

UNDERSTANDING THE FACTORS AFFECTING THE ADOPTION OF E- LEARNING BY TEACHERS FROM EAST JERUSALEM SCHOOLS

Inas Abbad Alessa

Ph. D.

Al-Quds University

inasabad@yahoo.com

<https://orcid.org/0000-0001-6151-4927>

Ali Yousef Salhi

R&D Manager

asalhi@steamsolutions.me

<https://orcid.org/0000-0002-2383-1910>

Abstract

This study aimed to look into details in the variables affecting East Jerusalem teachers adopting of E-Learning. Variables such as gender, experience, qualification, age, education stage, school type, curriculum, students' gender, and teaching topic have been analyzed to find their effects on the teachers' view over the importance of E-Learning, on the teachers' view about accepting E-Learning and on teachers' view over the difficulties. We also looked at one of the most famous technology accepting models the

UATUA* model and addressed the effect of selected variables on UATUA elements (Performance Expectancy, Efforts Expectancy, Social Influence, and Facilitating Conditions). We designed and distributed a suitable questionnaire that approximately reached 680 teachers teaching in East Jerusalem, where 337 of them answered, the questionnaire was then statistically analyzed using IBM SPSS® software. Also, in our questionnaire, we aimed to find out what are the main solutions that teachers adopt for E-Learning in East Jerusalem. In addition, what are their thoughts about the experience of E-Learning during the closure of schools due to COVID-19? Based on the findings of our study, we concluded that *teaching topic* effects most of the addressed items and is a key factor in teachers' will to accept E-Learning, also *curriculum type* is a factor in accepting E-Learning, we found that teachers who teach Bagrut curriculum are more into E-Learning than others. In addition, we found that teachers, in general, have positive view toward E-Learning but there are common challenges that most of the teachers ask to solve such as the lack of internet access and poor teachers training and qualification workshops.

Keywords: e-learning, distant learning, covid-19, Jarusalem, education, Zoom.

DOĞU KUDÜS OKULLARINDAKİ ÖĞRETMENLERİN E-ÖĞRENMEYE ADAPTASYONLARINI ETKİLEYEN FAKTÖRLERİN ANLAŞILMASI

Özet

Bu çalışma, Doğu Kudüs öğretmenlerinin E-Öğrenimi benimsemesini etkileyen değişkenlerin ayrıntılarına bakmayı amaçlamaktadır. E-Öğrenmenin önemine ilişkin öğretmenler üzerindeki etkilerini bulmak için cinsiyet, deneyim, nitelik, yaş,

* UTAUT stands for Unified Theory of Acceptance Use of Technology. This system tries to explain the degree of acceptance of the use of information technology. It was developed by Venkatesh et al. (2003).

eğitim aşaması, okul türü, müfredat, öğrencilerin cinsiyeti ve öğretim konusu gibi değişkenler E-Öğrenimi kabul etme ve öğretmenlerin zorluklar hakkındaki görüşleri incelenerek analiz edilmiştir. Ayrıca, teknoloji kabul eden en ünlü modellerden biri olan UATUA'ya baktık ve seçilen değişkenlerin UATUA unsurları (Performans Beklentisi, Çaba Beklentisi, Sosyal Etki ve Kolaylaştırıcı Koşullar) üzerindeki etkisini ele aldık. Doğu Kudüs'te eğitim veren yaklaşık 680 öğretmene ulaşıldı ve 337'sinin cevapladığı bir anket dağıttık. Anket daha sonra IBM SPSS® yazılımı kullanılarak istatistiksel olarak analiz edildi. Ayrıca anketimizde, Doğu Kudüs'te öğretmenlerin E-Öğrenim için benimsedikleri ana çözümlerin neler olduğunu bulmayı amaçladık. Ek olarak, COVID-19 nedeniyle okulların kapanması sırasında E-Öğrenim deneyimi hakkındaki düşünceleri öğrenmek istedik. Çalışmamızın bulgularına dayanarak, konu öğretiminin ele alınan öğelerin çoğunu etkilediği ve öğretmenlerin E-Öğrenimi kabul etme iradesinde anahtar bir faktör olduğu, ayrıca müfredat türünün de E-Öğrenimi kabul etmede bir faktör olduğu sonucuna vardık. Bagrut müfredatını öğreten öğretmenlerin, diğerlerinden daha fazla E-Öğrenime adapte olduğu tespit ettik. Ek olarak, öğretmenlerin genel olarak E-Öğrenime karşı olumlu bir görüşe sahip olduğunu bulduk, ancak çoğu öğretmenin çözmeyi istediği internet erişimi eksikliği ve yetersiz öğretmen eğitimi gibi ortak zorlukların varlığı da tespit ettik.

Anahtar Kelimeler: e-öğrenme, uzaktan öğretim, Covid-19, Kudüs, Eğitim, Zoom.

Introduction

The breakthroughs in Information Technology (IT) and Cloud Computing have caused improvements in many sectors such as businesses, sports, health, and education. The education sector gained a lot from such advances in IT, which directly affected the adoption of E-Learning (Al-Fraihat, Joy and Sinclair, 2020). More solutions, resources, tools, practices are now in the adoption, new startups every day pop up in the field of E-Learning, it is expected

that global spending on educational electronic solutions will rise from \$152B in 2018 to \$342B in 2025 (Holon IQ, 2019), and that's even before COVID-19 pandemic.

Researchers believe that E-Learning can overcome the “Iron Triangle” which consists of Access, Quality, and Cost. You can't gain better access without increasing your cost or decreasing your quality, if you need more teaching quality you need to decrease your access (number of learners) and increase the cost (spend more!). However, E-learning can give you larger access with much fewer costs (with the advances in cloud computing the cost has rapidly decreased), and with the advances in education technology, you can keep the quality level (Gaebel et al., 2014). E-Learning is the most popular components for education. Due to the new and recent coronavirus pandemic (COVID-19), the need to apply massively different solutions and different E-Learning models has increased rapidly (Tretter et al., 2020).

According to the World Economic Forum (2020), The COVID-19 caused schools to shut down all across the world, which means over 1.2 billion children will not be taught in a regular way. Due to COVID-19, teachers suddenly found themselves in a situation where E-Learning is in charge. They are pushed out of their comfort zone. Teachers with no previous acknowledgment in E-Learning or no previous to basic skills in IT, found themselves in a very problematic situation. Hence, the following questions emerged from the research problem:

1. What are the main solutions that teachers adopt for E-Learning in East Jerusalem?
2. What do teachers in East Jerusalem think about the experience of E-Learning during the closure of schools due to COVID-19?

3. What are the impacts of the variables (Gender, Experience, Qualification, Age, Education Stage, School Type, Curriculum, Students Gender, and Teaching Topic) of East Jerusalem Teachers on their view of their acceptance, the importance, difficulties they face, of E-Learning?

4. Which variables (Gender, Experience, Qualification, Age, Education Stage, School Type, Curriculum, Students Gender, and Teaching Topic) affect the performance expectancy, effort expectancy, social influence, facilitating conditions of East Jerusalem Teachers when adopting E-Learning?

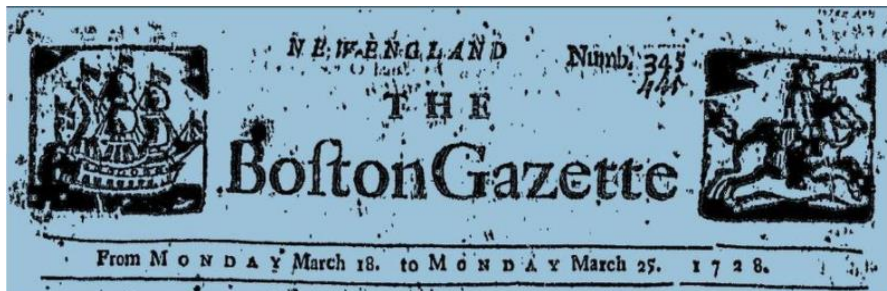
Significances of the study:

Due to the COVID-19 breakthrough, it forced schools to close everywhere; the teaching system in Jerusalem went into complete closure by mid-March 2020, so the need of online solutions to keep the educational wheel running was necessary. This comes with many challenges and difficulties. Teachers might not be prepared for taking classrooms from a physical space to a virtual one. Starting from this point the importance of the study is highlighted, this study will help to answer the most frequent questions about E-learning, are the teachers accepting E-Learning? How much it is important to them. How much difficulty do teachers see in E-learning? In addition, to have a better understanding of teachers' practices during the E-Learning phase caused by COVID-19, we need to know, what are the most common E-Solutions the teachers used. What are the teachers' thoughts about the experience of E-Learning? This Study comes to answer such questions and to give a better image of the current situation of E-Learning in East Jerusalem.

