TALLINN UNIVERSITY OF TECHNOLOGY
Faculty of Information Technology

IDU70LT

Khaled H. M. Albasayna

146640IVGM

FACTORS INFLUENCING THE USE OF E-LEARNING IN SCHOOLS IN CRISIS AREAS:SYRIAN TEACHERS' PERSPECTIVES

Master's Thesis

Supervisor: Ingrid Pappel

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IDU70LT

Khaled H. M. Albasayna

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FAKTORID, MIS MÕJUTAVAD E-ÕPPIMISE KASUTAMIST KOOLIS KRIISI ALADEL: SÜÜRIA ÕPPETAJATE PERSPEKTIIV

Tehnikateaduse magister

Juhendaja: Ingrid Pappel
PhD
Lecturer

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Author’s declaration of originality

I hereby certify that I am the sole author of this thesis. All the used materials, references to the literature and the work of others have been referred to. This thesis has not been presented for examination anywhere else.

Author: Khaled H. M. Albasayna

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Abstract

This thesis is written in English and is 70 pages long, including 5 chapters, 4 figures and 26 tables.

Using ICTs and E-learning in education institutions refers to the techniques of learning which use to create and develop electronic educational content and this content delivered via ICTs tools. In recent years, E-Learning has been desegregated as a necessary element in educational environments. Using the Information and communication technology and E-learning tools could play a primary role in the developing countries education process. The vast majority of developing countries they are still at an early stage even the countries they do not have crises or conflicts of using ICTs and implementation e-learning systems. Despite, many of E-learning initiatives and projects have been launched in developing countries and the Middle East, but some of these projects failed to achieve their goals. This study tries to determine the key factors that influence the use of ICTs, implementation and development of E-Learning in crises areas: the case of Syria. The researcher has motivated to study the main factors that could be the reason of failure and success the use ICTs in education and implement E-Learning in Syrian refugee camps schools in Turkey. A descriptive questionnaire design was used to examine teachers' perceptions of factors that influence the use of ICTs, implementation and development of E-Learning in Syrian refugee camps schools in Turkey. The Population of this study was the 300 teachers they are working in around 16 schools in the south of Turkey. A total of respondents on questionnaire have been designed for this aim was 55.The findings showed that there are many key factors which influence the use and implement E-Learning in the schools. These are teachers' characteristics, students' characteristics, technology and design and content Also, the results showed that there are some differences in perceptions between teachers according to age, gender, Field of teaching, years of teaching and years of using E-learning. Moreover, the results revealed that no statistically significant differences among the teachers who has an Internet access and a computer access at home and who has not with regard to the students' characteristics, teachers' characteristics, technology and design and content factors.

Annotatsioon

Faktorid, mis mõjutavad e-õppimise kasutamist koolis kriisi aladel: Süüria õppetajate perspektiiv

Lõputöö on kirjutatud Inglise keeles ning sisaldab teksti 70 leheküljel, [peatükkide arv] peatükki, 4 joonist, 27 tabelit.

ICt ja E-õppe kasutamine haridusasutustes viitab õppimistehnikatele mida kasutatakse elektrooniliste haridusmaterjalide loomiseks ja välja aretamiseks ja see materjal saadakse ICT tööriistade kaudu. Viimastel aastatel E-õpe on arenenenud välja kui üks vajalik osa õpimisprotsessist. Informatiivsete ja suhtlus tehnoloogiate kasutamine ja E-õppe tööriistad võivad mängida olulist rolli arengumaade haridus protsessis. Isegi suur osa arenenudriikidest, kus ei ole kriise ja konflikte, on alles varajases ICT ja E-õppe süsteemide kasutamis etapis. Vaatamata sellele, mitmeid e-õppe initsiatiive ja projekte on võetud kasutusele arenguriikides ja Kesk-Idas, aga mõningad neist projektidest ei ole saavutanud oma eesmärki. See uurimus üritab selgitada põhifaktoreid mis mõjutavad ICT kasutamist, e-õppe teostamist ja arendamist kriisi aladel: Süüria näide. Uurimuse teostaja on motiveeritud õppima põhifaktoreid mis võivad olla ITC kasutamise ebaõnnestumise või õnnestumise põhjuseks ja E-õppe kasutusele võtlisel Süüria pagulaslaagrite koolides Türgis. Küsitlys oli välja disainitud ja kasutatud õpetajate küsitlemisel ITC faktorite mõjutustegurite teada saamiseks ja e-õppe välja arendamiseks Süüria pagulaslaagrite koolides Türgis. Uurimusest võttis osa 300 õpetajat, kes töötavad 16 koolis lõuna Türgis. Tulemused näitasid, et seal oli palju põhifaktoreid ja võimalikke E-õppe kasutusvõtmise viise koolides. Mõjutavad õpetajate isikuomadused, õpilaste iseloomuomadused, tehnoloogia ja materjal. Lisaks erinevused tekkisid õpetajate vahel erinevas vanuses, sugudes, õpetamisvaldkondades ja sellest kui kaua nad on e-õpet kasutanud . Veel enam, tulemused näitasid, et statistiliselt ei ole erilist erinevust õpetajate vahel, kellel on interneti ja arvuti kättesaadavus kodus olemas..

List of abbreviations and terms

ICT	Information and Communications Technology
ICT4D	Information and Communications Technologies for Development
LMSs	Learning Management Systems
MOOCs	Massive Open Online Courses
SPOC	Small Private Online Course

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1 Introduction

1.1 Introduction

Information and Communication Technology (ICT) is defined as an umbrella term that includes any communication device or encompassing: radio, television, cellular phones, computer and network hardware, and software, satellite systems as well as the various services and applications associated with them, such as videoconferencing (Charoensukmongkol and Moqbel 2014).Certainly, ICT becoming a central pillar of any modern society.The rapid development of information and communication technologies have encouraged use them in many purposes such as the health, economy, security military, training, government services, education, business, and marketing. Perron, Taylor, Glass and Margerum-Leys (2010:67) describe the extent of the uses of ICTs: "Information and communication technologies (ICTs) are broadly defined as technologies used to convey, manipulate and store data by electronic means. This can include e-mail, SMS text messaging, video chat (e.g., Skype), and online social media (e.g., Facebook). It also includes all the different computing devices (e.g., laptop computers and smart phones) that carry out a wide range of communication and information functions. All these electronic tools constitute the "Information and communication technologies (ICTs) and are used to convey, manipulate and store information" (Perron, et. al. 2010:67).

This study is related to research filed information and communications technologies for development(ICT4D) and thus, evaluate how information and communication technology (ICT) can make a significant change for development (Heeks,2008; Prakash & De',2007; Unwin,2009).

All sectors in any country around the world whether public sector or private sector have started to develop policy and strategy agendas aimed to take advantage of the information and communication technologies (ICTs) for economic, social, and political development(Hilbert,2012).

Information and Communication Technologies “ICT” in education means using ICT tools in learning /teaching process to transform traditional learning/teaching environments and create more efficient environments. The technology was a relevant issue for generations of distance education. The first generation of correspondence instruction the educational institutions were printed texts, books, articles and were sent by postal services. The second generation was audio, and videotapes were used for education process, the third generation containing teleconferencing and broadcasting media like TV and radio. The fourth, the internet made an entrance and the fifth where the internet was used for communication purposes (Taylor, 2001).

The appearance of new information and communication technology infrastructure in last two decades has created many additional opportunities and challenges for developing the educational system. Also, to create a variety of effective e-learning environments, like learning management systems (LMS) like Moodle.

Using ICTs in education and learning have many titles such as online education, web-based education, e-learning (or eLearning/E-learning), web-based education, flexible learning, V-Learning, technology enhanced learning, online learning, computer-assisted learning, mobile learning. The topic of using ICTs in education increasing importance for public policies. Policy-makers realized that using ICTs in education process could probably help to improve students’ achievement, provide students, new groups of skills, improve students’ ability to learn and promote their lifelong learning. Therefore, Using of ICTs and E-Learning environments will change the face of education and creates a platform to build knowledge societies as a source of teaching to achieve educational security in these societies (UNESCO, 2005).

