
18	22	The main challenges of e-learning implementation are power out, teachers' convictions, computers' availability, and teachers' skills.	power out and teachers convictions	Ruba Farouq Dawood	19-Feb-2021
19	1	The inability to implement it on the whole curriculum.	power out and teachers convictions	Nihaya AhidInaya	19-Feb-2021

جامعة النجاح الوطنية
كلية الدراسات العليا

التحقق من عوامل نجاح التعلم الإلكتروني في المدارس الثانوية الحكومية في الضفة الغربية

إعداد

إياد محمود أحمد حمدان

إشراف

د. محمد عثمان

د. سائدة عفونة

قدمت هذه الأطروحة استكمالاً لمتطلبات درجة الماجستير في الإدارة الهندسية بكلية
الدراسات العليا في جامعة النجاح الوطنية في نابلس، فلسطين.

2021

ب

التحقق من عوامل نجاح التعلم الإلكتروني في المدارس الثانوية الحكومية في الضفة الغربية

إعداد

إياد محمود أحمد حمدان

إشراف

د. محمد عثمان

د. سائدة عفونة

الملخص

أصبح العالم يعيش ثورة علمية وتكنولوجية كبيرة كان لها تأثير على مختلف جوانب الحياة، وأصبحت النظم التعليمية مطالبة بالبحث عن أساليب ونماذج تعليمية جديدة مثل التعلم الإلكتروني ليساعد المتعلم على التعلم في أي مكان وزمان، فتهدف هذه الدراسة إلى التحقق من العوامل المؤثرة على نجاح التعلم الإلكتروني في المدارس الحكومية الثانوية في الضفة الغربية من وجهة نظر المشرفين والمدراء والمعلمين والطلبة. تتكون مجتمع الدراسة من (12) من مشرفي اللغة الإنجليزية والرياضيات والتكنولوجيا في مديريات التربية والتعليم في الضفة الغربية و(205) من مدراء المدارس و(297) من معلمي اللغة الإنجليزية والتكنولوجيا والرياضيات و(383) من الطلبة. ولتحقيق أهداف الدراسة، استخدم الباحث المنهج النوعي والكمي للإجابة على أسئلة الدراسة، البيانات الكمية تم جمعها من خلال توزيع الاستبانات على العينة العشوائية، أما البيانات النوعية تم جمعها من خلال إجراء مقابلات معمقة مع المشرفين في مديريات التربية والتعليم في نابلس وجنين وطولكرم ورام الله والبيرة وبيت لحم والخليل وقباطية.

أظهرت النتائج أن الدرجات الكلية لمجالات نجاح التعلم الإلكتروني في المدارس الثانوية من وجهة نظر المدراء والمعلمين والطلبة كانت (4.06) (3.99) و(4.08) على التوالي وهي درجات مرتفعة. وقد توافقت هذه النتيجة مع نتائج المقابلات مع المشرفين من حيث مجالات عوامل نجاح تطبيق التعلم الإلكتروني في المدارس الثانوية الحكومية وهي مهارات الحاسوب والاتجاهات والبنية التحتية والتفاعل بين المعلمين والطلبة وتصميم المحتوى والوعي الثقافي والدعم الإداري للمدارس والتحديات التي تواجه تطبيقه.

كما وجد الباحث أن الضوابط الاجتماعية المفروضة على الذكور تجعلهم أكثر جرأة على التعامل مع التكنولوجيا أكثر من الإناث فتميل الإناث لاستخدام الوسائل التقليدية أكثر نتيجة الخوف من استخدام الوسائل المتقدمة في التعليم. وأخيراً، لدى المعلمون الجدد اتجاه إيجابي باتجاه استخدام التعلم الإلكتروني في تعليمهم نتيجة تغير المناهج الجامعية الذي يحتم عليها استخدام التكنولوجيا وهذا أدى إلى قبول المعلمين الجدد لاستخدام التكنولوجيا في وسائلهم التعليمية. ومن خلال ما وصلت إليه الدراسة الحالية، خرج الباحث بعدة توصيات من أهمها تهيئة البنية التحتية للمدارس قبل تطبيق التعلم الإلكتروني وتوفير فرص تدريب للمعلمين وخاصة تصميم المحتوى مع التركيز على المعلمين الجدد وحث وزارة التربية والتعليم على التواصل مع مؤسسات القطاع الخاص لتوفير الدعم المالي والتقني اللازمين لتهيئة البنية التحتية لتطبيق التعلم الإلكتروني.