E-Learning is a model of distance education (Georgiev, Georgieva & Smrikarov, 2004; Addah, Kpebu, & Frimpong

Kwapong; 2012). According to Caruth & Caruth (2013): “Distance education is defined as instruction in which students are separated from instructors during the entire course of study”. Distance education is not a new concept; if we go deep in history to look for distance education, we can reach the 1700s. According to Harting & Erthal (2005), Caleb Phillips introduced the first shape of distance education; he placed an advertisement in the *Boston Gazette* on March 20, 1728 (Check Figure 1).

If we set the year 1728 as our starting point and move forward, we would stop at 1858 where the University of London became the birthplace of long-distance learning (The University of London, 2017). In 1873 Anna Eliot Ticknor (the daughter of George Ticknor, who is a famous American academician and Hispanics) founded the Society to Encourage Studies (Caruth & Caruth, 2013), which offered instruction in 24 subjects within six departments (Harting & Erthal, 2005). A year later, Illinois Wesleyan College back then in 1874 followed the track of University of London and became the first to award a distance education degree (Illinois Wesleyan University, 2008). Moving to the early 1900s after the invention of Radios, a lot of efforts were made to use the new technology back then to the benefit of distance education, however the efforts were more rewarding and more popular in Europe rather than the United States (Haran, 2015).



Advertisements.

ALL Persons who are Indebted to the Estate of *John Campbell*, late of *Boston* Esq; Deceased, are desired to pay their respective debts to the Executors, of his last Will and Testament, namely *James Rowden* and *William Foxe*, both of said *Boston* Merchants; And all Persons who are Creditors to, or have any Claims on, the said *John Campbell's* Estate, are hereby Notified that his said Executors, are ready to pay the same.

CALEB PHILIPPS Teacher of the NEW Method of Short Hand, is remov'd opposite to the north door of the Town House in King-street. As this way of Joyning 3, 4, 5, &c. words in one in every Sentence by the Moods, Tenses, Persons, and Verb; do's not in the least spoil the Letter Hand; so it is not any thing like the Marks for Sentences in the Printed Character Books being all wrote according to the Letter, and a few Plain and Easy Rules.

N. B. Any Persons in the Country desirous to Learn this Art, may by having the several Lessons sent Weekly to them, be as perfectly Instructed as those that live in *Bolton*.

Figure1: Caleb Phillips advertisement in the Boston Gazette - March 20, 1728.

According to Kennedy (2018, p. 89), during 1930's the overhead projector was widely used by the U. S. Military and by the late 1950s and early 1960s, overhead projectors was a hot topic in schools and thus interactive classrooms were born. Also, during the 1950s and 1960 instructional television reached its peak, especially in 1957 when Russia's launch of Sputnik which pushed the U.S to invest more in education, science and engineering to keep up with the Russians (Russell, 2006, p. 114; Powell, 2007). Besides, in the 1960s computers were first used in education, for example according to Cingi (2013) in the early 1960s, Stanford University psychology Prof. Patrick Suppes and Richard C. Atkinson

experimented with using computers to teach math and reading to young children in elementary schools in East Palo Alto, California. In the early 1960s, the first seeds of “The Internet” were planted. When J.C.R. Licklider of MIT in August 1962 sent the first ever series of memos through a network, but it was until mid-1990s when the internet had a revolutionary impact on culture and became a technology that everyone can use (Leiner et al., 2009).

The term “E-Learning’ as a vocabulary came to use in mid-1990 with the rise of the internet! The World Wide Web (WWW) was developing fast and exponentially which brought many new technologies with it, including the modern definition of “E-Learning” (Garrison, 2011). The internet introduced e-mails, video conferencing, blogs, forums, messaging systems, with the developing of web2.0 more network-based solutions came to life such as social networks which provided rich environments to E-Learning to grow, the social networking became a tool for education (Rennie & Morrison, 2013).

What does drive E-Learning?

There is a difference in motivation toward E-Learning and the use of online tools for the good of learning between a male and a female learner in the Middle East based on a Study conducted in Zayed University (Mirza & Al-Abdulkareem; 2011; Tubaishat, 2008). The study says that customs and traditions play a starring role here; it was thought that it for the good of male learners. On the contrary, E-learning is more beneficial for female learners. The main reason is that female learners, in general, are not allowed (by traditions, parents ... etc.) to stay late on campuses, they are not allowed to do social activities say in studying groups. Female learners might also feel shy about asking questions in class. Thus, they are more intent to use online solutions to ask questions to their teachers or lecturers, more intent to post their opinions on discussion boards. Female learners have more reasons to use E-

Learning. Rabiee, Nazarian and Gharibshaeyan (2013) also point out that there is a great advantage in the adoption of E-Learning to come over and bypass political problems, the “Apartheid Wall” in Jerusalem, for example, is a good reason why Al Quds University was forced to adopt videoconferencing, telemedicine, and E-Learning in a different part of its teaching process.

Time and space, neutralizing them in learning means that the learner can study anytime, anyplace based on their own comfort (Rabiee, Nazarian & Gharibshaeyan; 2013; Smedley, 2010), E-Learning provides a self-paced learning (Algahtani, 2011) model. Also, according to the researchers mentioned above, money also is an important drive for E-Learning; the adoption of E-Learning in general is more efficient and economic.

E-Learning comes with many advantages, according to Behera (2013), Talebian, Mohammadi and Rezvanfar (2014) and Arkorful and Abaidoo (2015), they can be summarized in the following points:

- Individualized and Self-Pacing: it fits individual needs and available resources on the hands of the students (its customizable concept for each individual).
- Cost-effective: It can be offered to any number of students without worrying about space.
- Environment Friendly: Less use of paper and other school equipments. Everything is virtual and online.
- Easy access: No time, space, or distance can be a barrier to the learning process here, it can be accessed from anywhere and anytime.
- Disadvantageous children: E-Learning provides solutions for children with poor health or disadvantageous

conditions, which pull them from institutionalized education. Handicapped children through E-Learning solutions can have access to different software and online tools.

- Consideration the learners and students' differences: If a student is taking online course, he can watch any part as many times as he likes, and can stop, play, replay and control each part of the lesson despite the ordinary physical teaching where students need to "hurry" to follow the teacher's notes sometimes.
- Improving group collaboration: Some students may feel more comfort using online tools rather than being physically in classrooms. The E-Learning solutions can connect teachers and learners together via chatting and video conferences systems. It can engage more learners and students to interact and this will improve group collaboration.

One of the limitations of E-Learning is that it might not reflect real feelings. From a pedagogical point of view, it comes short in transmitting emotions and real engagement with students (Muntean, 2011). The virtual world and online environments are amazing technologies but they come short in delivering a full experience where physical interactions are needed. Another limitation comes from the many questions that were raised regarding concerns of security, trust, reliability, the believability of "non-printed" content (Rennie & Morrison, 2013). Questions such as Can we trust online content? Is it secure to open one to one (or many) communication channels with others? and How safe is it? Were raised with the E-Learning.

One of the most relevant barriers is the cultural and personal attitudes of teachers towards E-Learning. According to

Ouma (2013), teachers for a certain degree might believe that E-Learning would be free of effort and directly enhance the teaching process. However, there is a high rate of failure because a lot of variables can affect the teacher's attitude toward technology which can be influenced by the effective use of these technologies in teaching and learning.

Technology Acceptance

E-Learning mainly depends on technology. Are people willing to adopt the advances in technology and communication? To answer such a question, we need to define and overview some of the technology acceptance models. Technology Acceptance Model (TAM) and the Theory of Planned Behavior (TPB) and Unified Theory of Acceptance and Use of Technology (UTAUT), are ones of the most important theories used in studying the behavior of people when using a technological product such in the case of E-Learning (Yang, 2017).

TAM (Technology Acceptance Model):

TAM was introduced by Davis (1986), which explains how users accept and use a technology such as E-Learning (Check Figure 2).

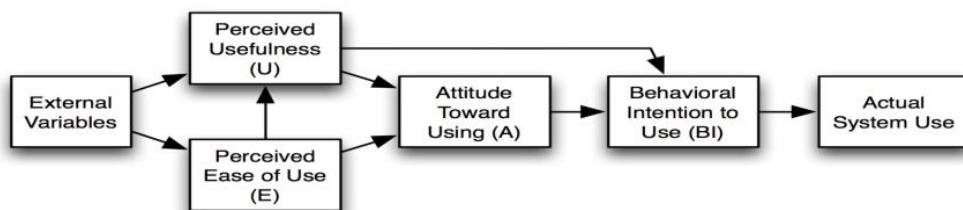


Figure 2: Technology Acceptance Model V1 by Davis (1989).