According to John Chambers (in Rosenberg, 2001), “the biggest growth in the Internet, and the area that will prove to be one of the biggest agents of change will be in e-learning”. The obvious question is, why we should use ICTs in education or using e-learning system. There are many views support using ICT in education. First one involves saving time and money (Annetta, Folta, & Klesath, 2010; Snyder, Marginson, & Lewis, 2009). .For example, online courses materials are available 24 hours a day, seven days a week. The second view ensures the equality between the citizen in gaining access to education, irrespective of the children's place of residence, age, and disability, education have to be available to everybody to achieve lifelong learning (Evans, Haughey, & Murphy,

2008).The third view is related to hopes and expectations that ICTs could makes a huge difference in teaching/learning process (Johannesen, 2013; Kirkwood and Price, 2012; Laurillard, 2010).

Nonetheless, many studies have mentioned disappointing outcomes, as there are no significant differences in learning/teaching results when ICTs are used in educational settings (Andrews & Haythornthwaite, 2007). Moreover, some teachers report that using ICTs in education is take a long time(Comas-Quinn, Arcos, & Mardomingo, 2012; Zhang 1998 in Tallent-Runnels, 2006).Also, researchers believe that students and especially children who in class using ICTs tools, there is a possibility that they will be psychologically isolated from the rest of their colleagues .

1.2 Problem Statement

Using ICTs to Achieve Development has increased last two decades and ICTs has been integrated into education in different level especially in higher education to take advantage of the rapid developments in ICTs. Using ICTs and E-Learning environments has increasingly been incorporated into secondary schools in many countries, which has changed processes of teaching and learning in these schools, which allowed for greater interaction among students and teachers and between students and students and create new opportunities for the students to get knowledge more easy. Implementation of E-learning possible in many educational settings, but in some settings implementation of E-learning can be slow and face many problems (Liaw, 2008; Neyland, 2011; Frimpon, 2012).

Some researchers wrote about evaluating the factors influencing the use of ICT and E-learning environments in higher education and training in some companies. Conversely, Study and assess the factors that might affect the implementation and development of E-Learning in the secondary schools suffer from the lack of academic and practical studies compared to the studies about using ICT and E-learning in higher education.

1.3 Aim

The study aims to discuss and evaluate the use of ICTs and e-Learning environments in schools in Syria and investigate the opportunities and challenges of the e-learning paradigm for schools in Syria from the perspective of teachers. Moreover, make recommendations for design and implementation education systems by using ICT and E-learning, and the most convenient environment for schools in Syria.

These aims were to evaluate the factors influencing the use and implement E-learning projects and figured out some recommendations that could help the decision-makers in the international organizations and Syrian organizations that attempt to develop and implement E-Learning projects in Syria.

1.4 The research questions are:

1-What are the key factors that influence implementation of using ICT and E-Learning in schools?

2- How does the use of ICT outside of school affect the use of ICT in school?

3- How do the teachers differ in their concepts the factors that influence implementing and using ICTs and E-Learning in schools based on (…)?

1.5 Methodology

The study aims to discuss and evaluate the use of ICTs and e-Learning environments in schools in Syria and investigate the opportunities and challenges of the e-learning paradigm for schools in Syria from the perspective of teachers. The main research methodology chosen for the study was a quantitative approach, and survey collected the data. The Quantitative Research method is always used to quantify the problem by a way of generating numerical data.

This approach of research mainly emphasizes the use of measurement to describe objects and relationships under study (Saunders et al., 2009).The questionnaire was developed using a Likert-type scale, ranging from (1) Completely Disagree to (5) Completely agree(Brown,2010).Secondary data sources were from many sources for data collection. Firstly, the study focuses on data collected from books, reports and articles about using ICT in education in general .Secondly, it focuses on reports and articles about using ICT in education in crisis areas.

1.6 Structure of the Thesis

This study organized as follows:

Chapter Two, efforts have been made to review relevant literature to figure out all definitions and approaches can answer the research questions. This chapter covers the history of using ICT in education, defined all concepts of e-learning in all ages and defined e-learning environments, benefits, and challenges. It also identifies the key factors in E-Learning.

Chapter 3 justifies the selection of the research approach, strategy, and methodology. It then discusses the development of data collection and the data analysis tools.

Chapter 4 presents the results and findings obtained from quantitative data sources. Statistical software analysis using SPSS was applied to analyze the data.

Chapter 5 conclusion and recommendations.

2 Literature Review

2.1 Introduction

Using ICT have integrated into many sectors in our life to take advantage of the ICT benefits, in particular concerning enhanced the level of the life. Education as an important area for any government around the world, E-learning and ICT has been integrated into the educational institutions to take advantage of ICT technologies to improve the teaching and learning processes. Pearson and the Online Learning Consortium report mentioned that 7.1 million of higher education students are taking in 2013 at least one online course, and over 65.9% of higher educational institutions regarded online education is critical to their long-term strategy (Allen & Seaman, 2014).

Despite E-Learning has been applied successfully in many academic settings, the progress of implementing E-learning initiatives in schools can be slow((Liaw, 2008; Neyland, 2011; Frimpon, 2012).High levels of dropout rates of E-learning education especially in developed countries in comparison with the traditional classroom-based teaching.(Ibrahim et al., 2007; Andersson, 2008).

Despite this, the erroneous provisions affected the implementation and utilization of e-learning on many of these activities, which lead to failure to take advantage of the maximum capacity of e-learning and caused the imbalance in the educational process(Sela and Sivan, 2009; Frimpon, 2012).According to the report of the Group of Hackett, e-learning projects fail at an alarming rate by 30% and the percentage of drop-outs from school curriculum units provided in the electronic learning environment ranges between 20 and 40 percent(Levy 2007; Sela and Sivan, 2009; Frimpon, 2012).

Additionally, a study conducted by (Rhema and Miliszewska, 2010) about towards E-Learning in Higher Education in Libya.This study showed that the hopes in using ICT and E-learning are still in an early stage, in many of Libyan universities. In Garyounis University, Alfateh University and Academy of Postgraduate Studies and Economic

Research, they have the essential ICT infrastructure (such as computers, Internet access, and a local area network), these mean the using of E-Learning in higher education institutions in Libya still below the international level. The high failure rates of E-learning implementation projects and initiatives, like any projects related to the implementation of information and communication technologies in different sectors, shows that must be carefully planned and examined the strengths and weaknesses to avoid failures in the implementation of these projects. The implementation of e-learning facing different challenges it can be ranged in different levels technological, administrative and organizational. These challenges have to be taken into account when any institution want to implement the e-learning projects.

This chapter sets out to review some of the definitions, studies and projects are already implemented; Section 2.2 discusses in detail the current situations of education in crisis areas and particularly in Syria. Section 2.3 discusses the different definitions of E-Learning, E-Learning benefits and using ICT in learning/teaching process and E-Learning technologies. Section 2.4 shows the current situation of E-Learning industry. Section 2.2 shows the E-Learning in Arab countries. Section 2.6 discusses the factors influencing the use of E-learning. Section 2.6 explains the previous attempts to evaluate the key factors of E-Learning in developed countries. Section 2.6 poses previous attempts to assess the key factors influencing the use of E-Learning in the Arab region.

2.2 Education in Crisis Areas

Education is a primary human right for all people around the world. "Education is especially critical for the tens of millions of children and youth affected by conflict and disasters, and yet it is often significantly disrupted in emergency situations, denying learners the transformative effects of quality education. Education in emergencies comprises learning opportunities for all ages. It encompasses early childhood development, primary, secondary, non-formal, technical, vocational, higher and adult education. In emergency situations through to recovery, quality education provides physical, psychosocial and cognitive protection that can sustain and save lives" (INEE, 2012).

Use of ICT is becoming utilized in the education process, to deliver education services to children and youth. Conflicts and crisis areas are particularly challenging, but information and communication technologies (ICT) have the potential to improve the quality of education in these environments (USAID, 2013). The precarious humanitarian situation in these countries, in particular, the psychology of the children. A significant percentage of children will be from students with special educational needs. The use of ICT and E-learning for students who need special education are attractive from a special educational perspective because the main goal of the teacher who teaches these students is to identify, analyze and engage in prevention and in efforts to eliminate the obstacles and difficulties in different learning environments.

