

## Challenges facing e- learning during COVID- 19 Pandemic from teachers' perceptions

Ahmad Reyad Ahmad Awwad

Ashwaq Imad Rawhi Hoorani

Faculty of Graduate Studies || An- Najah National University || Palestine

**Abstract:** The study aimed to investigate the challenges that facing the e- learning during COVID- 19 pandemic as teachers perceived. To achieve the study goals, we followed the quantitative approach, and we applied the descriptive and deductive analysis. Data collecting tool was a questionnaire. A sample of (390) teachers was randomly selected from among the study population of (37,573) teachers working in the Palestinian Ministry of Education- West Bank according to the Palestinian Central Bureau of Statistics (2020). The results revealed that the means of the barriers as a whole was mean (3.26). The barrier of the student level was the highest barrier of the e- learning mean (3.64), The school level barrier was mean (3.33). The curriculum level barrier was mean (3.10). The lowest barrier was the teacher level barrier mean (3.00). There was a vigorous positive relationship between the barrier of the student level and the barrier of the school level and curriculum level barrier, and there were no differences in disabilities related to the teachers' demographic background. The study recommended training students to utilize the e- learning, and providing teachers with necessary knowledge and skills of e- learning.

**Keywords:** Challenges, e- learning, teachers' perceptions, COVID- 19, pandemic.

## التحديات التي تواجه التعلم الإلكتروني أثناء جائحة COVID- 19 كما يراها المعلمون.

أحمد رياض أحمد عواد

أشواق عماد رويحي حوراني

كلية الدراسات العليا || جامعة النجاح الوطنية || فلسطين

**المستخلص:** هدفت الدراسة التعرف الى التحديات التي تواجه التعلم الإلكتروني أثناء جائحة COVID- 19 كما يراها المعلمون. لتحقيق أهداف الدراسة اتبعنا المنهج الوصفي التحليلي. وتم استخدام الاستبيان كأداة لجمع بيانات هذه الدراسة. حيث تم اختيار عينة قوامها (390) معلمًا بشكل عشوائي من مجتمع الدراسة البالغ عددهم (37573) معلمًا يعملون في وزارة التربية والتعليم الفلسطينية- الضفة الغربية، وفقًا للجهاز المركزي للإحصاء الفلسطيني (2020). وأظهرت النتائج أن المتوسط العام للتحديات التي تواجه التعلم الإلكتروني أثناء جائحة كورونا ككل كان المتوسط (3.26). وكان عائق مستوى الطالب هو أعلى عائق للتعليم الإلكتروني بمتوسط (3.64)، وجاء عائق مستوى المدرسة بالمرتبة الثانية بمتوسط (3.33). وكان عائق مستوى المنهج الدراسي بالترتيب الثالث بمتوسط (3.10). وكان أقل حاجز هو حاجز مستوى المعلم بمتوسط (3.00). كما كانت هناك علاقة إيجابية قوية بين حاجز مستوى الطالب وحاجز المستوى المدرسي وحاجز مستوى المنهج الدراسي، ولم تكن هناك فروق في الإعاقات المتعلقة بالخلفية الديموغرافية للمعلمين. وأوصت الدراسة بتدريب الطلاب على الاستفادة من التعلم الإلكتروني، وتزويد المعلمين بالمعرفة والمهارات اللازمة للتعلم الإلكتروني.

**الكلمات المفتاحية:** تحديات، تعلم إلكتروني، تصورات المعلمين، كوفيد- 19، جائحة.

## 1. INTRODUCTION.

The COVID- 19, has become a global pandemic since March 2020, and the widespread spread of this virus has imposed social distancing, or reducing physical distance, to contain the virus. Therefore, the policy of distancing seeks to slow the spread of the virus in society, and it has had a considerable effect on various sectors, the most important is education.

Schools were closed in many countries, due to the declaration of a public health emergency starting from 1 April 2020, approximately 1.5 billion children were unable to attend school in 188 countries (UNESCO, 2021a). In Palestine, about 154,097 cumulative confirmed cases as of December 31, 2020, 14% of whom were children under the age of 18 (WHO, 2020).

The spread of COVID- 19 has greatly affected education in Palestine, especially in the period of closure of schools, colleges and universities. As an alternative solution to the closure, schools moved to distance learning programs and platforms to limit the disruption of the educational process and the spread of the virus. It is noticeable that in the Gaza Strip more than 575,000 children and adolescents (more than 50 percent of the school- age population) lack computer equipment, reliable power supplies and the Internet. In addition, it is estimated that only 30 per cent of households have the Internet, and these Internet connections are often unreliable (United Nations, 2020).

Therefore, there is an urgent need to move to e- learning. E- learning or online learning is the access to learning experiences through some technology (Sangra, 2012). E- learning is a subgroup of distance learning that has always been concerned with providing access to educational practices are more flexible than school- based education (Anderson, 2008). E- learning definition during the period of pandemic is the teachers and their students do not go to school, but teach and study from home using technology, technology such as; smartphone, laptop, i- pad and tablets can be used. Several e- learning platforms are offered that can be combined with technology, such as WhatsApp, Google Classroom, Ruang Guru, Quipper, Zoom Meeting, etc. (Rahayu & Wirza, 2020).

Mark (2007) in his book on e- learning strategies pointed out some of the advantages of e- learning, including: flexibility in time and place, use of discussion forums that provide opportunities to create relationships between learners, and removal of barriers that may hinder participation, centered in the fear of speaking to Others, contribute to students' interaction with others, in terms of cost, they are considered effective, take into account individual differences among learners, and allow each student to study at his own speed.

Westberry (2009) added some of the advantages of e- learning, namely, support for students' higher cognitive levels, leveling the playing field among learners, enhancing learner's thinking, and information's processing. Also from its advantages, according to the learners' point of view, is that it saves time and convenience, and its low cost, which motivates learners to accept e- learning and the continuity of its use (Aithal & Shubhrajyotsna, 2016).

Moreover, e- learning meets the learners' needs and requirements. Therefore, e- learning has been shown to be fruitful for several reasons, the learner can take advantage of it at any time convenient for them (Colchester et al., 2017), e- learning can present learning and educational materials in various forms such as: slide shows, videos, PDFs, etc. Online seminars with teachers are open options in the e- learning process. Free access to some electronic directories is available such as PDF files, and provides clear instructions for learners' understanding. It is seen as the extreme suitable method for self- learning. It supplies a broad range of resources for learners covering about all themes and uncertainties (Bajaj and Sharma, 2018).