From Figure 2, we can clarify

- The Actual System Use: It can be considered as any E-Learning system whose usage can be predicted based on Behavioral Intention to Use - BI.
- Behavioral Intention to Use - BI: Is the probability that a person will do certain behavior, which is derived by the Attitude toward Using - A and Perceived Usefulness - U.
- Attitude Toward Using - A: Is how much desire a person has to do certain behavior.
- Perceived Usefulness - U: Is the probability of how much a user will increase his job performance within the organization of work, from a specific application system.
- Perceived Ease of Use: Is how much the user expects that the specific application system to be easy and free of effort.
- External Variables: Are variables such as social influence, and working environment.

TPB (Theory of Planned Behavior):

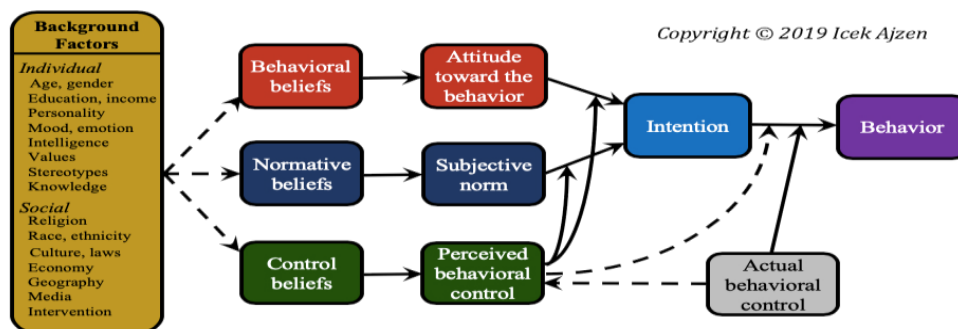


Figure 3: TPB Theory diagram as retrieved from the original author website (Ajzen, 2019)

The Theory started as the *Theory of Reasoned Action* in 1980, which aimed to predict an individual's intention to do a certain behavior at a specific time/place. The theory focuses on behavioral intentions, which can be influenced by the attitude that a behavior will have an expected outcome. This means that an individual's behavioral intention is the best predictor of behavior. It's out of this research scope to go into details of the TPB theory, but what's important here is that many researchers have applied and supported the TPB theory in their work and research about E-Learning such as Cheon et al. (2012).

UTAUT (Unified Theory of Acceptance and Use of Technology):

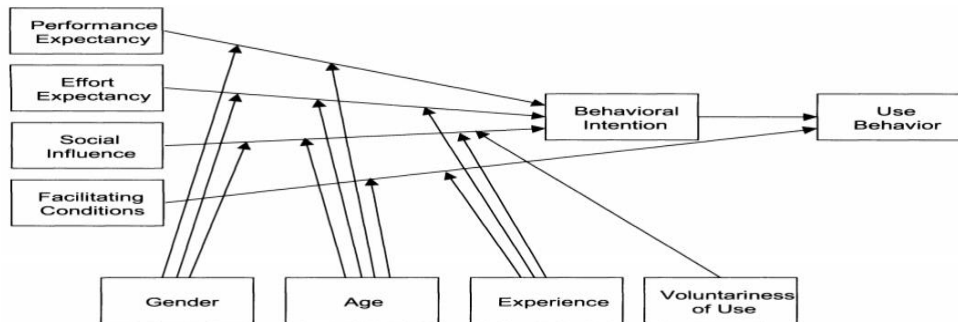


Figure 4: UTAUT (Venkatesh et al., 2003)

UTAUT is a technology acceptance model formulated by Venkatesh et al. (2003), which was driven from 8 models and theories. The model shows different variables that can be used to affect user behavior toward technology, variables such as gender, age, experience and voluntariness of use can be considered as User Related Characteristics, which plays a moderated role here. Performance Expectancy and Effort Expectancy can be considered as E-Learning System Related characteristics. Facilitating Conditions can be considered as Organizational Related Characteristics. Finally, Social Influence can be considered as External Variables.

The main variables in UTAUT " n brief explanation from Venkatesh et al. (2003):

- Performance Expectancy: The strongest variable to determine the behavioral intention it moderated by gender and age, and it defines the degree by which the user believes that using a certain system will improve his performance.
- Effort Expectancy: A significant variable, which is moderated by gender, age and experience, and it defines how much effort is needed for the use of a certain system.
- Social Influence: This variable presents the degree by which the user is aware of the importance of others usage of the system. It's based on the assumption that user behavior is affected and influenced by the way he thinks others will look at him if he used a certain system or not.
- Facilitating Conditions: Represents the degree by which the user thinks that the organizational and technical infrastructure are there for support in the usage of a certain system and how much the system meets with teacher strategies.

Literature on E-Learning

Al-Furaydi (2013), did a study on EFL (English Foreign Language) teachers at the public intermediate schools in Al-Madinah in Saudi Arabia to determine their readiness level for E-learning. The Study was based on TAM, the researcher defined the main barriers which are the attitude and skills toward E-Learning with respect to experience of the teachers (user-related characteristics), the schools administration support (organizational-related characteristics) and reliability of software available (E-learning system related characteristics). The sample of his study was 71 EFL teachers from the public schools (randomly selected to answer a questionnaire). His Findings showed that the

EFL teachers are early adopters of E-Learning, he highlighted computer literacy as an influence over the teachers attitudes toward teaching with E-Learning. However some barriers did cause stress to them such as the lack of reliability and time, the lack or weak support of administrations which influence teacher's adoption of E-Learning negatively.

Sawang, Newton & Jamieson (2013), studied the increase in learner's satisfaction/intention to adopt more E-Learning, they didn't focus on teachers however they did test different factors that influencing successful. E-Learning implementation, which includes learners' different characteristics, characteristics of the E-Learning itself, and organizational support for the use of E-Learning (Applying the Technology Acceptance Model). The study assumed that higher levels of technological efficacy and openness to change (as learners characteristics) and authenticity and complexity as (E-Learning System characteristics) with organizational support that will be related to higher levels of intention to adopt and accept E-Learning. The study used an online survey to question employees of a rail-sector organization about their use and likelihood of adoption of E-Learning. Invitations to answer the survey were sent to all employees (15,000). A sum of 2626 of them visited the survey link and only 1047 answered. The study found that E-Learning characteristics can cause interruption in the relationship between learners' characteristics and their will to adopt E-Learning or accepting it, moreover with the availability of high-level support from the organization, low technological efficiency learners can adopt E-Learning easier.

Cheok and Wong (2015), developed theoretical model (based on Technology Acceptance Model and others) of the determinants of E-Learning satisfaction in teaching and learning among secondary school teachers. They set three potential groups of determinants which are user-related characteristics (anxiety, attitude and self-efficacy), organizational-related characteristics

(school management and teachers training, school technical support) and e-learning system related characteristics (perceived usefulness, perceived ease of use, interaction). They also set that (usage as mediating) mediates the relationship between the three factors above and E-Learning satisfaction among secondary school teachers. Their review shows that user-related characteristics (the teachers) will to a large extent influence whether a learning solution is taken effectively, plus the teachers need pedagogical and technical support from the school management to adopt new innovations and E-Learning solutions which (the later) should be flexible and easy to interact with.

Knabe (2012), did a study that used Ajzen's (1985; 1991) Theory of Planned Behavior to research public relations faculty intentions of teaching online. The researcher tested the main predictor variables in the theory which are Subjective Norms, Attitude toward the Behavior and Perceived Behavioral Control. The researcher first designed a questionnaire based on historical data and lecturer review, then set three focus group sessions to help identify and shape and revise the questionnaire. The focus group findings helped shape the final questionnaire used in the pilot study that was sent to 30 public relations professionals from around the USA, representing the target population. The researcher findings show that Subjective Norms found to be the strongest predictor of intention. In general, the three main predictor variables (Subjective Norms, Attitude toward the Behavior and Perceived Behavioral Control) explained 49% of the variance in intent to teach a public relations course online. In addition, the findings show no significant relationships between the demographic variables age, gender & experience teaching public relations and the intentions to teach a public relations course online. Another analysis shows a crossover effect (a relation between Attitude toward the Behavior and Subjective Norms).

On the other hand, Marques et al. (2011) used Unified Theory of Acceptance and Use of Technology (UTAUT) to examine teachers' technology adoption in using the E-Learning platform in the Instituto Superior de Engenharia do Porto (ISEP). The authors want to evaluate if the UTAUT model could provide answers to the lack of use of the E-Learning platform and at the same time to evaluate if it can provide clues to help more adoption. They designed and created a questionnaire where the main variables of the UTAUT model were considered (Performance Expectancy, Effort Expectancy, Facilitating Conditions and Social Influence) plus the Voluntariness of Use as fifth variable. Questionnaires were distributed to teachers at ISEP, the answers reflect that those who replied are people that use the platform mainly. The five variables showed results above average, the leading variables were Facilitating Conditions and Voluntariness of Use which both scored more optimistic in general observation. Another note is that the findings show that women are more optimistic in the responses in general (except for Facilitating Conditions and Voluntariness of use variables).