Education is a primary right of all people around the world. It is the most efficacious way of helping people poverty reduction and inequality and is integral to people consummating their life goals (High-Level Panel, 2013).World Declaration on Education for All was in March 1990,26 years after this adoption more than 58 million students remain out of primary school and 63 million out of lower secondary school (UIS, 2015).Moreover, the disturbing number of children in schools across the developing world are not receiving a minimum learning standard(EFA GMR, 2014).

2.2.1 What is 'Education in Crises'?

The 2010 UNGA resolution on The Right to Education in Emergency Situations reiterates the right of education for all people affected by crises. It called the international donors to finance humanitarian assistance for people to deliver safe education in emergencies and to execute the INEE Minimum Standards for Education. Education in emergencies and crises is necessary to provide safe environments during crises, psychological and social support, Long-term development of children, youth, and communities.(Nicolai, Hine and Joseph,2015).There are three types of crises: conflict (e.g. war, military uprising), natural disasters (e.g. earthquakes, tsunamis, floods, droughts) and epidemics (e.g. Ebola, HIV) (IFRC,2015).

2.2.2 How Many Children are Affected and Where?

Around the world, there are 35 countries affected by emergencies and crises, based on the analysis of the countries included in the United Nations Children's Fund (UNICEF). The number of these countries affected by crises may change year to year. Thus, the number of children affected by these crises will increase. Table 2.1 shows the most recent data, 476 million children aged 3-15 live in countries affected by crises. Moreover, that amongst those ():

- The overall population of children 3-15 residing in these countries is 476 million.

- Around the world there are 65 million children aged 3-15 are most directly affected by emergencies and crises, there is also approximately 15 million crisis-affected youth aged 16-18 years in these countries (Linksbridge, 2015).

- Nearly 37 million primary and lower secondary age children are out of school in crisis-affected countries (Linksbridge, 2015).

- There are at least 14 million refugee and internally displaced children aged 3-15 in these affected countries (Linksbridge, 2015).

Table 1. Population Estimate Affected Children Aged 3-15 in 35 Crisis-Affected Countries (millions), Linksbridge(2015).

	Pre-primary	**Primary**	**Lower secondary**
Total number of children	73	293	110
Children affected by crises	10	40	15
Out-of-school children	-	22	15
Refugees and displaced	2	8	3

Around 35 crisis-affected countries 20 countries are classified as lower income, the rest of crisis-affected countries about 15 countries are middle-income. Approximately half of these countries in Africa, the remaining in Middle East, North Africa, and Asia. Nigeria, Guinea, Yemen, the DPRK, and Syria - have over 4 million school-age children. Figure1.

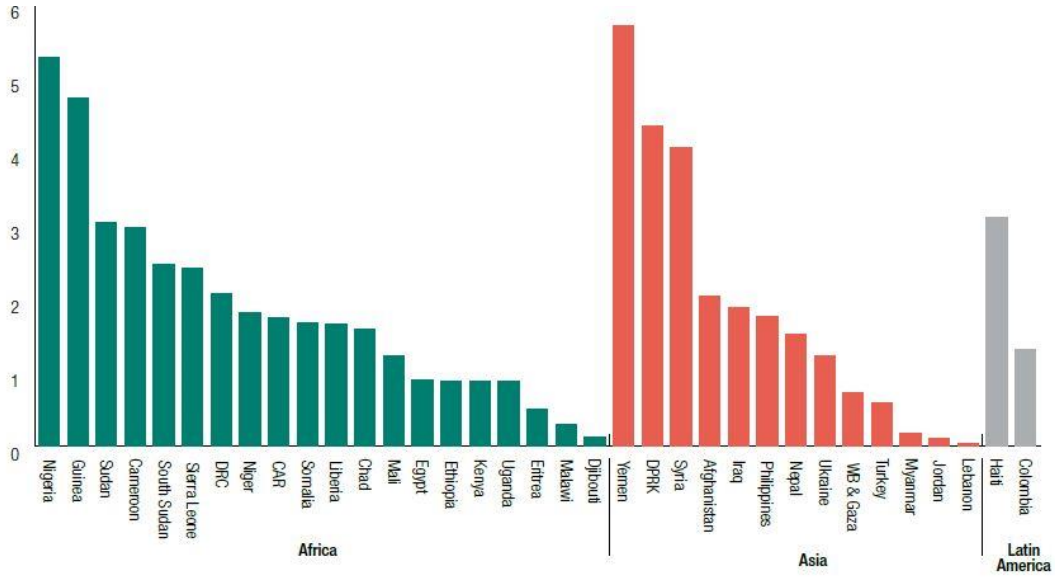


Figure 1. 65 Million Children Affected, by Country (millions), Linksbridge (2015).

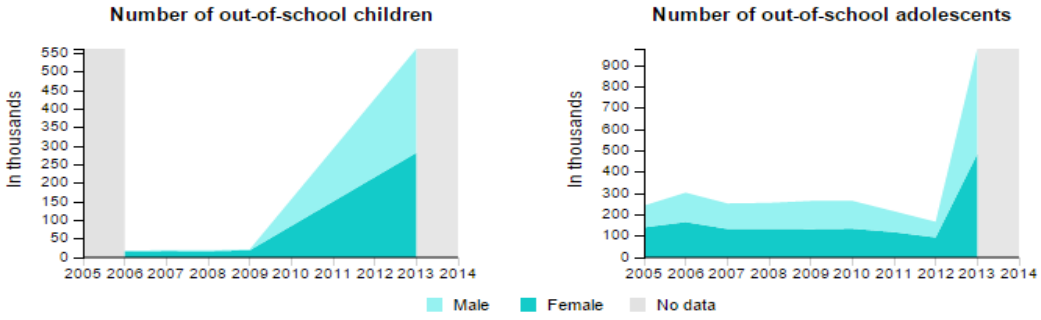
2.2.3 Syria's Education Crisis

Before the war, the majority of Syria's kids were enrolled in elementary school, and literacy rates were at 95% for 15–24 year-olds (Figure 2, Figure 3).Approximately three million children not enrolled in schools during four years of war in Syria. Syria has the lowest enrolment rates of students worldwide(Save the Children, 2014).Enrolment in Aleppo is as low as 6% while half of refugee children are not receiving any education(UNHCR, 2015).

The situation inside Syria so difficult, Syrian schools are always under attack by armed clashes, and this puts children in risk. At least 25% of schools have been damaged, destroyed, used for military purposes (OCHA, 2015).

In refugee hosting countries the full-time education for many children is a luxury thing. Around 50% of school-aged refugees are not receiving any form of education in the

refugees' camps and only 340,000 are enrolled in formal education (UNICEF, 2015). For example, in Lebanon where at least 1.158 million refugees, 78% of Syrian children are out of school (UNHCR, 2014).



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Out-of-school children										
Total	14,805	17,803	20,097	19,400	21,678	...	...	...	562,763	...
Female	...	16,425	17,477	16,974	19,289	...	...	...	282,256	...
Male	...	1,378	2,619	2,427	2,389	...	...	...	280,507	...
Out-of-school adolescents										
Total	243,256	304,321	253,624	256,293	265,254	265,852	216,765	167,537	979,378	...
Female	140,978	166,180	133,836	134,295	132,770	135,104	118,935	93,928	486,489	...
Male	102,278	138,141	119,788	121,998	132,484	130,748	97,830	73,609	492,889	...