The shift to e- learning has added a lot to the educational system, from teachers, parents and all concerned, and to learners in particular, from dealing differently than usual with smartphone devices and using different non- pre- installed applications such as Zoom, Google apps and Microsoft applications and others, so it has become Integrating technology into the education process is a global trend, and interaction with educational activities through mobile devices has become a catalyst for learning instead of being satisfied with traditional study (Yulia, 2020).

Brazendale et al. (2017) noted that there are some difficulties and challenges with online courses, as they require elaborated plans of lesson to design high- quality materials. Some of the challenges of e- learning involve: the lack of the skills of online teaching for teachers, cumbersome preparation of online Lesson plans that need a long time, and the shortage of technical teams' support. The challenges are not limited to teachers only, but there are also challenges faced by students due to their lack of appropriate teaching behavior, and shortage of appropriate materials for learning.

There are some disadvantages of e- learning, although learners may have excellent knowledge in academics, they may lack the necessary skills to present their acquired knowledge to others, and these erroneous activities are difficult to control or regulate such as cheating in a test evaluation and misinformation for hacking and plagiarism, and the decline of the teacher's role (Wu et al. 2020). The purely scientific fields that involve the procedural process cannot be properly studied through e- learning, and the extensive use of some sites leads to unexpected costs in terms of time and money. Ramij & Sultana (2020) also sees some obstacles as lack of technical skills, infrastructure, facilities, teaching strategy for teachers and economic problems.

(Nambiar, 2020 ; Orhan & Beyhan, 2020) agreed that one of the most important areas for improving teachers' perceptions about students during online learning It is the interaction between them, which has a major role in improving teachers' perceptions of their students. The interaction between teachers and students are deemed as one of the most important criteria in the formal education success, but this may be missing in some times in e- learning.

While Bozkurt et al. (2020) believe that the e- learning situation is not as some see it, they presented a global vision for the disruption of education due to the Covid- 19, as distance learning in light

of the COVID- 19 is very urgent, this practice is different from planned practices such as distance learning or Online learning. However, other countries have succeeded in continuing to teach and learn during the Covid- 19, the readiness of technology has determined the success of e- learning in almost all countries.

The Ministry of Education in Palestine released its national plan on March 5, 2020, to respond to COVID 19, the ministry focused on the shift to distance learning has been made as an alternative to closing schools (UNESCO, 2020b). UNICEF provided technical support to the Ministry of Education and the Palestinian Authority to develop a comprehensive national response plan for COVID- 19, a back- to- school strategy, coordinated response with partners through four thematic working groups on distance learning, hygiene promotion, and water and sanitation renovation, hygiene at school, and provision of mental health and psychosocial support services (MHPSS) (UNICEF, 2021).

### 1.1. PROBLEM OF STUDY

In light of the ongoing crisis, and in readiness for another crisis that may appear, knowledge of the challenges faced by distance learning has become essential, to present to officials to develop solutions, particularly where access, availability, and human resources are essential, In light of the many challenges and difficulties facing e- learning, which may be related to the student, the teacher, the infrastructure in schools, and the readiness of the curricula for this type of education. In light of the results of the study conducted by (Hamad 2021), which included a sample of mothers in Palestine, which concluded that e- learning is ineffective and not exciting, despite the efforts made by the Palestinian Ministry of Education, which we referred to earlier in cooperation with UNICEF. Because of the scarcity of studies that have addressed this issue in the Palestinian context from the point of view of teachers, those who apply e- learning are more familiar with it and the challenges it faces. The urgent need for this study came under the title "Challenges Facing E- Learning in Palestine from the Perspective of Teachers During the Corona Pandemic", which aims to examine teachers' perceptions about e- learning, to know the main challenges facing e- learning in Palestine. From teachers' perceptions during COVID- 19, and deducing recommendations to overcome these challenges from teachers' perceptions.

### 1.2. STUDY QUESTIONS.

The present study tries to find answers to the following questions:

- 1- What are the challenges meeting the implementation of e- learning from the teachers' perceptions in COVID- 19 Pandemic?
- 2- Are there any significant differences in e- learning usage barriers as teachers perceived according to their backgrounds?
- 3- What are the recommendations to overcome the challenges facing e- learning?

### 1.3. PURPOSE OF THE STUDY.

The study aimed for examining challenges facing the application of e- learning from the teachers' perceptions in COVID- 19 Pandemic, and to conclude the recommendations to overcome these challenges.

### 1.4. THE IMPORTANCE OF STUDY.

This study conducted to explore the teachers' perceptions about a central and important topic for the Palestinian people who live under occupation, to try to identify the obstacles facing e- learning and to try to develop solutions to the obstacles and challenges they face. Where education is the only outlet for this people to try to get rid of their restrictions, and this study comes in light of the COVID- 19 pandemic, it also comes to solve the mystery behind the difficulties that e- learning faces in Palestine. The COVID- 19 pandemic remained, despite what the Palestinian Ministry of Education and UNESCO provided to try to move to e- learning, and to find out if there are statistically significant differences in teachers' perceptions about the obstacles to using e- learning according to their backgrounds, to try to come up with recommendations to overcome these challenges. Palestine as a developing country whose conditions are somewhat similar to those of neighboring countries, so the results of this study have an impact not only on Palestine but on other the developing countries that require to perform the e- learning.

### 1.5. LIMITATIONS.

This study focused on teachers' perceptions during the summer semester 2021/2022, as this study was limited to teachers working in the Palestinian Ministry of Education- West Bank as a case study.

### 1.6. DEFINITION OF TERMS.

For the purpose of the study, the following theoretical definitions are provided:

**Challenges:** is something difficult, new, and requires determination and great effort (Beghetto, 2021).

**E- Learning:** is technology- enhanced education that focuses on the technology usage from media, electronic devices, and tools to support and enhance the learning experience (Vershitskaya and et al., 2020).

**Challenges Facing E- Learning** (Procedurally): All the difficulties and problems faced by Palestinian teachers in applying e- learning during the Corona pandemic.