Another researcher that uses UTAUT is Khechine et al. (2014). Researchers tried to determine the factors that explain the intention to use webinar systems in a blended (online + face to face physical) course. They used age and gender as moderating variables. The researchers developed a questionnaire (with seven-point Likert-type scale) to ask 470 students who were enrolled in the course which was conducted at Laval University in Quebec-Canada. Only 114 students answered the questionnaire. They tested the four UTAUT variables with age and gender as moderating variables and built their hypothesis upon them. The results showed that the intention to use a webinar was directly influenced by performance expectancy, effort expectancy, and facilitating conditions and only the age had a moderating effect.

Research Methodology:

The research relied on a descriptive survey (quantitative) to establish the range and the distribution of the research independent variables. In addition, to discover how the variables may relates to the dependent variables. A questionnaire was designed with different sections for this purpose. The main purpose was to understand the variables affecting the adoption of E-Learning by teachers from East Jerusalem schools. The community of the study consists of all East Jerusalem teachers. We could not find a document that gives an accurate number of the East Jerusalem teachers. However, a report generated by Israel Central Bureau of Statistics (2019) shows that in 2018/2019 academic year there were 31,960 teachers teaching in Jerusalem. Assuming that the number of East Jerusalem teachers is around half of that number. This assumption was made because there are West Jerusalem Schools (mostly Jewish teachers), East-Jerusalem Schools (mostly Arab teachers) and Haredi Schools. Hence, a total of 10,653 teachers can be considered, plus according to Palestinian Central Bureau of Statistics (2019), there are 4050 teachers working under the Palestinian Authority in 2018/2019 in Jerusalem which we assumed also include Jerusalem Islamic Waqf Schools, Partial Governmental Schools, and UNRWA Schools. Thus, we assumed that around 14,703 teachers represent our research community. Our sample provides %95 confidence (Emmel, 2013). We received a 337 response on our online questionnaire that was distributed randomly to the East Jerusalem Teachers Community. The responses (337) have the following characteristics:

Demographic variable	Value (Answer)	Frequency	Percentage
Gender	Male	47	13.9
	Female	290	86.1
Experience	less than a year	5	1.4
	1-5 years	74	22.0
	6-10 years	74	22.0
	or more than 10 years	184	54.6

Qualification	Diploma	12	3.6
	Bachelors	183	54.3
	Masters	136	40.4
	Ph.D.	6	1.8
Age	from 20 to 30	64	19.0
	from 31 to 40	116	34.4
	from 41 to 50	108	32.0
	from 51 to 60	42	12.5
	or above 61	7	2.1
Education Stage Note: The sums are above 337 (total responses) and total percentage as well (above 100%) due to the nature of the question, it is a multiple-choice question so an intersection between its items is possible.	Kindergarten	17	5.0
	Primary School "1st to 3rd grade"	68	20.2
	Primary School "4th to 6th grade"	87	25.8
	Middle School "7th to 10th grade"	104	30.9
	High School "11th & 12th grades"	123	36.5
School Type Note: Other, contains the responses from Palestinian Authority schools, Jerusalem Islamic Waqf, Partial Governmental, and UNRWA.	Private School	71	21.1
	Jerusalem Municipality	235	69.7
	Other*	31	9.2
Topic	Arabic	49	14.5
	English	47	13.9
	Other Languages	19	5.6
	Science (All Types)	47	13.9
	Mathematics	36	10.7
	Religion	31	9.2
	Social	31	9.2
	Technological Topics	37	11.0
	Kindergarten and special education	22	6.5
	Other	18	5.3
Students Type	Male Students	61	18.1
	Female Students	187	55.5
	Mixed Students	89	26.4
Tried E-Learning	Yes	328	97.3
	No	9	2.7

Table 1: Characteristics of the research sample.

The research tool consists of a questionnaire that the researcher developed based on items from UTAUT theory, the

items of the questionnaire were taken from the original UTAUT authors' suggestions (Venkatesh et al., 2003) and also were inspired by the work of Thomas, Singh and Gaffar (2013). The items were used to validate the hypothesis of the research.

Results & Discussion:

Question 1: *What are the main solutions that teachers adopt for E-Learning in East Jerusalem?*

To answer this question, we added a multiple-choice question in the questionnaire addressing directly the respondents to select the solutions they use or used through an E-Learning process. Table 3 shows the question and most frequent answers of the teachers.

Question:	What are the main solutions that teachers adopt for E-Learning in East Jerusalem?	
Number of Answers:	337 (with multiple choices)	
Answer	Frequency	Percentage
WhatsApp	276	81.9%
Zoom	247	73.3%
Google Classroom	125	37.1%
Facebook Groups	63	18.7%
Google Meets	62	18.4%
Moodle	28	8.3%
Skype	7	2.1%

Table 3: The main solutions that teachers adopt for E-Learning in East Jerusalem.

From Table 3, one can notice that most of the teachers prefer to use WhatsApp as the main E-Learning solution. WhatsApp was not designed to be used in E-Learning rather than a chatting and messaging system for individuals and businesses, but since it is so popular between people (schools' staff, teachers, parents and students) it is clearly became a solution for communication during the E-Learning process and during COVID-19 pandemic also.

Zoom came second with 73.3% of the teachers using it. Also Zoom was not designed for the E-Learning process rather than a general-purpose video conferencing solution. However, it became a popular solution all over the world during the COVID-19 pandemic. Skype and Google Meets are main competitors for Zoom in its field however they didn't get that much attention from teachers. Our opinion is that teachers were either influenced by the use of other teachers or simply the user experience in Zoom app is much better than the competitors.

One of the real E-Learning solutions (which were built to be one) is Google Classroom, which was used by 37.1% of teachers only. One can conclude that teachers might not look at what educational features a solution might give; rather than what communication features a solution gives. A solution such as Zoom with a powerful communication base and easy to install video conferencing solution with many participants at the same time is much preferable than a system that was built to serve E-Learning.

Question 2: What do teachers in East Jerusalem think about the experience of E-Learning during the closure of schools due to COVID-19?

We used Salhi (2017) language processing tools to analyze the text in the answers, an automated sentiment analysis was done (Positive answer, Negative answer, Neutral answer), automated categorization was also done with the following categories: Great Experience, Good Experience, Challenging Experience, Bad Experience and, Not Categorized. Words frequency analysis was also done and then we highlighted the challenges mentioned by some of the respondents. Table 4 shows the results.

Question:	What do teachers in East Jerusalem think about the experience of E-Learning during the closure of schools due to COVID-19?				
Number of Answers:	251	From a total of:	337		74.5%
Sentiment Analysis	Positive	Negative	Neutral		
	172 (68.5%)	68 (27.1%)	11 (4.4%)		
Categories	Great	Good	Challenging	Bad	Not Categorized
	31(12.4%)	116(46.2%)	55(21.9%)	41(16.3%)	8 (3/19%)

Table 4: Teachers thoughts about the experience of E-Learning during the closure of schools.

From the table we can notice the following:

- The number of respondents with none empty answers are 251 with a percentage of 74.5% of the total number of participants.
- Looking at the sentiment analysis, from the 251 answers there are 172 answers with positive view of E-Learning. That is a percentage of 68.5% of the non-empty answers, which relatively high compared to the 68 answers with negative view of E-Learning, that's a percentage of 27.1% of the non-empty answers. Therefore, we can conclude that teachers in general feel positive about E-Learning.
- Looking at the categorization, we can notice that 31 and 116 of the 251 answers had a great and good experience of E-Learning and that is a percentage of 58.6% of total answers with non-empty answers. However, a percentage of 21.9% of respondents said that they had a challenging experience (even though some of them had a positive view but still thinks it's challenging). Worth mentioning that a percentage of 16.3% had a bad experience. Therefore, we can conclude that in general teachers think they will have a good experience and feel good about it, however there are challenges that need to be addressed which we will discuss shortly.

1	Lack of Internet access / or infrastructure in the students' houses.
2	Teachers need training and qualification workshops
3	Need more planning and support.
4	Students lack basic computer skills.
5	Lack of support from school management to teachers.
6	There is no active participation from students
7	Parents' ignorance of technological means
8	Lack of computers for students
9	Frequent blackouts in some areas
10	Parents need training and qualification workshops
11	Difficulty in following up with correcting exams and homework.

Table 5: Some of the challenges that faced the teachers.