Figure 2.Participation in Education in Syria (UNSCO website)

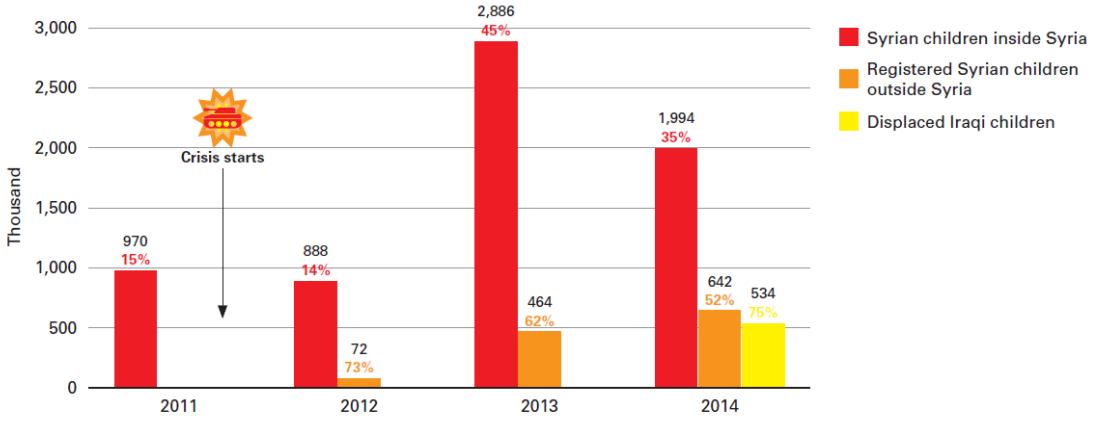


Figure 3.Numbers and Percentages of Out-of-School Children Pre-and-Post-Crisis (UNICEF, 2015)

2.3 E-Learning overview

2.3.1 E-Learning Definitions

Since the beginning of the use of e-learning in the educational process, turning into an essential component of the educational process, and helped to create a more efficient learning experiences.

Before the name for E-learning, many different names were used: distance learning, remote learning, web-based instruction, Internet-based training, online learning, and mobile learning. Distance learning is a way of learning providing access to learning remotely without being in a regular classroom with a teacher; the students are geographically distant. During last three decades, there are many definitions of distance education and distance learning. Using the computers to deliver education, a proposed definition identified the delivery of instructional materials, using both print and electronic media (Moore, 1990). The instructor always located in a different place from the student.

Govindasamy (2002) defined E-Learning as education delivered through all electronic media including the Internet, Intranets, extranets, broadcasts, satellite, audio/video tape, interactive TV, and CD-ROM.

Nichols (2003) define e-Learning as strictly being accessible using technological tools that are either web-based, web-distributed, or web-capable.

Khan (2005) has defined E-Learning as an innovative approach for delivering a well-designed, learner-centered, interactive, and promoted learning environment to anyone, anywhere, anytime, by utilizing the characteristics and resources of different digital technologies along with other forms of teaching materials suited for open and distributed learning environment.

In support of Govindasamy (2002) point of view, Wagner et al. (2008) have referred to E-Learning as the use of the Internet, Intranet, extranet, audio- and videotape, satellite broadcast, interactive TV, and CD-ROM. Ozkan and Koseler (2009) have defined E-Learning as the use of electronic tools for learning, containing the delivery of the content

via electronic media such as the internet, audio and video, satellite broadcast, interactive TV, and CD-ROM.

Okiki (2011) defined it as "the use of network technologies to create, foster, deliver and facilitate learning anytime and anywhere".

Clark & Mayer (2011) have referred to E-learning as a combination of content and instructional methods presented by media tools, such as words and graphics on a computer or mobile device intended to build a job-transferable knowledge and skills linked to individual learning goals, or organizational performance may be designed for self-study or instructor-led training.

Xaymoungkhoun and Bhuasiri et al. (2012) defined it as "an innovative approach to education delivery via electronic forms of information, which enhances learners‟ knowledge, skills or other areas of performance". Mbarek and Zaddem (2013) defined E-Learning as "educational and learning instruction supported by the use of ICT allowing learners to acquire new knowledge and skills that are delivered electronically without worrying about the space-time shift". Al-Homod and Shafi (2013) define E-Learning as "an educational system that delivers information using information technology resources, using the Internet, intranet, satellite broadcasting and multimedia applications".

Many researchers from the fields of information and communication technology, computer science, education and educational technology have contributed to defining the concept of e-Learning. E-Learning is claimed to be the new generation's mode of learning and education and is also considered as a new mode of delivering information in the educational field (Vrana et al., 2006; Malik 2010; Xaymoungkhoun and Bhuasiri et al.,2012; Odunaike et al., 2013).The definition of E-learning depending on many things, the E-learning perspectives and the goals of schools or the educational institutions and educational settings. Table 2. Illustrates the different definitions of E-Learning.

Table 2. Definitions of E-Learning

Author(s)	**Definition of E-Learning**
Govindasamy (2002)	E-Learning as education delivered through all electronic media including the Internet, Intranets, extranets, satellite broadcasts, audio/video tape, interactive TV, and CD-ROM.

Author(s)	Definition of E-Learning
Nichols (2003)	E-Learning as education delivered through all electronic media including the Internet, Intranets, extranets, satellite broadcasts, audio/video tape, interactive TV, and CD-ROM.
Khan (2005)	E-Learning as an innovative approach for delivering a well-designed, learner-centred, interactive, and facilitated learning environment to anyone, anywhere, anytime, by utilising the attributes and resources of various digital technologies along with other forms of learning materials suited for open and distributed learning environment.
Wagner et al. (2008)	E-Learning as the use of the Internet, Intranet, extranet, audio- and videotape, satellite broadcast, interactive TV, and CD-ROM
Ozkan and Koseler (2009)	E-Learning as the use of electronic devices for learning, including the delivery of content via electronic media such as the internet, audio and video, satellite broadcast, interactive TV, and CD-ROM.
Okiki (2011)	E-Learning as the use of network technologies to create, foster, deliver and facilitate learning anytime and anywhere.
Clark and Mayer (2011)	Elearning as a combination of content and instructional methods delivered by media elements, such as words and graphics on a computer or mobile device intended to build job-transferable knowledge and skills linked to individual learning goals or organizational performance. May be designed for self-study or instructor-led training.
Xaymoungkhoun and Bhuasiri et al (2012)	Elearning as “an innovative approach to education delivery via electronic forms of information, which enhances learners‟ knowledge, skills or other areas of performance”.
Mbarek and Zaddem (2013)	E-Learning as "educational and learning instruction supported by the use of ICT allowing learners to acquire new knowledge and skills that are delivered electronically without worrying about the space-time shift".
Al-Homod and Shafi (2013)	E-Learning as "an educational system that delivers information using information technology resources, using the Internet, intranet, satellite broadcasting and multimedia applications".

2.3.2 E-Learning Benefits

It is necessary to provide a full explanation and simplified for the great benefits of E-learning in order to provide a general context explains the importance and impact of e-learning in the educational process as a whole and provide the justifications why implementation is very important for the educational process and more efficient learning environments compared with normal or traditional education environment. The rapid development of information and communications technology and therefore the rapid of e-learning methods make E-learning as an acceptable way of education. E-learning facilitate to take advantage of the significant benefits of ICTs which serve the main educational stakeholders in the learning environment, students and teachers (Al-Harbi, 2010; Al-Marabeh and Mohammad, 2013). These benefits include better and faster delivery of content,an increased accessibility to information, content standardization, personalized instruction, accountability, on-demand, availability, self-pacing, interactivity, confidence, and increased convenience(Bhuasiri et al.,2012).E-Learning decreases the costs, enables a consistent delivery of content, and improves tracking(Ruiz, Mintzer, & Leipzig, 2006).

There are many significant advantages of E-learning for the student and the teacher these benefits can be summarized in some points:

-*Fast and efficient delivery*

Rosenberg (2001) indicates that E-learning reduces learning time by at least 25 to 60 percent when compared to traditional learning. E-Learning has the potential to motivate the students and teachers to join the learning environments and offer powerful tools for perfect interaction and communication. The tools offered by E-learning whether they are videos, audios or texts create an opportunity for learners to learn according to individual learning styles and their preferred method of learning. Moreover, allow students to arrange educational content and learning styles in accordance to education which is suited to their specific needs, and to improve the quality of learning experience (Jethro et al., 2012).

-Perfect interaction and communication

E-Learning can possibly improve the interaction between students and teachers and between students themselves by creating a new learning tools and environments. The technologies E-learning involves like audio-chatting, video-conferencing and online discussion provide students the opportunity to interact with teachers and others students effectively and easily (Al-Adwan and Semedly, 2012). Additionally-Learning technologies provides real opportunities for students and teachers to get involved in the learning/teaching process by allowing them to share their thoughts, ideas, and suggestions in different E-Learning ways(synchronous and asynchronous).