**Corona pandemic (COVID- 19):** It is a condition that expresses the spread of the virus (COVID- 19) is an infectious caused by the recent discovered Corona virus in the month of March 2019, which infects the respiratory system (Hui et al., 2020).

**Corona pandemic (COVID- 19) (Procedurally):** it is a global pandemic that has disrupted face-to-face education in most countries of the world, including the State of Palestine, forcing it to resort to distance e- learning.

## 2. Literature review and Conceptual Framework

### 2.1. CONCEPTUAL FRAMEWORK.

The integration of the e- learning into the process of teaching and learning is a sophisticated phenomenon; Therefore, a lot of teachers may meet different challenges or difficulties. These difficulties are recognized as barriers (Schoepp, 2005). Oxford Dictionary (2015) defines the barrier as a fence or obstacle that prevents access or movement. Schoepp (2005, p. 2) defines the barrier as any condition that makes progress or achieving a goal difficult. Our study adapted the definition of barrier of Schoepp (2005).

#### 2.1.1. E- Learning Integration Barriers levels:

Various classifications of barriers in the integrated e- learning was proposed. The first classification according to Ertmer (1999) who determined the barriers by two groups, first and second degree barriers. First- class barriers include access, technical support and hardware, the second- order barriers relate to personal beliefs or preferences, and pedagogy. The other classification of e- learning barriers have been proposed by Pelgrum (2001): physical and non- physical barriers; Physical barriers are lack of ICT resources, and non- physical barriers are teachers' skills and knowledge. The third classification was according to Balanskat et al. (2006) system level, teacher level, and school level.

Assareh and Bidokht (2011) categorized the barriers of e- learning according to four areas that they affect in: learners, teachers, curriculum and schools. The barriers of e- learning according to learners involve motivation, assessment, financial problems, affection and social domain, isolation from peers and experience, and inadequate e- learning skill. The barriers of e- learning according to teachers involve several aspects such as assessment challenges and knowledge limitations. The barriers of e- learning according to curriculum, they involve quality, ambiguity, teaching process, resources, and evaluation. Finally, the barriers of e- learning according to schools involve organizational and structural factors.

Quadri et al. (2017) investigated the barriers that impact on e- learning implementation. They categorized the barriers into four categories: students, instructors, infrastructure and technology, and institutional management. The study reported that the most important barrier is infrastructure and technology, and the least important barrier is students. Their study revealed that the limited time to develop e- learning was the most important factor that hinders e- learning implementation, whilst lack of students' ICT skills is the least important factor.

Hadija and Shalawati (2017) investigated the barriers that teachers faced during the usage of e-learning. Lack of time for preparing a lesson by using technology was the major challenge that teachers faced. The other important limitations were: limited physical resources, limited access to technology, lack of adequate professional development concerning technology, lack of technical support, competence and confidence, and inadequacy of resources.

In this study, we relied on Assareh and Bidokht (2011) categorization, which consists of four categories; teachers, students, curriculum and schools. The barriers of teacher's level involved: Teachers' lack of e-learning advantages' understanding (Scrimshaw, 2004); lack of teachers' confidence (Balanskat et al., 2006; Bingimlas, 2009; Scrimshaw, 2004); teachers' attitudes and beliefs towards ICT (Ertmer, 1999; Hew & Brush, 2007); teachers' unwillingness to alter their practices (Hew & Brush, 2007; Scrimshaw, 2004); and teachers' knowledge and experience (Bingimlas, 2009; Marwan, 2008; Scrimshaw, 2004).

The reason for our adoption as researchers on this conceptual framework of Assareh and Bidokht (2011), that it includes all the elements of challenges and obstacles to e-learning in all the models that were presented, and in a more organized way, and it agrees with what was stated in Akhtar (2015) in terms of its agreement with the four elements of the educational process (teacher, student, school, curriculum), with some modifications suggested by Mailizar et al (2020) in line with the situation of the COVID-19 pandemic..

The barriers of school level relate to hardware and software availability mostly, internet connection access, and school's policy. Teachers considered the major barriers are time to prepare lessons, textbooks and the lack of technical support (Bingimlas, 2009). Moreover, the barriers of curriculum involve incompatibility between students' assessments and e-learning (Hew & Brush, 2007). Another matter is that curriculum may not support technology-based application (Hew & Brush, 2007). According to the barriers of students' level, they involve students' inadequate skills of e-learning (Assareh & Bidokht, 2011), the lack of students' access to infrastructure of technology and internet connection, and the lack of students' motivation to use e-learning. The categorization of barriers in this study present in Table 1.

**Table (1): Classification of barriers faced by teachers in using e-learning**

Type of Barrier	Description
School Level	Availability of software and hardware, internet, textbooks, school policy, time and technical support
Teacher Level	Confidence, knowledge, belief and experience
Curriculum Level	Structure of contents, assessment, e-learning resource that is in line with the curriculum
Student Level	Skill and knowledge, motivation, e-learning infrastructure

As we have noted in the literature, barriers to the e-learning may include a number of hard and soft issues. The lack of the e-learning curricula, access to the technology and the Internet, and assessment

tools to effectively assess student development all limit what teachers can teach. Among the factors that influence the learning mechanism are: confidence in using the technology, the desire and motivation to learn online, and teachers' attitudes towards online education. We have to take all of these barriers into the account when we face an event like a pandemic that has forced teachers and students to immediately adapt to a different style of teaching and learning.

## 2.2. E- LEARNING:

Online learning or the e- learning has used the Internet technology that permitted for teachers and students to conduct teaching and learning in or out of the classroom (Verawardina et al., 2020). The materials of teaching and learning presented by using this technology are visual, word, the video or the audio- visuals, and the animation, so that learning can occur flexibly anytime and anywhere. Aparicio et al. (2016) pointed out that the e- learning was a concept of the usage of computerized systems to help teachers and students in the learning process, they set the other terms that were in the same meaning, such as online learning, distance education, virtual learning, and other learning management systems. In the same vein, Rodrigues et al. (2019) defined the e- learning as an innovative web- based system was invented based the usage of the digital technologies and different choices of learning resources and materials which aimed to give a learner- centered and interactive environment.