The above was some of the frequent challenges; we agree with the teachers especially in lack of good quality internet connections and frequent blackouts, also we believe that teachers will find it very handy to have more support and training toward E-Learning. Not to mention that also parents and students need more training in the use of computers and E-Learning solutions, also the lack of computers in the students' hands is a worrying issue.

This in general means that facilitating conditions is a key factor in adopting E-Learning, if the challenges are solved or reduced this means more acceptance will show up which agrees with the studies of Cheok and Wong (2015), Marques et al. (2011) and Khechine et al. (2014) and the challenges mentioned by Talebian, Mohammadi & Rezvanfar (2014).

Question 3: What is the impact of the variables (Gender, Experience, Qualification, Age, Education Stage, School Type, Curriculum, Students Gender, and Teaching Topic) of East Jerusalem Teachers on their view of the importance of E-Learning?

Items from Q12 to Q28 in the questionnaire are related to answering the above question (based on a five-point Likert Scale). Table 6, shows the results for the statistical analysis which was made with the following inputs:

Dependent Variable: Teachers view of the importance of E-Learning						
Factors with Independent samples T-test						
Factor	Group	Frequency	Mean	Std. Deviation	t	Sig-Value
Gender	Male	47	3.529	0.717	1.661	0.261
	Female	290	3.350	0.678		
Factors with ONE WAY ANOVA						
Factor	Contrasts	Sum of Squares	df	Mean Square	F	Sig - Value
Experience	Between Groups	1.604	3.0	0.535	1.138	0.334
	Within Groups	156.499	333.0	0.470		
Qualification	Between Groups	2.482	3	0.827	1.770	0.153
	Within Groups	155.621	333	0.467		
Age	Between Groups	2.913	4	0.728	1.558	0.185
	Within Groups	155.191	332	0.467		
Education Stage	Between Groups	2.482	3	0.827	1.770	0.153
	Within Groups	155.621	333	0.467		
School Type	Between Groups	4.429	4	1.107	2.392	0.051
	Within Groups	153.674	332	0.463		
Curriculum	Between Groups	2.803	2	1.401	3.014	0.05
	Within Groups	155.300	334	0.465		
Students Gender	Between Groups	0.483	2	0.242	0.512	0.600
	Within Groups	157.620	334	0.472		
Teaching Topic	Between Groups	10.127	9	1.125	2.487	0.009
	Within Groups	147.976	327	0.453		

Table 6: Statistical Analysis for Question 3 (Teachers view of the importance of E-Learning)

From table 6, we can notice that Teaching Topic & Curriculum effects the teachers' view of the importance of E-Learning, a value of 0.009 and 0.05 respectively, which are less or equal to Alpha (0.05) so:

There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the average view of eastern Jerusalem teachers of the importance of E-Learning due to the teaching topic variable and Curriculum variable. This means that teachers look at E-Learning differently based on what they teach, so we did further analysis and noticed the following:

- 70.6% of the teachers who teach Technological Topics think that E-Learning is important to very important, and a percentage of 26.4% are neutral about it.
- 44.4% of the Mathematics teachers think that E-Learning is important to very important, and a percentage of 38.8% are neutral about it.
- 50.0% of the teachers who teach Social Sciences think that E-Learning is important to very important, and a percentage of 42.3% are neutral about it.
- 47.6% of the Science teachers are neutral, and a percentage of 45.2% think that E-Learning is important to very important.
- A percentage of 51.6% of Religion teachers are neutral, and a percentage of 45.1% think that E-Learning is important to very important.
- Language Teachers do not see that E-Learning is important, only a percentage of 34.9% see it important, while the majority of 57.5% are natural about it.

We did a final analysis of the scale representing question 3, by analyzing each item alone versus all the independent variables we have, Table 7 shows the results

Item/ Sig- Value	Gender	Experience	Qualification	Age	Education Stage	School Type	Curriculum	Students Gender	Teaching Topic
Q12	0.842	0.194	0.332	0.122	0.005	0.164	0.010	0.006	0.008

Q13	0.934	0.036	0.088	0.661	0.018	0.074	0.003	0.008	0.017
Q14	0.446	0.061	0.457	0.213	0.08	0.031	0.051	0.080	0.151
Q15	0.750	0.019	0.118	0.305	0.447	0.317	0.184	0.029	0.191
Q16	0.320	0.077	0.123	0.10	0.097	0.300	0.665	0.665	0.000
Q17	0.136	0.206	0.084	0.782	0.109	0.564	0.685	0.392	0.159
Q18	0.543	0.000	0.264	0.175	0.002	0.519	0.632	0.015	0.043
Q19	0.702	0.413	0.074	0.829	0.625	0.295	0.206	0.481	0.291
Q20	0.331	0.182	0.217	0.760	0.850	0.003	0.268	0.085	0.300
Q21	0.389	0.400	0.550	0.289	0.747	0.004	0.335	0.753	0.046
Q22	0.004	0.046	0.085	0.104	0.037	0.508	0.064	0.469	0.004
Q23	0.964	0.064	0.705	0.005	0.054	0.067	0.290	0.409	0.100
Q24	0.782	0.131	0.503	0.694	0.002	0.288	0.062	0.849	0.001
Q25	0.009	0.080	0.514	0.000	0.870	0.190	0.128	0.133	0.056
Q26	0.510	0.718	0.258	0.194	0.215	0.716	0.769	0.732	0.419
Q27	0.704	0.810	0.582	0.002	0.320	0.064	0.008	0.057	0.049
Q28	0.029	0.888	0.644	0.006	0.186	0.135	0.003	0.218	0.037

Table 7: Analyzing each item from Q12 to Q28 from the questionnaire.

From the table we can notice that items Q12, Q13, Q18, Q22 and Q28 on the Scale of E-Learning Importance are the most affected by independent variables.

Item	English
Q12	Doing the tasks faster.
Q13	Improving job performance.
Q18	Reducing the efforts.
Q22	Reducing the teacher's daily expenses.
Q28	Develop the ability to work under pressure.

Table 8: The items from Q12 to Q28, which are most affected by independent variables.

We can conclude the following

- There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the average view of eastern Jerusalem teachers of the importance of E-Learning due to the teaching topic variable and curriculum variable.
- Teachers who teach Mathematics and Technological topics think that E-Learning is important to very important, most other teachers are neutral about it and few of them do not see the value.

Question 4: Which variables (Gender, Experience, Qualification, Age, Education Stage, School Type, Curriculum, Students Gender, and Teaching Topic) affect the performance expectancy, effort expectancy, social influence, facilitating conditions of East Jerusalem Teachers when adopting E-Learning?

Table 9 shows the results for the statistical analysis which was made with the following inputs:

Factors one by one: Gender, Experience, Qualification, Age, Education Stage, School Type, Curriculum, Students Gender, Teaching Topic.

Dependent Variable: Teachers Acceptance of E-Learning						
Factors with Independent samples T-test						
Factor	Group	Frequency	Mean	Std. Deviation	t	Sig-Value
Gender	Male	47	3.485	0.782	2.479	0.277
	Female	290	3.215	0.677		
Factors with ONE WAY ANOVA						
Factor	Contrasts	Sum of Squares	df	Mean Square	F	Sig - Value
Experience	Between Groups	1.381	3	0.460	0.944	0.419
	Within Groups	162.336	333	0.488		

Qualification	Between Groups	0.826	3	0.275	0.563	0.640
	Within Groups	162.921	333	0.489		
Age	Between Groups	3.975	4	0.994	2.065	0.085
	Within Groups	159.772	332	0.481		
Education Stage	Between Groups	8.591	10	0.859	1.805	0.059
	Within Groups	155.156	326	0.476		
School Type	Between Groups	3.523	4	0.881	1.825	0.124
	Within Groups	160.224	332	0.483		
Curriculum	Between Groups	2.941	2	1.470	3.054	0.048
	Within Groups	160.806	334	0.481		
Students Gender	Between Groups	0.319	2	0.160	0.326	0.722
	Within Groups	163.428	334	0.489		
Teaching Topic	Between Groups	8.020	9	0.891	1.871	0.055
	Within Groups	155.727	327	0.476		

Table 9: Statistical Analysis for Question 4 (Teachers Acceptance of E-Learning)

From table 9, we can notice that only the Curriculum has effects on the teachers' acceptance of E-Learning, a value of 0.048 that is less than Alpha (0.05). Hence, there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the *average acceptance of eastern Jerusalem teachers of E-Learning due to the curriculum variable*.

This means that teachers will accept E-Learning differently based on what curriculum they teach, so we did further analysis and noticed the following:

- A percentage of only 35.6% of the teachers who teach Palestinian Tawjihi curriculum are willing to accept E-

Learning, and the majority with a percentage of 52.5% are neutral about it.