-Flexibility in Learning Delivery

Flexibility is one of the main potentials of E-Learning every student has the luxury of choosing the place and time that suits him/her. Smedley (2010) supported some of the benefits of E-Learning that E-learning provides the opportunity to interact between teachers and students and the adoption of e-learning provides the schools as well as their students the much flexibility of time and place of delivery or receipt of according to learning information. John Chambers, CEO of Cisco Systems said "There are two fundamental equalizers in life: the Internet and Education. E-Learning eliminates the obstacles of time and distance, creating universal, learning-on-demand opportunities for people, companies, and countries."

Dargham et al., (2012) identified that the flexibility of E-Learning consists of different sides relating to time, place and online feedback, as they increase the opportunities for life-long learning.

2.3.3 E-Learning Challenges

Although the E-learning can provide the educational institutions many benefits and for education in general. Moreover, improve the quality of education, creates comfortable learning environments. Conversely there remain many challenges which obstruct the exploration and take advantage of its opportunities(Abdelraheem, 2006; Bhuasiri et al., 2012; Alkharang and Ghinea, 2013).Kwofie and Henten (2011) reported that E-Learning is costly, requires technical and academic confidence, and involves conflict priorities, social support and motivation, technical skill and competency, and a stable technical

infrastructure.Alkharang and Ghinea (2013) mentioned that process of implementing E-Learning requires the testing of the following critical factors: cost, time, technology, attitudes, management awareness and support and language. Furthermore, deeply rooted issues of E-Learning include accessibility issues, quality and efficiency of E-Learning, ICT infrastructure, the usefulness of technology, and pedagogical consideration (Mapuva, 2009).

The studies indicate that implementing of E-learning initiatives and projects facing many challenges. These challenges can be classified into many groups: technological, institutional and organizational, individuals, environmental, administrative issues and educational, and ethical (Khan, 2005; Andersson and Gronlund, 2009).For instance, Alkharang and Ghinea (2013) grouped the challenges facing the implementation of E-learning into three groups: technical (bandwidth, Internet speed technology infrastructure, computer and network security, privacy and data confidentiality), language issues and management (management advocacy and support).In Arab countries, Abdelraheem (2006) highlighted the group of challenges facing implementing E-learning in these counties into ICT infrastructure, Internet speed, culture, local content, copyright issues and teachers and students. Al-Adwan and Smedley (2012) support the group of challenges highlighted by Abdelraheem (2006) as they indicated to the some challenges facing of E-Learning implementation: lack of ICT infrastructure, culture, lack of technical skills, lack of support, and motivation.

Abdul and Nawar (2006) highlighted the Challenges facing Distance/Online Education in Syria into poor expenditure on education, migration of "Brains" to foreign countries, low quality of education of both students and teachers and traditional style in teaching.

2.3.4 E-Learning Technologies

2.3.4.1 Learning Management System

Many networks showed up as a fourth generation in the e-learning sector .these networks have main features and characteristics. These features facilitate the involving a set of new e-learning technologies and Learning Management Systems (LMSs), namely WebCT, Moodle, Blackboard, and Lotus Notes (Garrison and Anderson 2003).

A Learning Management System is a way to make the learning and teaching simply by connecting all the electronic tools using by teachers and students in one place. A different definition for Learning Management System is "a web-based technology and software application used to design, manage, support and assess a specific learning process, that provides an instructor with a way to create and deliver content, monitor student participation, and assess student progress and performance online"(Lonn, S., and Teasley,2009;Graf, S., and Liu, T. C,2010).

Learning Management System contains five features: " (1) course management/administration tool including posting syllabus and announcements, recording grades, and monitoring student performance, (2) communication tool including Blackboard Collaborate and chat, (3) presentation tool of learning content including posting course related materials, (4)collaborative workspaces including discussion boards, wikis, and blogs, and (5) Assessment tools including assignment submission, quizzes, exams, and surveys"(Henninger, M., & Kutter, A. K,2010).

In these days, fortunately, there are a lot of open source learning management systems that can provide us E-learning environments that we need. The most popular learning management systems used in education are Moodle, Desire2Learn, Blackboard, Jenzabar, Pearson Learning Studio/eCollege, Sakai, Canvas, Cengage,Angel, Loud Cloud, Adrenna and McGraw-Hill Connect (Riddell 2013).Many universities around the world use a learning management system to deliver web-based technologies for online learning to virtual and on-campus students (Schartz 2014).

2.3.4.2 Massive Open Online Courses

Massive Open Online Courses it is a new way enable thousands of students of distance learning and free education in the best universities in the world, across the enormous potential that internet provided. The first appearance was in USA Initiative from some universities, then has spread in many European universities. There are many of these platforms like (edx,coursera,udacity , OpenClassrooms).Stine(2013) highlighted some courses provide by many universities “Today, universities work with one of three providers for these courses: Coursera, edX or Udacity, although other models and platforms exist.14 Of these three, Coursera currently has the largest footprint with more than 3.5M enrolees, 374 courses, and 70 partners. Most courses offer a certificate and no credit. However, ACE has approved five Coursera courses for credit, and there are several

experiments in for-credit models, notably at San Jose State and also two community colleges in Massachusetts".

- *Understanding the Concept of MOOCs*

MOOCs have three primary features. The first one is "massive", which indicates to the number of users and activities on such courses. The second one "open" because the software is open-source; the sources of information are public; enrolment is open to anybody, and, the curriculum evaluation processes and students are open to a series of different learning environments. The third one is "online" courses that anybody can access if he or she have an Internet connection (Masters, 2011).

- *MOOC Platforms in the Western World*

The following table shows the most active companies and universities' MOOCs platforms and differences and similarities between them around the world.

Table 3. MOOCs Platforms around the World (Adham et al., 2015)

Platforms	**Differences**	**Similarities**
EdX	Governed by Harvard University and MIT	Not for-profit
	Open platform seeks to enable open access to quality education	Established in 2012
	EdX is a combination of MITx and HarvardX courses	Smart phone App
Udacity	Cofounded by a Stanford professor, who started to offer information science courses online	A for-profit company
	Does not have a university partner	Established in 2012
		Smart phone App

Platforms	Differences	Similarities
Coursera	A social entrepreneurship company, that partner with the top universities in the world	A for-profit company
	It was established by two computer science professors from Stanford University– Daphne Koller and Andrew NG	Established in 2012
		Smart phone App
FutureLearn	Includes four non-university partners: the British Museum, the British Council, the British Library and the National Film and Television School	A company financed and owned by The Open University, UK
	Courses from leading UK Universities and some are outside UK e.g. University of Cape Town	Established in late 2012
Iversity	European-based online education platform. by co-founders Jonas Liepmann and Hannes Klöpper	Established in October 2013
	Iversity is the only MOOC platform offering courses with ECTS-integration	

- *MOOC Platforms in the Arab world*

In an attempt to provide a global level and quality of education in the Arab countries to millions of Arabic-speaking students, academics, and companies around the world, two of not-for-profit Arab (MOOCs) platforms launched in 2013(Sawahel, 2014).

The following table shows the most active companies and universities' MOOCs platforms and differences and similarities between them around the world.

Table 4. MOOC Platforms in the Arab World (Adham et al., 2015)

Platforms	**Differences**	**Similarities**
Edraak (Jordan)	The first Massive Open Online Course portal for the Arab world	Offered at no cost
	Spearheaded by leaders of the country of Jordan Queen Rania	Launched in 2013
	Powered by open source platform edX, the Cambridge-based collaborative education by Harvard University and MIT	Arabic translations of selected courses
Rwaq (Saudi Arabia)	Build an online courseware for the Middle East	Offered at no cost
	Established by two Saudi businessmen Fouad Al-Farhan and Sami Al-Hussayen	Launched in 2013
		Arabic Language
MenaVersity (Lebanon)	Gathered experts in the creative community to offer original courses on a range of topics from social media, marketing to Lebanese cooking	Offered at no cost
	Open to Arab world including North Africa	Launched in 2013
		Arabic Language
SkillAcademy (Egypt)	SkillAcademy (formerly Eduudle) offers over 10,000 online courses	Offered at no cost
	Offers skill-camps built for specific skillsets	Launched in 2013
		English Language

2.3.4.3 Social E-Learning

Everybody know that social media sites have so many internet users. So many people cannot imagine their lives without using Facebook, Twitter, YouTube, LinkedIn, Pinterest, Spotify, etc. There are many different ways how we use that website: somebody use social media to stay in touch with friends and meet new friends, and others use it for work and marketing. However, some people see social media like a wasting of time. However, no one can deny the potential and real-world usefulness of social media tools in e-Learning.