This skills of the online learning were one of the 21st century skills that every person need to master it in order to succeed in this challenging era. In the full online education, teachers and learners meet only via virtual environments by using the Internet and its technologies. Hybrid learning or so- called the blended learning took place when there is a face- to- face interaction between educators and learners and online learning. The e- learning web- assisted method used synchronous well- designed tools that are intentional to enhance teaching and make learning effective. Web- assisted learning involved online discussions and interactions between the learners and teachers, and varied information can be analyzed, to improve teaching quality (Gonzalez et al., 2020). Various online applications can be accessed by using mobile phones or laptops in this modern era, such as Zoom, Microsoft Teams, Google Classroom, Telegram, WhatsApp, and Edmodo. According to Amry (2014) WhatsApp is considered as an effective application due to its cost, easy to administer, and it has low uploading and downloading rate. Thus, the usage of WhatsApp application can lighten teachers' burden and enable the students to access in a short time. It has been found out that WhatsApp application was unique in reinforcement good student- teacher relationships and a positive classroom environment (Hershkovitz et al., 2019).

### 2.2.1. BENEFIT Of E- LEARNING:

Bailey and Lee (2020) mentioned some benefits of the e- learning compared to the traditional methods of classroom learning, namely: (a) meet the individuals' needs, (b) learners can take educational sessions any time, (c) low cost, (d) given access to updated content, and (e) little environmental impact. E-

learning improved teachers' pedagogical skills, presented different of education methods, relevant curriculum design, and language learning tools (Mynbayeva et al., 2017)

Merç (2015) claimed that teachers' beliefs over the technology benefit in the classroom of the second language affected their pedagogical beliefs, procedures, strategies, and materials choice to be used in their teaching. This aspect provided us with better understanding to their actual practices. In this respect, Shifflet and Weilbacher (2015) mentioned that teachers' beliefs about the technology of teaching and learning might be the strongest factor in the classroom. In addition, Halim and Hashim (2019) pointed out that teachers' mode of engaging in the lesson can be improved, they would construct self- confidence, and had an active interaction in the classroom. If the students engaged in the e- learning activities, which can attract and maintain their attention, then their motivation can be improved (Morat et al., 2017). It was confirmed by Pazilah et al. (2019) and Morat et al. (2017), the usage of authentic learning materials such as YouTube's videos can make the online teaching and learning experience purposeful and meaningful.

### 2.3. CHALLENGES OF E- LEARNING:

Although e- learning was rapidly being used worldwide, it persisted as a challenging problem for various levels of education. As Eltahir (2019) emphasized that the readiness of educational institutions' was one of the challenges in adoption the e- learning, which led to the system failure. He also pointed out several challenges in the e- learning adoption; self- competencies, technology barriers and accessibility, norm/cultural challenges, and course challenges. However, the challenges in each country differ from another one according to their geographical location, norm, and individuals' awareness. Ghavifekr et al. (2016) also stated that weak network connection and the lack in the main development of infrastructure were the significant challenges of the e- learning system adoption in developing countries. Another study offered system features, Internet connection, and computer skills which hindered the e- learning system success. Although of all efforts, but there is not any study had investigated the actual challenges that the individuals face during the e- learning system. The challenges of the e- learning are still existed, which make the learners reluctant to use it (Al- Khasawneh & Obeidallah, 2019).

Similarly, many researchers had stated many challenges in e- learning. During the COVID- 19, the rush to use e- learning had caused teachers and students to adopt the shift. Shahzad et al. (2020) mentioned that e- learning environment had impacted teachers' instructional methods and caused failure in teaching and learning. According to Ko and Rossen (2017), the teaching activities' success is affected by teachers' ICT skills and experiences, which was considered as one of the challenges they face. Furthermore, Aliyyah et al. (2020) mentioned other challenges of e- learning related to teachers' lack of readiness to tackle students to fully participate and complete their tasks. Elderly teachers encountered the difficulty in adaption, but those who master the applications and technological tools approached it significantly, which can be implemented effectively and smoothly especially during the COVID- 19

(Reimers et al., 2020). Moreover, the learners revealed fewer responses and effort during teaching and learning session in switching off their video and audio throughout the whole online lesson, so the effective participation and interaction between students and teachers could not be highly produced (Kaden, 2020).

It is indeed that e- learning had plenty of benefits to education, however, its challenges hindered the smoothness and success for learning. Students' engagements can be distracted by other online content, and thus can cause the lesson to become less meaningful (Yunus et al., 2019). In addition to the emergence of technical issues, such as video and audio problems (Halim & Hashim, 2019). Moreover, the approach of "one size fits all" is not suitable to use in e- learning status, as it could restrict students who have individual differences to participate in the lesson (Gillett, 2017). Add to this, instructors who are not competent about online delivery could make course design and planning useless and problematic. Teachers should plan and prepare their lessons in advance, so that the lessons objectives can be achieved and aligned with the curriculum framework (Pazilah et al., 2019).

Despite the many challenges related e- learning with the rapid widespread of COVID- 19, teachers and other parties will have to create and design innovative strategies that best suit educational needs so that no student would be left behind.

#### **2.4. PREVIOUS STUDIES:**

We divided the previous studies according to the methodology into three sections: the first section consists of quantitative previous studies; the second section consists of qualitative previous studies, and the third section consists of mixed (quantitative and qualitative) previous studies.

##### **2.4.1. QUANTITATIVE PREVIOUS STUDIES:**

Mohd and Shahbodin (2021) study aimed to explore the secondary school teachers' perceptions of online learning for a developed program in Malaysia during the COVID- 19 pandemic. A quantitative approach was followed. Data were collected through a questionnaire. The online learning success in Malaysia during the COVID- 19 pandemic has been identified by the readiness of technology in line with the national humane curriculum, the support and collaboration of all stakeholders. The results revealed that the students had a good sense of teaching, and there were strong correlations between teacher perceptions and student participation in learning. The study recommended teachers to take into account the nature of the students, and to apply appropriate types of learning tools during their classes.

Marbán et al. (2021) study aimed to investigate on how the students at primary and secondary schools had responded to the changes in the first learning conditions, the data was collected from 3179 students from the Gaza Strip- Palestine by a validated rating scale. K- means cluster analysis was used to analyze data as an exploratory approach. Chi- square was applied to determine the differences between the clusters according to demographic characteristics. The results revealed that there were no statistically

significant differences between cluster- groups with regard to gender, age, and type of school, and there were statistically significant differences among the three clusters with regards to the parents' educational level and the family's economic status. The researchers recommended responsible educational authorities to promote and develop digital learning in mathematics education during the COVID- 19 era and beyond and to re- evaluating the digital learning.