- The majority of teachers who teach Bagrut curriculum are willing to accept E-Learning with a percentage of 52.3%, and a percentage of 38.5% are neutral about it.
- A percentage of 18.1% of the teachers who teach International curriculum are willing to accept E-Learning, and a percentage of 72.7% are neutral about it.

We did a final analysis of the scale representing question 4, by analyzing each item alone versus all the independent variables we have, Table 10 shows the results

Item/ Sig- Value	Gender	Experience	Qualification	Age	Education Stage	School Type	Curriculum	Students Gender	Teaching Topic
Q29	0.217	0.513	0.501	0.106	0.005	0.048	0.062	0.988	0.032
Q30	0.048	0.018	0.101	0.427	0.186	0.758	0.471	0.329	0.050
Q31	0.403	0.789	0.382	0.190	0.039	0.026	0.062	0.545	0.317
Q32	0.536	0.465	0.230	0.471	0.003	0.049	0.010	0.585	0.107
Q33	0.277	0.025	0.364	0.493	0.010	0.340	0.672	0.775	0.207
Q34	0.494	0.016	0.734	0.354	0.268	0.031	0.052	0.769	0.040
Q35	0.841	0.034	0.903	0.643	0.071	0.143	0.098	0.718	0.041
Q36	0.005	0.096	0.560	0.035	0.726	0.436	0.003	0.009	0.288
Q37	0.491	0.021	0.527	0.094	0.072	0.072	0.037	0.059	0.083
Q38	0.441	0.125	0.937	0.091	0.198	0.688	0.569	0.290	0.692
Q39	0.528	0.082	0.659	0.094	0.023	0.733	0.990	0.255	0.207
Q40	0.613	0.248	0.452	0.505	0.407	0.049	0.016	0.935	0.004
Q41	0.274	0.620	0.382	0.007	0.625	0.296	0.007	0.300	0.068
Q42	0.078	0.345	0.486	0.012	0.198	0.112	0.197	0.098	0.019
Q43	0.405	0.041	0.685	0.056	0.552	0.221	0.503	0.028	0.052
Q44	0.939	0.970	0.788	0.032	0.152	0.669	0.865	0.715	0.004

Table 10: Analyzing each item from Q29 to Q44 from the questionnaire.

It seems that item Q36 on the Scale of Accepting E-Learning is the most affected by independent variables. The item is: “*Increase the social class of the teacher*”, it seems teachers look at this item in different ways based on their gender, age, the curriculum they teach and the type school they teach in.

We can conclude the following from analyzing the answers related to Question 4:

- There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the *average acceptance of eastern Jerusalem teachers of E-Learning due to the curriculum variable.*
- Teachers who teach Bagrut curriculum are willing to accept E-Learning more than other teachers.
- Teachers' opinion about the raises in the social class vary based on their gender, age, the curriculum they teach and the type school they teach in.

Items from Q45 to Q59 in the questionnaire are related to answering the question 4 (based on a five-point Likert Scale). Table 11 shows the results for the following statistical analysis, which was made with the following inputs:

Teachers View of Difficulty in E-Learning (Mean []).

Dependent Variable: Teachers View of Difficulty in E-Learning						
Factors with Independent samples T-test						
Factor	Group	Frequency	Mean	Std. Deviation	t	Sig-Value
Gender	Male	47	2.924	0.831	-1.543	0.530
	Female	290	3.130	0.849		
Factors with ONE WAY ANOVA						
Factor	Contrasts	Sum of Squares	df	Mean Square	F	Sig - Value
Experience	Between Groups	0.670	3	0.223	0.380	0.820
	Within Groups	241.526	333	0.725		
Qualification	Between Groups	0.170	3	0.057	0.078	0.972
	Within Groups	242.026	333	0.727		
Age	Between Groups	1.292	4	0.323	0.445	0.776
	Within Groups	240.904	332	0.726		

Education Stage	Between Groups	2.281	10	0.228	0.310	0.978
	Within Groups	239.914	326	0.736		
School Type	Between Groups	0.814	4	0.204	0.280	0.891
	Within Groups	241.382	332	0.727		
Curriculum	Between Groups	3.249	2	1.624	2.270	0.105
	Within Groups	238.947	336	0.715		
Students Gender	Between Groups	2.459	2	1.230	1.713	0.182
	Within Groups	239.736	334	0.718		
Teaching Topic	Between Groups	8.274	9	0.919	1.285	0.244
	Within Groups	233.922	327	0.715		

Table 11: Statistical Analysis for Q45 to Q59 (Teachers View of Difficulty in E-Learning)

We did a more analysis of the scale representing question 4, by analyzing each item alone versus all the independent variables we have, Table 12 shows the results

Item/ Sig- Value	Gender	Experience	Qualification	Age	Education Stage	School Type	Curriculum	Students Gender	Teaching Topic
Q45	0.418	0.119	0.477	0.980	0.890	0.949	0.257	0.784	0.213
Q46	0.787	0.709	0.831	0.981	0.768	0.820	0.655	0.174	0.111
Q47	0.959	0.106	0.421	0.907	0.920	0.922	0.618	0.086	0.086
Q48	0.948	0.856	0.757	0.806	0.753	0.395	0.967	0.135	0.401
Q49	0.046	0.193	0.490	0.049	0.766	0.993	0.231	0.586	0.724
Q50	0.978	0.975	0.558	0.211	0.194	0.508	0.290	0.081	0.225
Q51	0.979	0.126	0.519	0.002	0.499	0.674	0.060	0.155	0.350
Q52	0.715	0.529	0.559	0.586	0.640	0.245	0.051	0.700	0.332
Q53	0.541	0.591	0.481	0.278	0.841	0.966	0.246	0.173	0.002
Q54	0.348	0.059	0.724	0.644	0.887	0.453	0.492	0.588	0.113
Q55	0.831	0.204	0.866	0.945	0.954	0.030	0.036	0.391	0.095
Q56	0.660	0.526	0.380	0.790	0.996	0.008	0.366	0.365	0.383
Q57	0.184	0.056	0.469	0.987	0.351	0.263	0.048	0.003	0.049
Q58	0.038	0.131	0.859	0.858	0.594	0.114	0.020	0.028	0.321
Q59	0.292	0.827	0.957	0.971	0.292	0.747	0.056	0.920	0.335

Table 12: Analyzing each item from Q45 to Q59 from the questionnaire.

Also, in table 12, we do not see any real effect of independent variables on the items. We can notice item Q57 and Q58 with three independent variables affecting them. We did a final analysis to check the answers distribution among this scale. Figure 5 shows the results.

Average: 3.09

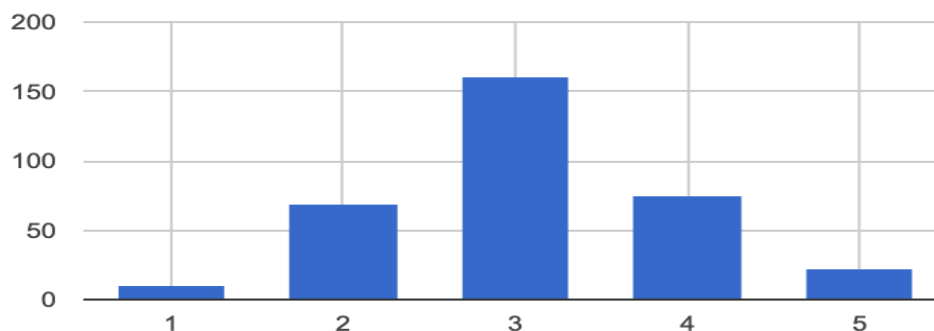


Figure 5: Answers Distribution of Teachers View of Difficulty in E-Learning. (Great to Bad)

We can see that it is almost symmetric with the majority of teachers with a neutral view over the difficulties. We can conclude the following from analyzing the answers related to Question 4:

- There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the *average difficulty the eastern Jerusalem teachers see in E-Learning* due to any of the independent variables under test.
- The Majority of teachers have a neutral view over the difficulties of E-Learning.

We selected items (Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q23, Q24, Q25, Q26, Q27, Q28) from the questionnaire which were selected based on the work of Venkatesh et al. (2003) and Singh & Gaffar (2013).

Table 13 shows the results for the following statistical analysis, which was made with the following inputs:

Factors one by one: Gender, Experience, Qualification, Age, Education Stage, School Type, Curriculum, Students Gender, Teaching Topic

Dependent variable: Teachers Performance Expectancy When Adopting E-Learning (Mean [Of Selected Items]).