Social learning is to join with others environments to create new ideas as it is between students in virtual learning environments. The value of using social media means in learning it's became much more common, where the use of social media tools make people able to interact and moving it is just marketing tools to an integrated approach which facilitates the capture of knowledge. A study by titled "The Effectiveness of Social Networking Applications in E-Learning" shows that social media tools increase student motivation and understanding (Rossafri Mohamad,2012).These some social media tools are ideal for an e-Learning environment (Podcasts, Blogging, Facebook, Twitter, YouTube).

2.3.4.4 Reusable Learning Objects

Educational resources that are usually digital and accessible via the Internet that allow broad access and reusability for multiple learning purposes (McGreal, 2004).

2.3.4.5 Small Private Online Course (SPOC)

SPOCs are the kind of online classes that distance education institutions have been providing since the mid-90s. Regards to online learning that was repackaged as an SPOC in response the growth of massive open online courses (MOOCs).Moreover, SPOCs are small (tens or hundreds of learners) restricted-access programs. SPOCs have enrolment applications and often charge tuition fees.

2.4 E-Learning industry

2.4.1 Global Self-paced e-Learning Industry around the World

Global Self-paced e-Learning industry reached $35.6 billion in 2011, and it estimated to reach some $51.5 billion by 2016(Docebo, 2014). A definition of Self-Paced Learning is" Education in which learners study at their pace, without a fixed starting date or regularly scheduled assignment completion dates in common with other students enrolled in the same program" (Docebo, 2014).The aggregate growth rate is 7.6%, in several world regions. The highest increase rate is in Asia at 17.3%, followed by Eastern Europe 16.9%, Africa 15.2%, and Latin America 14.6%.

Table 5. 2011-2016 Worldwide Self-paced eLearning Five-year Growth Rates by Region (Ambient Insight 2012).

Region	**Growth rate %**
North America	4.4
Latin America	14.6
Western Europe	5.8
Eastern Europe	16.9
Asia	17.3
Middle East	8.2
Africa	15.2

2.4.2 E-Learning Industry in Middle East.

The Middle Eastern E-Learning industry market is growing rapidly due to market makers, such as Governments, Private Schools, and Corporations. Oman has the "highest growth

rate in the region at 19.6%, followed by Lebanon (16.0%), Turkey (12.9%), Kuwait (12.6%) and Qatar (11.3%) "(Docebo, 2014).

“Middle Eastern Governments are strongly committed to promoting a Mass Digitization process. This means that heavy investments are being made in this initiative. This is especially true for Soft Skills training. This is designed to quickly and competitively improve the workforce. Is compliance training in this region the next “big thing”? Time will tell, but lots of regulations are already coming…” (Docebo, 2014).

2.5 E-Learning in Arab Countries

- E-Learning in higher education in Arab countries.

In recent years in the Arab regions, there are three primary ways to produce E-learning. These ways are the complete online learning (where the entire educational process takes place on the Internet). Hybrid or blended learning (where students regularly visit traditional institutions); Additional online learning (basic training which takes place in the traditional way, but some lessons take place on-line).

Entirely virtual learning model has launched in Syria in 2002 with the opening of the Syrian Virtual University, which produces students with a bachelor's degree. Saudi Arabia followed Syrian example in 2007, opening the International University of knowledge, whose graduates receive the degree of Bachelor of Islamic Studies. Saudi Electronic University opened in 2011, providing education in the financial sector, IT-sector and in the field of medical sciences.

The United Arab Emirates has recently activated in the field of E-learning. The University of Phoenix, the largest commercial Institute of America, in 2007 opened a branch in Dubai. In a short period, the office was closed, but the first opened online university in the United Arab Emirates was in 2009 - Smart University Hamdan bin Mohammed. In Lebanon, the University of Talal Abu-Ghazaleh, in cooperation with American and Indian universities produce students with a bachelor's degree.

Universities in the Arab region also offer a blended learning program that requires students periodically visit the schools. For example, the Arab Open University in Kuwait has branches in Saudi Arabia, Bahrain, Oman, Lebanon, Jordan, and Egypt.

In 2014, the Jordanian Education and Development Foundation (created by Jordan's Queen) in partnership with two international universities Harvard University and the Massachusetts Institute of Technology had launched the first Arabic MOOC-platform. This is the start of a new age in the Arab education that gives students access to university courses of international quality.

2.6 Factors Influencing use of E-Learning

This section reviewed Literature that has indicated to the factors that influenced the use and implementation of E-learning. In general, Rockart (1982) identified the Critical Success Factors as "the limited number of areas in which satisfactory results will ensure successful competitive performance for individual, department or organization."

Sun et al. (2008) conducted research on what key factors drives the success of e-learning. This study grouped six dimensions which affect the success of implementation and use E-learning: teachers, students, course, design, environment, and technology. The study has conducted a survey to investigate the key factors influencing students' satisfaction in use E-learning. The results showed that student computer anxiety, teacher attitude to e-Learning, e-Learning course flexibility, perceived usefulness, E-learning course quality, perceived ease of use, and diversity in assessments are the key factors influencing students' perceived satisfaction. Selim, (2007) identified the critical success factors that affect the use and implementing E-Learning: students, teachers, information technology and institution support. Mosakhani and Jamporazmey (2010) identified the critical success factors influencing the use and implementing E-Learning: student characteristics, instructor characteristics, content quality, information technology quality, participant interaction, and educational institutes' support.

In their study on the evaluating E-learning systems efficiency in the higher educational Organizations, Mohamed, et al. (2015) organized the basic dimensions for evaluating e-learning systems into three basic criteria and each criteria decomposed into several other sub-criteria. According to the study, the criteria for evaluating E-learning systems efficiency in the higher educational Organizations were :Technology component based for evaluating e-learning systems(system quality evaluation, evaluation of internet

quality, service quality of e-learning systems),human factors evaluation for achieving effective e-learning systems(instructors dimensions evaluation, students dimensions evaluation),course content quality evaluation(Interactive courses, purposeful materials).

To identify and assess strengths and weaknesses for E-learning initiatives and projects the researcher reviewed the factors influencing the use and implement E-learning of the relevant studies in the E-learning literature were grouped in general based on the core elements of the E-Learning environment, which are teachers, students, design and content, and technology. The researcher also grouped the factors influencing the use and implement E-learning of the relevant studies in the E-learning literature. In general these factors grouped based on the core elements of the E-Learning environment from teachers' perspective, which are students' characteristics (computer skills, students' attitudes, and motivation), teachers (Teachers' attitude, control of technology and pedagogy), design and content (ease of use and quality of content) and technology (quality of technology, effectiveness of IT).

2.6.1 Factors Influencing Use and Implement E-Learning in Developed Countries.

Today 81% of all US higher education institutions offer at least one distance learning course. Moreover, the number of such universities is constantly growing, not only in the United States. E-Learning truly global and important phenomenon in the history of humankind. The creators of educational content are constantly striving to improve its quality, and consumers of content - as much as possible to a greater extent of its use. People are interested in their level of education, which allows to obtain positions to great corporations, develop and implement their business model and a comfortable living in modern society. Estimating the speed of the development of distance education, the interest on the part of users to this type of training, and many other factors, we can assume that soon the system of e-Learning will become more popular than the traditional education system.

Several types of research have been conducted in the developed countries about the factors influencing use and implementation E-learning. Abu-Al-Aish and Love (2013) conducted a study of "Factors Influencing Students' Acceptance of M-Learning: An Investigation in Higher Education". The study suggested the popular and recent model in information technology acceptance is the unified theory of acceptance and use of technology (UTAUT). The study suggested this model to recognize the factors that

influence the acceptance of m-learning in higher education institutions. Based on the study the factors that were influenced student behavioral intention to use m-learning: performance expectancy, effort expectancy, the influence of faculties, quality of service, and personal innovativeness. Also, the study has been found that prior experience of mobile devices was also found to moderate the effect of these constructs on behavioral intention. In conclusion, the results of the study referred to the higher education institutes that need to improve strategic plans and give guidelines considering students' acceptance to include all critical success factors for the sustainable deployment of m-learning.