Nsabayezu et al. (2020) study aimed to explore the teachers' perceptions of using WhatsApp to support chemistry teaching and learning during the COVID- 19 pandemic in selected Rwandan secondary schools. The questionnaire as a data collecting tool was used from 18 chemistry teachers in Nyarujiji and Kicukiro districts. The results revealed that WhatsApp was effective in teaching chemistry and supporting student learning. Problems with internet connectivity including cost and availability were among the factors inhibit effective collaboration of both students and teachers. The lack of smartphones and computers for some parties were among the limitations highlighted for some students' participation. The study recommended the chemistry teachers and the students to use WhatsApp as a supportive learning tool. The study also recommended all parties to merge WhatsApp into teaching and learning to complement learning in the classroom.

Mailizar et al. (2020) study aimed to investigate the mathematics teachers' perceptions at secondary school on e- learning implementation barriers during the COVID- 19 pandemic at four barrier levels, namely teacher, student, curriculum, and school. Also it assessed the relationship between barrier levels with teachers' demographic background. An online questionnaire as collecting data tool was used, the participants were 159 from lower and upper secondary schools in Indonesia. The results revealed that the student level barrier had the highest effect on e- learning usage, the student level barrier revealed strong positive correlation with the school level barrier and curriculum level barrier. and the results revealed that teachers' backgrounds had no effect on the level of barriers. This study recommended more discussion to overcome the barriers of the e- learning.

#### 2.4.2. QUALITATIVE PREVIOUS STUDIES:

Centeio et al. (2021) study aimed to explore the physical education teachers' perceptions of the implementation of online physical education during the COVID- 19 pandemic as well as explore their needs in terms of supporting future teaching experiences. 4,302 teachers accomplished four open- ended questions as part of a larger survey. Inductive and inductive qualitative analysis led to three axes: (a) Teachers' Pride Moments, (b) Help! Lots of obstacles, and (c) future challenges. The results revealed many of the successes and challenges that teachers had faced through the COVID- 19 pandemic, and many of the items focused specifically on technology use and access, student participation, and student needs in different ways. The researchers recommended providing guidance in addressing the basic components of

physical education in the online environment, and providing insight into those who educate, train, and prepare teachers to use a virtual environment in teaching.

Rasmitadila et al. (2020) study aimed to explore the primary school teachers' perceptions on online learning in a developed program in Indonesia, which has been called "school from home" during the COVID- 19 pandemic. Surveys and semi- structured interviews with 67 primary school class teachers were data collection tools. The thematic analysis of the qualitative approach was used in the data analysis. The results of the analysis revealed four main axes, namely, educational strategies, challenges, support, and motivation of teachers. The online learning success in Indonesia during the COVID- 19 pandemic has been determined by the technology's readiness in line with the national humane curriculum and the support and collaboration of all stakeholders.

Hussain et al. (2020) study aimed to explore teachers' perceptions of adopting a virtual classroom during the pandemic and to explore obstacles, conveniences and suggestions when implementing e-learning. This study was qualitative using descriptive analysis. Questionnaires and open- ended questions were the data collection tools. 92 secondary and adult teachers in North Maluku participated in this study. The results of this study revealed that during the lockdown, most of teachers used several online home study platforms. Nine advantages based on e- learning were addressed. On the other hand, it produced seven barriers. In addition, teachers had provided attractive and innovative ideas to address the many obstacles between teachers, students, and educational institutions.

Rosalina et al. (2020) study aimed to explore the teachers' challenges in implementing online teaching and learning. The researchers described the online learning strength and weaknesses as teachers perceived. This study was a qualitative approach. The participants were 14 English teachers from a different educational levels of in South Kalimantan. The instrument of the study was 12 open- ended online questionnaires through Google form. The results revealed that the most teachers agreed that the challenges in online learning implementation were in facilitation. the most teachers agreed that the online learning strength was flexible in time and place, and the online learning weakness was that online learning cannot conduct utmost pedagogical process in the learning activities.

Shraim, and Crompton (2020) study aimed to explore how the teachers and decision- makers in the initial stage of COVID- 19 pandemic had responded to offer education for all students in Palestine. The researchers followed the qualitative approach with a grounded theory and a constant comparative method, by using the semi- structured interviews as data collecting tool, which were conducted with 20 participants from teachers, decision- makers, and parents, in Palestine. The results of this study revealed that the participants proposed that the technologies would be beneficial for designing and delivering educational materials, and the first teachers who adopted the online education had an important role in influencing both students and other teachers to adopt the transformation of online learning. The results identified different challenges such as the widening of the digital divide in education and the negative

attitude growth towards online education. The results suggested that the first stage of COVID- 19 experience could be a roadmap for the second stage, and for the sustainable online learning as a complement to traditional learning methods.

## 2.5. COMMENTS On The Previous STUDIES:

The previous studies dealt with the issue of e- learning for its many advantages, the previous studies varied in terms of the approach followed, some of them adopted the quantitative approach as a (Mohd & Shahbodin, 2021; Mailizar et al., 2020), our study agreed with these studies in terms of the approach followed, which is the quantitative approach. Some studies have adopted the qualitative approach as (Centeio et al., 2021; Rasmitadila et al., 2020; Hussain et al., 2020; Rosalina et al., 2020; Shraim, & Crompton, 2020).

The studies varied in terms of the stage in which the teachers participating in the study worked, some of them were elementary school teachers as (Rasmitadila et al., 2020), some of them were secondary school teachers as (Mailizar et al., 2020), and others were primary and secondary school teachers as (Marbán et al., 2021), which is somewhat similar to our study where the participating teachers were selected in the study of all grade levels. All studies used the questionnaire as a tool for data collection except for the studies (Marbán et al., 2021; Shraim, & Crompton, 2020), our study agreed with previous studies in terms of using this tool. All studies were according to the teachers' perceptions, except for the study (Marbán et al., 2021) which was according to the students' responses, our study agreed with previous studies in terms of the target group.