Dependent Variable: Teachers Performance Expectancy When Adopting E-Learning						
Factors with Independent samples T-test						
Factor	Group	Frequency	Mean	Std. Deviation	t	Sig-Value
Gender	Male	47	3.604	0.765	1.285	0.151
	Female	290	3.460	0.706		
Factors with ONE WAY ANOVA						
Factor	Contrasts	Sum of Squares	df	Mean Square	F	Sig - Value
Experience	Between Groups	2.132	3	0.711	1.396	0.244
	Within Groups	169.495	333	0.509		
Qualification	Between Groups	2.560	3	0.853	1.680	0.171
	Within Groups	169.068	333	0.508		

Age	Between Groups	3.417	4	0.854	1.686	0.153
	Within Groups	168.211	332	0.507		
Education Stage	Between Groups	8.981	10	0.898	1.800	0.06
	Within Groups	162.646	326	0.499		
School Type	Between Groups	4.273	4	1.068	2.119	0.078
	Within Groups	167.335	332	0.504		
Curriculum	Between Groups	2.793	2	1.396	2.762	0.065
	Within Groups	168.835	334	0.505		
Students Gender	Between Groups	0.498	2	0.249	0.486	0.615
	Within Groups	171.129	334	0.512		
Teaching Topic	Between Groups	10.382	9	1.154	2.339	0.014
	Within Groups	161.246	327	0.493		

Table 13: Statistical Analysis for Question 6 (Teachers Performance Expectancy When Adopting E-Learning)

From table 13, we can notice that only the Teaching Topic effects the teachers Performance Expectancy when adopting E-Learning, a value of 0.014 which is less than Alpha (0.05). Therefore, there are statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the average of the performance expectancy of Eastern Jerusalem teachers in adopting E-Learning due to the teaching topic variable. We conclude that teachers' performance expectancy depends on the topic they teach, this matches also the conclusions we came to when we discussed question three. We were expecting similar results to question three because there is high intersection between the items of the scales of both questions.

We selected questionnaire (22, 29, 30, 31, 40, 41, 42, 45, 46, 47, 48, 50, 52) which are related to answer the above question. The items were selected based on the work of Venkatesh et al. (2003) and Singh & Gaffar (2013).

Table 14, shows the results for the following statistical analysis.

Dependent Variable: Teachers Effort Expectancy When Adopting E-Learning						
Factors with Independent samples T-test						
Factor	Group	Frequency	Mean	Std. Deviation	t	Sig-Value
Gender	Male	47	3.240	0.592	0.879	0.997
	Female	290	3.160	0.578		
Factors with ONE WAY ANOVA						
Factor	Contrasts	Sum of Squares	df	Mean Square	F	Sig - Value
Experience	Between Groups	0.890	3	0.297	0.883	0.450
	Within Groups	111.985	333	0.336		
Qualification	Between Groups	0.722	3	0.241	0.714	0.544
	Within Groups	112.154	333	0.337		
Age	Between Groups	1.113	4	0.278	0.827	0.509
	Within Groups	111.762	332	0.337		
Education Stage	Between Groups	5.010	10	0.501	1.514	0.133
	Within Groups	107.866	326	0.331		
School Type	Between Groups	1.822	4	0.456	1.362	0.247
	Within Groups	111.053	332	0.334		
Curriculum	Between Groups	0.423	2	0.212	0.629	0.534
	Within Groups	112.452	334	0.337		
Students Gender	Between Groups	0.671	2	0.336	0.999	0.369
	Within Groups	112.204	334	0.336		
Teaching Topic	Between Groups	7.726	9	0.858	2.670	0.005
	Within Groups	105.150	327	0.322		

Table 14: Statistical Analysis for Question 7 (Teachers Effort Expectancy When Adopting E-Learning)

From table 14, we can notice that only the Teaching Topic effects the teachers Effort Expectancy when adopting E-Learning, a value of 0.005 which is less than Alpha (0.05) so:

There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the average of the effort expectancy of eastern Jerusalem teachers in adopting E-Learning due to the teaching topic variable. We conclude that teachers' effort

expectancy depends on the topic they teach, this matches also the conclusions we came to when we discussed question three & six.

We selected items (Q19, Q20, Q21, Q32, Q33, Q36, Q38, Q39, Q49) from the questionnaire which are related to answering the above question (based on a five-point Likert Scale). The items were selected based on the work of Venkatesh et al. (2003).

Table 15 shows the results for the following statistical analysis, which was made with the following inputs:

Dependent Variable: Social Influence Effect on Teachers When Adopting E-Learning.						
Factors with Independent samples T-test						
Factor	Group	Frequency	Mean	Std. Deviation	t	Sig-Value
Gender	Male	47	3.350	0.742	2.145	0.190
	Female	290	3.127	0.646		
Factors with ONE WAY ANOVA						
Factor	Contrasts	Sum of Squares	df	Mean Square	F	Sig - Value
Experience	Between Groups	1.346	3	0.449	1.018	0.385
	Within Groups	146.732	333	0.441		
Qualification	Between Groups	1.628	3	0.543	1.234	0.297
	Within Groups	146.450	333	0.440		
Age	Between Groups	3.167	4	0.792	1.184	0.126
	Within Groups	144.911	332	0.436		
Education Stage	Between Groups	6.433	10	0.643	1.481	0.145
	Within Groups	141.645	326	0.434		
School Type	Between Groups	4.108	4	1.027	2.368	0.053
	Within Groups	143.970	332	0.434		
Curriculum	Between Groups	1.140	2	0.570	1.296	0.275
	Within Groups	146.938	334	0.440		
Students Gender	Between Groups	0.897	2	0.449	1.018	0.362
	Within Groups	147.181	334	0.441		
Teaching Topic	Between Groups	6.162	9	0.685	1.577	0.121
	Within Groups	141.916	327	0.434		

Table 15: Statistical Analysis for Question 7 (Social Influence Effect on Teachers When Adopting E-Learning)

From table 15, we can notice that that none of the independent variables has effects on the teachers thinks about the effect of social influence when adopting E-Learning, none of the Sig values is less than Alpha (0.05). Hence, none of the variables affects how social influence weights to East Jerusalem Teachers when adopting E-Learning.

Table 16 shows the results for the following statistical analysis, which was made with the following inputs:

Dependent Variable: Facilitating the conditions when adopting E-Learning.						
Factors with Independent samples T-test						
Factor	Group	Frequency	Mean	Std. Deviation	t	Sig-Value
Gender	Male	47	3.116	0.573	-	0.520
	Female	290	3.166	0.574		
Factors with ONE WAY ANOVA						
Factor	Contrasts	Sum of Squares	df	Mean Square	F	Sig - Value
Experience	Between Groups	2.475	3	0.825	2.543	0.056
	Within Groups	108.026	333	0.324		
Qualification	Between Groups	0.151	3	0.050	0.152	0.928
	Within Groups	110.349	333	0.331		
Age	Between Groups	2.010	4	0.502	1.538	0.191
	Within Groups	108.490	332	0.327		
Education Stage	Between Groups	1.842	10	0.184	0.553	0.852
	Within Groups	108.658	326	0.333		
School Type	Between Groups	1.791	4	0.448	1.368	0.245
	Within Groups	180.709	332	0.327		
Curriculum	Between Groups	0.776	2	0.388	1.182	0.308
	Within Groups	109.724	334	0.329		
Students Gender	Between Groups	1.748	2	0.874	2.684	0.070
	Within Groups	108.752	334	0.326		
Teaching Topic	Between Groups	6.963	9	0.774	2.443	0.011
	Within Groups	103.537	327	0.317		

Table 16: Statistical Analysis for Question 9 (Facilitating the conditions when Adopting E-Learning)

From table 16 we can notice that only the Teaching Topic affects the what the teachers think about *facilitating conditions* when adopting E-Learning, a value of 0.011 which is less than Alpha (0.05) so; There are statistically significant differences at the level of significance ($\alpha \leq 0.05$) in the *average of facilitating conditions of eastern Jerusalem teachers in adopting E-Learning due to the teaching topic variable* We conclude that teachers' view toward *facilitating conditions* depends on the topic they teach.

Conclusions and Recommendations

- East Jerusalem Teachers, in general, don't look at what educational feature a technological solution might give rather than what communication features a solution give, WhatsApp and Zoom are more important to teachers than Google Classroom or Model for example.
- East Jerusalem Teachers in general feels positive about E-Learning.
- East Jerusalem Teachers in general think that they will have good experience in E-Learning, however there are challenges that need to be addressed.
- Facilitating conditions and overcoming the physical challenges has positive effect on adopting E-Learning.
- Teaching Topic is a key factor in teachers' will to adopt and accept E-Learning.
- In addition, the type of curriculum teachers teach plays a factor in adopting E-Learning. For instance, teachers who teach Bagrut are more open to E-Learning. This is an issue for further studies.

Recommendations:

- Further studies should be made on the curriculum it's interesting to find out why East Jerusalem teachers who teaches bagrut are more willing to accept E-Learning.