Ozkan and Koseler (2009), they conducted a study on the evaluation of E-Learning systems in the UK, and this study developed a comprehensive E-Learning assessment model. The study suggested a hexagonal E-Learning assessment model (HELAM) suggesting a multi-dimensional approach for evaluation learning management systems. Based on this study, the factors influencing learners' satisfaction were: system quality, service quality, content quality, learner perspective, instructor attitudes, and supportive issues. In their study about the role of IT infrastructure services that influence the success of E-Learning systems in the context of an Australian university, Alsabawy et al. (2013) have suggested a model to evaluate the success of E-Learning systems. Based on the study, the essential factors of successful E-Learning system implementation were: infrastructure services, user satisfaction, perceived usefulness, customer value and organizational value.

In another study conducted by McGill et al. (2014) they have reviewed 74 studies (64 projects) all these projects from developed countries (USA, Australia, Greece, Spain, and the UK) to understand the continuation of E-Learning in universities. Based on the review, the factors that affect the stability of the introduction of e-learning system were: the presence of a permanent financial support, maturity and stability of the technology, skills and sufficient training for teachers. Also, the study underlines the importance of initiatives of educators and students. Besides, need a plan for financial and technological sustainability. In general, quality of service, quality of content, effectiveness of technology and user satisfaction are many factors for the development and implementation of E-Learning in developed countries.

2.6.2 Factors Influencing Use and Implement E-Learning in Arab Countries

Nowadays in the Arab world is gaining popularity of e-learning in educational institutions, to meet the needs of students and teachers improve requirements, and Arab educational institutions start implemented E-Learning in higher education and school education.

Several studies have focused on studying the factors that influence the use and implement of ICTs and E-learning in Arab countries. Qteishat et al. (2012) have conducted a study about factors affecting the adoption of e-Learning in Jordan; this study examined the factors contributing to attitudes towards E-Learning in higher education among students in Jordan. The study developed a TAM-EL (Technology Acceptance Model for E-learning) for examining the intention to choose E-Learning environment using the constructs of the Technology Acceptance Model (TAM).The study proposed that Perception of the usefulness of technology, Perception of ease of use of the technology, Patronized (degree of support for the technology), and Practised (previous experience with the technology) influencing the attitude towards the adoption of E-Learning.

Abdel-Wahab (2008) has conducted a study examine factors that predict students' intention to adopt e-learning at the Egyptian University of Mansoura. This study explored the university students' attitudes towards E-Learning. The data was collected in this study through a survey of 258 first-year business students at the University of Mansoura in Egypt. The results showed that there are many factors that can be strong indicators of students' adoption of E-Learning: attitudes toward e-learning, usefulness of e-learning, ease of use E-learning, pressure to use e-learning, and the availability of resources are necessary to use e-learning.

Abbad et al. (2009) have conducted a study about Factors Affecting Student Adoption of E-Learning Systems in Jordan.The original question in this research was "what are the factors that affect students‟ approval of an e-learning environment and what are the relationships between these factors?".

In their study, they determined the factors influencing students' adoption of an E-Learning system in the Arab Open University in Jordan and the relationship among the factors. This paper developed an extended version of the Technology Acceptance Model approach (TAM) to achieve the purpose of this study. This Model included subjective

norms, internet experience, system interactivity, self-efficacy and technical support. The participants in this study consisted of undergraduate students at the Arab Open University (AOU) in Jordan. The findings of this study showed that self-efficacy is a critical factor in perceived ease of use. The study showed as well that self-efficacy showed a strong direct effect on perceived ease of use and consistent that they are related and similar. Furthermore, the findings of this study referred that students' prior internet experience had a statistically significant influence on perceived ease of use but not perceived usefulness. Nevertheless, this study has not provided any evidence that system interactivity affects students‟ adoption of e-learning systems. Additionally, the results of this study indicated that perceptions of the level of technical support available to students were found to have a direct effect on perceived usefulness and reasonable indirect effect on intention to use. The findings of this study lead to four conclusions:

- Students who use the Internet easily and repeatedly are more likely to use e-learning systems.

- Confident students granted by e-learning system in their ability to use this system affects the adoption of the system.

- Technical support provided students comfortable for using e-learning systems.

- Students think that when the E-learning system is more easy to use will be more useful to them.

In another study, related to using and implementing E-Learning in the United Arab Emirates University, Ahmed (2010) conducted a study to examine the key factors that influence the hybrid E-Learning acceptance. These factors are teacher characteristics, information technology infrastructure, organizational factors and technical factors. The findings found out that all the factors mentioned above significantly and directly influenced the learners' acceptance of a hybrid E-Learning course. The results also showed that the information technology infrastructure, organizational factors, and technical factors were regarded as the common relevant and significant factors that influenced the success and acceptance of E-Learning.

Al-Fadhli (2011) conducted a study to examine the key factors that influence the E-Learning acceptance in Kuwait University. The findings of this study showed that many factors influence successful E-Learning implementation these factors are teacher characteristics, technological factors, social environment and computer self-competency.

Al-Ammary and Hamad (2008) have conducted a study E-Learning in Bahrain. The purpose of this study was to investigate the factors influencing the acceptance and use of the E-Learning at the University of Bahrain. By an extension of the Technology Acceptance Model (TAM), three factors that affect the intention to adopt the e-learning system were examined. These factors are computer self-efficacy, content quality, and subjective norms. Also, the study examined some cultural factors that could affect the students' attitude toward using and adoption the e-learning system. The cultural factors were power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance and the long-term vs. short-term orientation. The sample of this research was 200 participants from the University of Bahrain. The findings found that perceived usefulness and perceived ease of use have a significant positive effect on the student's behavioural intention to use E-Learning systems in the University of Bahrain. The results also showed that the subjective norms have a direct influence and an indirect influence on behavioural intention to use e-learning system through perceived usefulness. The findings exposed that the quality of content and computer self-efficacy have an indirect positive impact on the behavioural intention to use E-Learning systems, through perceived usefulness and perceived ease of use.

In their study about exploring students acceptance of e-learning using Technology Acceptance Model in Jordanian universities, Al-Adwan et al.(2013) have focused on the investigation of students, who try to adopt e-learning systems successfully at universities in Jordan. This study suggested technology acceptance model (TAM) as the most suitable model to explore the acceptance of e-learning in Jordan. Technology Acceptance Model (TAM) is formed on two major factors - perceived ease of use (PEOU) and perceived usefulness (PU).The data in this study was collected via a questionnaire distributed to 107 students in the Foreign Languages Department at the Applied Science University (ASU) in Amman. This study avoided science and computing departments, where students were more likely to be close to technology and computer systems. The results showed that perceived usefulness have significantly affected intention to use. The results indicated that perceived usefulness have no significant influence on attitude towards usage. The

results also showed that perceived ease of use has a significant influence on attitude towards use. Moreover, the results showed that perceived ease of use significantly influences perceived usefulness. Finally, the findings showed that attitude towards use has no significant impact on intention to use.

Smeda et al. (2015) investigated the factors affecting the e-Book adoption amongst mathematics and statistics students at Universities in Libya. Technology acceptance model (TAM) in this study was used and extended by using five factors that influence the acceptance of e-book among the students. Three of these factors related with the infrastructure of universities and the features of e-book such as cost, accessibility, and technical support. The other two factors are related with users such as self-efficacy and social influence. The results showed that factors related to users such as self-efficacy and social influence are better indicators of students' acceptance of e-book after Technology acceptance model (TAM) constricts. Additionally, the study findings regarded the impact of perceived usefulness upon the attitude was strongly effect. Moreover, the results of this study showed that perceived usefulness have the indirect influence on behavioral intention through attitude. Also, the results showed that students' attitude have a strong influence on students' behavioral intention. Moreover, the results showed that self-efficacy is an essential factor in people's decision to use the e-book. Also, the findings of this research showed that self-efficacy has the positive effect on students' attitude toward using the e-book. Also, self-efficacy has a strong positive indirect influence on the behavioral intention to use e-book through perceived ease of use. The results also confirmed that accessibility was not necessary towards perceived usefulness.