## 3. METHODOLOGY.

The research was carried out as a result of the total transition of education in the world from direct education to e- learning, where it was noted that there are complaints about the lack of success of this educational experience due to the great lack of capabilities and skills and the lack of clarity of responsibilities as stated in the study (Hamad, 2021), and therefore the study community is from All teachers in the West Bank affiliated with the Palestinian Ministry of Education for the academic year 2021/2022, as the two researchers found it extremely necessary to identify any challenges facing e- learning in order to come up with recommendations and solutions to these challenges.

### 3.1. RESEARCH DESIGN:

In this study, a quantitative approach was followed by using the questionnaire, it was built by Fraenkel et al. (2011). Mailizar et al. (2020) developed the questionnaire in line with the situation of e- learning in light of the Corona pandemic, it includes four measures, which are the school level barrier, the teacher level barrier, the student level barrier, and curriculum level barriers scholastic.

### 3.2. PARTICIPANTS:

The sample was randomly chosen in this study, the sample consisted of (390) participants (176 female, 214 male) working in the field of teaching, from the study population (37,573) according to the Palestinian Central Bureau of Statistics –PCBS (2020) for the year 2020. The participants were informed that the data they have provided will be used for scientific research purposes. The majority of the participants obtained an undergraduate bachelor's degree (279), while the remainder had higher degree- MA degree (111). Most of the participants have (6- 10) years of teaching experience (28.7%), more details about the demographic information of the participants are shown in the table (2).

**Table (2) Demographic Background of participants.**

Demographic Background		Number of Participants	Percentage
Gender	Male	214	54.9%
	Female	176	45.1%
Level of Education	Undergraduate Degree	279	71.5%
	Postgraduate Degree	111	28.5%
Teaching Experience	1 – 5	98	25.1 %
	6 – 10	112	28.7 %
	11 – 15	90	23.1 %
	More than 16	90	23.1 %

### 3.4. INSTRUMENT:

The questionnaire was used based on a conceptual framework developed by Assareh and Bidokht (2011). It was built by Fraenkel et al. (2011), according to the framework of Assareh and Bidokht, and Mailizar et al. (2020) the questionnaire was developed it in the line with the situation of the e- learning in light of the Corona pandemic, and it consists of four measures, which are the school level barrier, the teacher level barrier, the student level barrier, and curriculum level barriers scholastic. To validate the questionnaire, we have used Cronbach's alpha test and the results are as in the following table (3):

**Table (3) Cronbach's alpha coefficient of the questionnaire constructs**

Construct	Cronbach's Alpha Coefficient
Teacher Level Barrier	.843
School Level Barrier	.775
Curriculum Level Barrier	.784
Student Level Barrier	.816
Total	.846

Cronbach's alpha was calculated to assess reliability, it was .846, which indicates that all items exhibit high levels of reliability and measure the same concept. Table 3 shows Cronbach's alpha coefficient of multi constructs that indicate adequate reliability.

### 3.5. DATA COLLECTION AND DATA SOURCES:

An online questionnaire was used to collect data. A critical reason for using the online questionnaire was the alignment with teachers' work online during the pandemic. Moreover, it was also easy to administer and access the online questionnaire using different devices (Fraenkel et al., 2011). Questionnaires were distributed after schools were closed and participants were asked to use e- learning methods. The majority of participants was contacted through WhatsApp and Messenger groups. Participants were sent a link to a survey hosted on Google Forms, an online survey tool.

### 3.6. DATA ANALYSIS:

Teachers' level barriers responses were coded on a 5- point scale. Descriptive and deductive statistical analysis were applied to answer the research questions. According to the descriptive analysis, a mean and standard deviations of responses for all the barrier's items were calculated and presented in tables. For deductive statistical analysis, a repeated measure of ANOVA was employed to examine significant differences in barrier across the categories, an independent t- test and ANOVA were employed to examine difference in barrier according the participants' demographic background. Spearman correlation coefficients were calculated to assess relationships between barriers across the levels, and Cohen (1992) guidelines for the interpretation of a correlation coefficient was used to interpreted the correlation.

**Table (5): Guidelines for the interpretation of a correlation coefficient (Cohen, 1992)**

Strength of Association	Correlation coefficient value	
	Negative	Positive
Weak	-.3 to-.1	.1 to.3
Moderate	-.5 to-.3	.3 to.5
Strong	-.9 to-.5	.5 to.9
Very Strong	- 1 to-.9	.9 to 1.0

## 4. RESULTS.

The results' section offers descriptive results of the barriers; after that we offer the results of repeated measure analysis. This section also offers the results from Pearson Correlation analysis, as well as the independent t- test and ANOVA test, as proven in Tables (6,7,8,9,10), the results were in the parts (5.1-5.5) related to the first research question, and the part 5.5 related to the second research question.

Table (6) Descriptive results of e- learning implementation barriers

	N	Mean	St Dev
<b>Teacher Level barrier</b>			
I do not have sufficient knowledge and skill to use e- learning during the Covid- 19 pandemic	390	3.2	1.06
I am not confident in using e- learning during the Covid- 19 pandemic	390	3.1	1.06
I have experience in using e- learning	390	3.0	1.04
I believe that the use of e- learning in teaching is not useful during this pandemic	390	2.8	1.08
The use of E- learning during this pandemic is not convenient for me	390	2.9	1.10
<b>School Level Barrier</b>			
My school does not have an e- learning system	390	3.7	1.02
My school does not have internet connection	390	3.7	1.18
School regulations do not support the use of e- learning during the Covid- 19 pandemic	390	3.0	1.09
Textbooks are not in line with e- learning use	390	3.2	1.02
My school does not provide technical support for e- learning use	390	3.3	1.07
Because of workload, I do not have enough time to prepare e- learning materials	390	3.0	1.05
<b>Curriculum Level Barrier</b>			
Learning and teaching resources that are available on the e- learning system are not in accordance with the curriculum	390	3.1	0.88
Schools require students' assessments that are not in line with e- learning use	390	3.1	0.92
The contents of my subject cannot be taught using e- learning	390	3.0	0.91
The contents of my subject are difficult to be taught using e- learning	390	3.1	0.94
The contents of my subject are difficult to be understood by students through e- learning	390	3.2	0.97
<b>Student Level Barrier</b>			
My students do not have sufficient knowledge and skill in the use of e- learning	390	3.8	0.87
My students do not have devices (i.e. laptop and tablet) for the use of e- learning	390	3.8	0.92
My students are not interested in using e- learning	390	3.3	0.80
My students do not have internet connection	390	3.7	1.02
My students are not able to access the e- learning system	390	3.6	0.93

Table (7) Summary of barriers at each level

Construct	N	Mean	Std. Deviation
Teacher Level Barrier	390	3.0	.9548
School Level Barrier	390	3.33	.8546
Curriculum Level Barrier	390	3.10	.8217
Student Level Barrier	390	3.64	.7560
Total	390	3.26	.8467

Table 7 revealed the e- learning barriers of each level. The results revealed that the most considerable e- learning barrier was at the student level (mean= 3.64). The school level barrier was (mean=3.33). The curriculum level barrier was (mean=3.10). The lowest barrier was the teacher level barrier (mean=3.00), The overall score for e- learning barriers was medium (mean=3.26).