- Further studies should be made on the challenges and their real effect on East Jerusalem teachers' will to adopt E-Learning.
- We had a shortage of participant form Palestinian Schools (Palestinian Authority Schools, Jerusalem Islamic Waqf Schools, Partial Governmental Schools, or UNRWA) so it worth to do further studies focusing on those school.

References

- Addah, K., Kpebu, D., & Frimpong Kwapong, O. A. (2012). Promoting E-learning in distance education programs in an African country. Elvis Pontes (Ed.). *E-Learning-Long-Distance and Lifelong Perspectives* (pp. 51-62), Intech.
- Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. a. J. B. Kuhlnd (Eds), *Action control: From cognition to behavior*. Heidelberg: Springer.
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Ajzen, I. (2019). Theory of Planned Behavior with Background Factors. Retrieved April 28, 2020, from <https://people.umass.edu/aizen/tpb.background.html>
- Al-Fraihat, D., Joy, M., & Sinclair, J. (2020). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior*, 102, 67-86.
- Al-Furaydi, A. A. (2013). Measuring e-learning readiness among EFL teachers in intermediate public schools in Saudi Arabia. *English Language Teaching*, 6(7), 110-121.
- Algahtani, A.F. (2011). Evaluating the Effectiveness of the E-learning Experience in Some Universities in Saudi Arabia from Male Students' Perceptions, *Durham theses*, Durham University.
- Arkorful, V., & Abaidoo, N. (2015). The role of e-learning, advantages, and disadvantages of its adoption in higher education. *International Journal of Instructional Technology and Distance Learning*, 12(1), 29-42.
- Behera, S. K. (2013). E-and M-Learning: A comparative study. *International Journal on New Trends in Education and Their Implications*, 4(3), 65-78.
- Caruth, G. D., & Caruth, D. L. (2013). Distance education in the United States: From correspondence courses to the Internet. *Turkish Online Journal of Distance Education*, 14(2), 141-149.

- Cheok, M. L., & Wong, S. L. (2015). Predictors of e-learning satisfaction in teaching and learning for school teachers: A literature review. *International Journal of Instruction*, 8(1), 75-90.
- Cheon, J., Lee, S., Crooks, S. M., & Song, J. (2012). An investigation of mobile learning readiness in higher education based on the theory of planned behavior. *Computers & Education*, 59(3), 1054-1064.
- Cingj, C. C. (2013). Computer-aided education. *Procedia - Social and Behavioral Sciences* Vol.103: 220–29, DOI:10.1016/j.sbspro.2013.10.329.
- Davis. F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS quarterly*, pp. 319-340, 1989
- Davis F. D. Jr. (1989). A technology acceptance model for empirically testing new end-user information systems: Theory and results. *Massachusetts Institute of Technology*
- Emmel, N. (2013). *Sampling and choosing cases in qualitative research: A realist approach*. London: Sage.
- Gaebel, M., Kupriyanova, V., Morais, R., & Colucci, E. (2014). *E-learning in European higher education institutions*. Brussels: European University Association.
- Garrison, D. R. (2011). *E-learning in the 21st century: A framework for research and practice*. Taylor & Francis.
- Georgiev, T., Georgieva, E., & Smrikarov, A. (2004, June). M-learning-a New Stage of E-Learning. In *International conference on computer systems and technologies-CompSysTech* (Vol. 4, No. 28, pp. 1-4).
- Haran, M. (2015, May 29). A history of education technology. Retrieved April 25, 2020, from: <http://institute-of-progressive-education-and-learning.org/a-history-of-education-technology/>
- Harting, K., & Erthal, M. J. (2005). History of distance learning. *Information technology, learning, and performance journal*, 23(1), 35.
- HoloniQ (2019). 10 charts that explain the Global Education Technology Market. Retrived July 11,2020. From

<https://www.holoniq.com/edtech/10-charts-that-explain-the-global-education-technology-market/>

- Illinois Wesleyan University. (2008, April 30). Did You Know. Retrieved April 26, 2020, from <https://www.iwu.edu/about/DidYouKnow.html>
- Israel Central Bureau of Statistics. (2019). Teaching Staff 2018/19. Retrieved July 11, 2020, from https://www.cbs.gov.il/he/mediarelease/DocLib/2019/093/06_19_093b.pdf
- Knabe, A. (2012). Applying Ajzen's theory of planned behavior to a study of online course adoption in public relations education.
- Kennedy, S. (2018). *Educational Technology and Curriculum*. Scientific e-Resources.
- Khechine, H., Lakhal, S., Pascot, D., & Bytha, A. (2014). UTAUT model for blended learning: The role of gender and age in the intention to use webinars. *Interdisciplinary Journal of E-Learning and Learning Objects*, 10(1), 33-52.
- Leiner, B. M., Cerf, V. G., Clark, D. D., Kahn, R. E., Kleinrock, L., Lynch, D. C., ... & Wolff, S. (2009). A brief history of the Internet. *ACM SIGCOMM Computer Communication Review*, 39(5), 22-31.
- Marques, B. P., Villate, J. E., & Carvalho, C. V. (2011, June). Applying the UTAUT model in engineering higher education: Teacher's technology adoption. In *6th Iberian Conference on Information Systems and Technologies (CISTI 2011)* (pp. 1-6). IEEE.
- Mirza, A. A., & Al-Abdulkareem, M. (2011). Models of e-learning adopted in the Middle East. *Applied computing and informatics*, 9(2), 83-93.
- Muntean, C. I. (2011, October). Raising engagement in e-learning through gamification. In *Proc. 6th international conference on virtual learning ICVL* (Vol. 1, pp. 323-329).
- Ouma, G. O., Awuor, F. M., & Kyambo, B. (2013). E-Learning Readiness in Public Secondary Schools in Kenya. *European Journal of Open, Distance, and E-learning*, 16(2), 97-110
- Palestinian Central Bureau of Statistics. (2019). Distribution of school teachers in Palestine by region and governorate, for the

- academic years 2015/2014 - 2019/2018. Retrieved July 11, 2020, from http://www.pcbs.gov.ps/Portals/_Rainbow/Documents/Teachers_ar-4-2020.html
- Powell, A. (2007, October 11). How Sputnik changed US education. *Harvard Gazette*, from <https://news.harvard.edu/gazette/story/2007/10/how-sputnik-changed-u-s-education/>
- Rabiee, A., Nazarian, Z., & Gharibshaeyan, R. (2013). An explanation for internet use obstacles concerning e-learning in Iran. *The International Review of Research in Open and Distributed Learning*, 14(3), 361-376.
- Rennie, F., & Morrison, T. (2013). *E-learning and social networking handbook: Resources for higher education*. Routledge.
- Russell, M. (Ed.). (2006). *Technology and assessment: The tale of two interpretations*. IAP.
- Salhi, A. (2017). ArabiTools: Arabic NLP Library. Retrieved July, 10 2020, from: <https://www.arabitoos.com>
- Sawang, S., Newton, C., & Jamieson, K. (2013). Increasing learners' satisfaction/intention to adopt more e-learning. *Education + Training*, 55(1), 83-105.
- Smedley, J.K. (2010). Modeling the impact of knowledge management using technology. *OR Insight* (2010) 23, 233-250.
- Talebian, S., Mohammadi, H. M., & Rezvanfar, A. (2014). Information and communication technology (ICT) in higher education: advantages, disadvantages, conveniences and limitations of applying e-learning to agricultural students in Iran. *Procedia-Social and Behavioral Sciences*, 152, 300-305.
- The University of London. (2017, September 11). Our History. Retrieved April 26, 2020, from <https://london.ac.uk/about-us/our-history>
- Thomas, T., Singh, L., & Gaffar, K. (2013). The utility of the UTAUT model in explaining mobile learning adoption in higher education in Guyana. *International Journal of Education and Development using ICT*, 9(3).

- Tretter, J. T., Windram, J., Faulkner, T., Hudgens, M., Sendzikaite, S., Blom, N. A., ... & Kumar, R. K. (2020). Heart University: a new online educational forum in paediatric and adult congenital cardiac care. The future of virtual learning in a post-pandemic world?. *Cardiology in the Young*, 30(4), 560-567.
- Tubaishat, A. (2008). Adoption of Learning Technologies to Alleviate the Impact of Social and Cultural Limitations in Higher Education. In *Proceedings of the 1st E-Learning Excellence Forum*, Dubai, UAE, January 15–18, 2008, pp. 40–50.
- Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27, 425-478.
- World Economic Form. (2020). The COVID-19 pandemic has changed education forever. This is how. Retrieved July 11, 2020, from <https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>
- Yang, H. H., & Su, C. H. (2017). Learner behavior in a MOOC practice-oriented course: in empirical study integrating TAM and TPB. *International Review of Research in Open and Distributed Learning: IRRODL*, 18(5), 35-63.