#### 4.1. RESULTS RELATED TO THE FIRST STUDY QUESTION:

What are the challenges facing the implementation of e- learning from the teachers' perceptions in COVID- 19 Pandemic?

##### 4.1.1. TEACHER LEVEL BARRIER:

As we mentioned previously, the barriers were divided into four categories, namely; teacher, student, school, and curriculum barrier. The results are presented in Table 6.

According to the teacher level barrier, the results showed the lack of teachers' knowledge as highest barrier (mean =3.2) and the lack of confidence was ranked at the second (mean = 3.1). Teachers' bad experience with the e- learning (mean = 3.0) and the convenience of e- learning usage (mean =2.9) were ranked at the third and fourth respectively, whilst their beliefs about e- learning (mean = 2.8) was the lowest barrier in teacher level barriers.

##### 4.1.2. SCHOOL LEVEL BARRIER:

According to the school level barriers, the results revealed that the highest two barriers were the lack of e- learning systems (mean= 3.7) and not having internet connection (mean = 3.7). The lack of technical support (mean = 3.3) and incompatibility of textbooks with e- learning (mean = 3.3) were ranked at second and third respectively. In addition, schools' regulations (mean= 3.0) and teachers' time for preparing e- learning materials (mean= 3.0) were the least significant barriers in the school level.

##### 4.1.3 CURRICULUM LEVEL BARRIER:

The results of the curriculum level barriers revealed that the highest barrier was the difficulty faced by students to understand the content through e- learning (mean= 3.2). This was followed by incompatibility between the e- learning and the curriculum (mean= 2.9), incompatibility between requirements of assessment and the e- learning (mean= 2.9), and the difficulty to teach content through e- learning (mean = 2.9).

##### 4.1.4. Student Level Barrier:

According to the student level barriers, the two highest barriers were students' lack of e- learning knowledge (mean 3.8) and students' lack of access to a computer/laptop (mean=3.8). The lack of internet connection for the student (mean =3.7), and the lack of access to e- learning (mean =3.6) were ranked at

the second and third respectively, whilst the lowest barrier was students' lack interest in e- learning (mean =3.3).

#### 4.2. RESULTS RELATED TO THE SECOND STUDY QUESTION:

Are there any significant differences in e- learning usage barriers as teachers perceived according to their backgrounds?

##### 4.2.1 BARRIERS FACING TEACHERS ACCORDING to BACKGROUND VARIABLES.

In this item, the results related to the second research question will be presented, which was: Are there any significant differences in barriers to e- learning usage as teachers perceived according to their backgrounds (Gender, Level of Education, Teaching Experience)?

To assess differences in barriers according to teachers' backgrounds (Gender, level of education) we performed an independent t- test, whilst One- Way ANOVA was administered to examine differences in barrier according to teachers' teaching experience. Results of the independent t- test is presented in Table 8 and the results of One- Way ANOVA is summarized in Table 9.

**Table (8) Results of Independent t- test**

Teacher Background	Level	Number of Participants	Mean	Sig	df	T
Gender	Male	214	3.13	.077	388	1.130
	Female	176	3.0			
Education Level	Undergraduate	279	3.10	.699	388	1.340
	Post- graduate	111	3.05			

The results revealed that there is no statistically significant differences in the barriers according to gender; i.e. between the male teachers and the female teachers [ $t(388) = 1.130, p > .05$ ]. Furthermore, there was no statistically significant differences in the barriers between teachers with an undergraduate degree and teachers with a post- graduate degree [ $t(388) = 1.340, p > .05$ ].

**Table (9): Results of One- way analysis of variance(ANOVA)**

Teacher Background	level	Mean	df Within groups	df between groups	F	Sig
Teaching experience	(0- 5) years	3.01	287	3	.230	.930
	(6- 10) years	3.13				
	(11- 15) years	3.20				
	More than (16) years	3.13				

The results revealed that there were no statistically significant differences between groups of teaching experience as demonstrated by one- way ANOVA- test [ $F(287) = .230, p = .930$ ], and there were no statistically significant differences in the barriers according to teachers' backgrounds.

#### 4.3. CORRELATION Between EACH LEVEL of The BARRIERS

Table (10): Summary of correlation matrix

	Teacher Level Barrier	School Level Barrier	Curriculum Level Barrier	Student Level Barrier
Teacher Level Barrier	1.00			
School Level Barrier	.556**	1.00		
Curriculum Level Barrier	.572**	.779**	1.00	
Student Level Barrier	.468**	.751**	.649**	1.00

Correlation is significant at the 0.01 level (2- tailed)

A Pearson product moment correlation coefficient was computed to assess correlation between categories of the barriers. As shown in Table 10, there were strong and moderate positive correlations across the levels. The strongest correlation was between the school level barriers and curriculum level barrier,  $r=.779$  and  $p=.000$ . Furthermore, the second strongest correlation was between the school level and student level barriers,  $r=.751$  and  $p=.000$ . In addition, the third strongest correlation was between the student level and curriculum level barriers,  $r=.649$  and  $p=.000$ .

#### 5. DISCUSSION.

This study aimed to identify the challenges facing the application of e- learning according to the perceptions of teachers in the period of the spread of the COVID- 19 pandemic, and to find out if there are any statistically significant differences in teachers' perceptions about the barriers to using e- learning according to. For their backgrounds, and deduce recommendations for overcoming these challenges.

First, this study revealed that the level of the student was the highest barrier to the application of e- learning. This is evidence of the participants' agreement on the lack of knowledge and skills necessary to use e- learning applications among students. In addition, they agree that students will not have access to devices and internet connectivity for e- learning purposes.

Where the results indicated that challenges at the student level ranked first among all challenges facing e- learning with a medium degree (mean = 3.64), as students were not well prepared to use e- learning before this epidemic. So, when this happened, it was difficult for teachers to prepare their students for learning in an online environment. Existing work has mostly focused on barriers to integrating e- learning during the regular semester when schools are open and students are ready (Assareh & Bidokht, 2011; Hadijah & Shalawati, 2017; Juliane et al., 2017; Quadri et al., 2017)). We think this finding is new given that the current situation is quite different from the regular semester.

Second, the challenges at the school level reached a medium degree (mean = 3.33), and this challenge was represented by the absence of an e- learning system for e- learning in the school, and some schools are not connected to the Internet, or the connection is not connected to the Internet. Too weak

and not compatible with e- learning requirements. This result is due to the fact that most schools lack the infrastructure to use e- learning, in addition to poor internet- connected networks, lack of equipment, and sometimes due to old school buildings not equipped for e- learning requirements. This is confirmed by the study (Nsabayezu et al., 2020) which revealed that the challenges lie in the problems of Internet connectivity including cost and lack of smartphones and computers.

Third, while the challenges at the level of curricula ranked third among the challenges faced by e- learning during the Corona pandemic, with a medium degree (average = 3.10), represented by the difficulty of understanding the contents of the material through e- learning. Due to the incompatibility of the e- learning assessment system with the curriculum content. This result is attributed to the sudden shift in the educational process to e- learning, and the lack of pre- prepared curricula that are in line with the e- learning system in terms of providing content and method of assessment, and there are curricula that can be taught only in a practical lab, where the teacher cannot conduct such experiments through E- learning, as it is new to this type of teaching.

Fourth, the results also indicated that the least challenges faced by e- learning were at the level of the teacher with a medium degree (mean = 3.0) and were represented by not having enough knowledge, skill and experience to use e- learning. This result is attributed to the teacher's unfamiliarity with the technical programs and applications that he had to use, such as the "Teams" program, Google applications, Zoom and other programs. In addition, the process of training teachers for these applications was done remotely, which made it difficult for the teacher to possess sufficient knowledge. This confirms what (Zalloum 2021) recommended holding appropriate training courses and workshops for all parties and developing electronic educational applications to make this type of learning a success.

This kind of challenge has been the secret of the lack of success of online learning in Indonesia during the COVID- 19 pandemic due to the lack of national curricula for this type of technology which required the cooperation of all stakeholders (Rasmitadila et al., 2020)

Fifth: This study indicated that there is a strong positive relationship between the student level barrier and the school level barrier in addition to the curriculum level barrier. This strong correlation may explain, to some extent, why student level has become the number one barrier to ICT integration in the classroom because it is widely known that there is a strong relationship between school culture and student achievement (Demirtas, 2010; MacNeil et al., 2009). As a result, this finding indicates that schools, as one of the most important stakeholders in education, need to play an important role in overcoming the difficulty of students in using e- learning at this challenging time.

Sixth, this study revealed that there are no differences in disability according to the demographic background of teachers. This discovery highlights two important points. First, according to gender, the dominance of male teachers over teachers in the use of e- learning is no longer valid (Mailizar, 2018). These findings contradict the idea that technology- related activities have been viewed as a "male domain"

(Markauskaite, 2006; Tezci, 2010; Vitanova et al., 2015). Second, it is widely believed that more advanced teaching experience is important for developing the skills required for effective teaching. This popular belief is not in line with teachers' views on barriers to e- learning integration as teachers with different levels of teaching experience have expressed relatively similar views on barriers.

## 6. CONCLUSION.

Overall, this investigation shows that teachers in Palestine have faced a significant challenge in using e- learning as a teaching tool during school closures as a result of the COVID- 19 pandemic. Their most significant barriers were at the student level including students' lack of knowledge and skill in using e- learning, and their lack of access to devices and internet connectivity. Student barriers had a strong relationship with the school- wide barrier.

This study expands existing studies regarding the use of e- learning in schools, particularly in the aspect of barriers to e- learning use during the time of the pandemic. This means that the current use of e- learning in Palestine faces huge challenges that may lead to students failing to learn at this difficult time and even beyond. It is crucial to overcome these challenges that developing countries face. As Kohn et al. (2010) argue, e- learning knowledge transfer often fails in developing countries, leaving students behind at a critical time in their education cycle.

Depending on the findings of this study, we recommend that policy makers, particularly schools, devise comprehensive strategies that prepare students for the use of e- learning. These strategies may include communicating with relevant authorities such as telecom companies regarding providing students with internet at least during the pandemic period, for free or for a small fee, as well as additional training in the use of e- learning before a crisis such as the pandemic occurs as a method. Being proactive in student learning. Given the realities of the online world, students will likely learn one thing or another through e- learning at some point in their adult lives, and giving them skills now will help them as adults' workers in the future.

The current study was limited; hence the teachers were only involved in this study. We believe that student voices are also important to be raised on this issue. However, the results of this study may serve as a wake- up call for educators, schools, and policy makers about the barrier to using e- learning at this challenging time. Therefore, it is important to conduct further research to raise student voices on this issue to examine the extent to which students' barriers to using e- learning prevent them from achieving their educational goals, and to explore their views on how to overcome the challenges they face.

## 7. RECOMMENDATIONS.

Based on the results reached in this study, which show the various challenges facing e- learning at all levels of obstacles (teacher, student, school, curricula), we recommend the competent authorities

related to education, whether the Ministry of Education or the local. The community and the various supporting and interested parties in education include:

- 1- Develop comprehensive strategies that prepare students for the use of e- learning. These strategies may include communicating with relevant authorities such as telecom companies regarding providing students with the internet at least during the pandemic period, for free or for a small fee.
- 2- Training students in order to use e- learning before any a crisis such as the COVID- 19 pandemic.
- 3- Providing teachers with the necessary knowledge and skills in relation to e- learning through training and education.
- 4- Providing schools with e- learning systems and linking them to a fast internet network, repairing the infrastructure to accommodate the development in the field of information and communication technology, and providing a technical support team to provide assistance in this field.
- 5- Adapting the curricula to the e- learning system, whether in terms of content or assessment methods.

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