3 Research Methodology

3.1 Introduction

This chapter identifies and discusses the nature of the research methodology. The goal of this chapter is to discuss the methodologies that were used in gathering information, the techniques used in analysis and the presentation of data collected. This chapter firstly reviews the different research approaches, and strategies available. Secondly, the chapter includes the research design, population, population sample, data collection procedure and analysis applied during the study.

3.2 Research Methodology

Research methods are in general classified into two methods of research, quantitative and qualitative (Bryman and Bell, 2007).According to Harwell, (2011) the key aspects of the quantitative research method is taken into account maximize objectivity, reliability, and generalizability of the research findings and the quantitative research. Quantitative research can be defined as a research strategy that emphasizes quantification in the data collection and analysis (Bryman and Bell 2011).The quantitative research method encompasses survey, modelling and statistical analysis (Nyame-Asiamah and Patel, 2009).

A qualitative method, which includes action research, case studies, interviews and focus groups, believes in the existence of multiple truths that are socially constructed (Lincoln and Guba, 1985).According to Hiatt (1986), qualitative method to understand the experiences of participants in the study, their perspectives, explores meaning, purpose or reality, and thoughts.

This study has deliberately adopted the quantitative research method as a suitable research method because in quantitative research method, data is obtained from numbers and calculation and the findings are based on well-known theory.

3.3 Research Strategy

There are many research strategies each strategy can be used for exploratory, descriptive and explanatory research (Yin 2003).The research strategy that is based on survey strategy has been proven to provide a suitable mechanism for collecting data from a population efficiently in an economical way. Also, using a survey strategy allows for more control over the research process, and allows to gather quantitative data which can analyze quantitatively using descriptive and inferential statistics(Saunders et al., 2007).The use of survey strategy as a research strategy is based on the collection of the data to answer the research questions or to support the research arguments(Jankowicz, 1995).Gable (1994) have defined the survey strategy as "the survey approach refers to a group of methods which emphasize quantitative analysis, where data for a large number of organizations are collected through methods such as mail questionnaires, telephone interviews, or from published statistics, and these data be analyzed using statistical techniques.". According to Remenyi et al., (2003) survey based questionnaires are used as measuring instruments for collecting data and answering the research questions, and they provide right and concrete opportunities for obtaining facts.

This study chose a survey strategy to be applied as the research methodology. The reason why the researcher opted to implement this type of methodology that the participants for this research are the teachers in the school sector. Moreover, the best methodology to evaluate the teachers' perceptions regarding the factors related to the use of ICTs and E-learning is the survey strategy and questionnaire method as the sample of study depends on the number of participants. Several studies in E-Learning have used the survey strategy as the methodology for data collection (Ali and Ahmad, 2011; Islam et al., 2011).

3.4 Methodological Approach

This study is based on a quantitative research approach. The aim of this study is to Evaluate the factors Influencing the use of ICTs and E-learning in schools in crisis areas from the teacher's' perspective. Accordingly, the quantitative approach has been used for collecting data to help meet the main goals of this thesis.

The data can be gathered from different sources, primary and secondary sources. In primary data, collection methods have many procedures such as documentation,

interviews, and observation and questionnaires surveys. The questionnaire survey is the primary source for collecting data for this study.

Secondary data sources were from many sources for data collection. Firstly, the study focuses on data collected from books, reports, and articles about using ICT in education in general .secondly, studies about factors Influencing Use and implement E-Learning in developed countries and Arab countries. Finally, it focuses on reports and articles about using ICT in education in crisis areas.

3.4.1 Questionnaire Design

Information from teachers is collected using questionnaire which includes questions designed by using Google documents. The questionnaire was in the Arabic language and to measure all variables a Likert scale was developed to evaluate these variables; the scale was ranging from (1) completely disagree to (5) completely agree.

The questionnaire contains many parts. The parts are:

Part one: in this part the questions developed to get all general information about the teachers which is related to this study. This teacher's information includes (Age, gender, the field of teaching, the size of the class, teaching experience, access to the computer, access to the Internet, Information Technology experience, years of using E-learning.

Table 6. General Teachers' Information.

Question	**Possible answer**
Age	(20-30, 31-40 , 41-50, 51-60)
Gender	(Male , Female)
The field of teaching	(Science and math, Languages (Arabic, English, French),Social Sciences ,Computer, other)
Years of teaching	(1-5, 6-10 ,11-15, 16-20, >20)
The number of students in the class	(20-30, 31-40, >40)

Question	Possible answer
Do you have access to a computer at home?	(Yes , No)
Do you have Internet access to at home?	(Yes , No)
Have you joined a computer course?	(Yes , No)
Have you used e-learning environment?	(Yes, No)
How long have you been using E-Learning in learning/teaching process?	(Never, 1-5 years , 6-10 years , >11years)

Part two: This part of the questionnaire was developed to investigate the teachers' perceptions with regards to the first factor which tries to evaluate the students' characteristics that might affect the use and implement of E-learning (students' motive, computer skills, and students' attitudes).

Table 7. Students' Characteristics

Sub-Factors	St No.	Question	Possible answer
Student Motivation	1	The use of E-Learning facilitates learning more than the regular method	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
Computer Skills	2	The use of E-Learning provides more chances to participate in learning activities than the traditional method	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
Student Attitudes	3	The use of E-Learning provides more enjoyment than the traditional method	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)

Part three: This part of the questionnaire was developed to investigate the teachers' perceptions with regards to the second factor which tries to evaluate the teachers' characteristics that might affect the use and implement of E-learning (teachers' attitudes, control of technology and teaching style and pedagogy).

Table 8. Teachers' Characteristics

Sub-Factors	St No.	Question	Possible answer
Teacher Attitudes	4	The use of E-Learning is better in the learning / teaching process	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
Control of Technology	5	The use of E-Learning provides more control on learning /teaching process than the traditional method	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
Pedagogy and Teaching Style	6	The use of E-Learning is more effective and efficient than the traditional method	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)

Part four: This part of the questionnaire was developed to investigate the teachers' perceptions with regards to the third factor which tries to evaluate the potential teachers' perceptions about information technology that might affect the use and implement of E-learning (quality of technology, effectiveness of IT).

Table 9. Information Technology Items

Sub-Factors	St No.	Question	Possible answer
Quality of Technology	7	The use of E-Learning is harder than traditional learning /teaching process	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)

	8	Availability of E-Learning materials online 24/7 is useful for learning and teaching process	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree(5) Completely agree)
	9	E-Learning environment provides more opportunities for participating in electronic classes	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
effectiveness of IT	10	Using e-learning environment needs training and assisting from the beginning	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
	11	Using e-learning is more effective (for you as a teacher and for students)	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)

Part five: This part of the questionnaire was developed to investigate the teachers' perceptions with regards to the fourth factor which tries to explore the teachers' perceptions about design and content of E-learning materials that might affect the use and implement of E-learning (ease of use and quality of content).

Table 10. Design and Content Items.

Sub-Factors	**It No.**	**Question**	**Possible answer**
Perceived Ease of Use	12	E-Learning environment is easy to integrate with the learning/teaching process	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
	13	Using e-learning easier to manage and update the content	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
	14	By using E-learning environment, the student is more engaged with the content than in the traditional method	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)

Sub-Factors	It No.	Question	Possible answer
Quality of Content	15	Designing E-Learning environment content and materials is time consuming and a waste of efforts	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
	16	Using the E-Learning improves the quality of content	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)
	17	Availability of Electronic content is a necessary point in E-Learning implementation.	((1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)

3.4.3 Implementation of the Questionnaire

After the questionnaire have been developed, the researcher sent a letter to the Syrian Education Commission to apply the questionnaire in the schools under their responsibility in Syrian refugee camps in Turkey.

The sample of the research study was selected from research population which included 300 teachers. By using online version providing by Google documents services the questionnaire was developed and then the questionnaire link sent to the schools and managed by the computer teachers in the selected schools. The number of questionnaires received online was 82.The valid questionnaires were 55.

The questionnaires were entered into the SPSS system version 17.0. The statistical procedure of the data was taken to get the results and the findings of this research study.

3.5 Data Analysis

Descriptive statistics were used after the data had been collected and using SPSS 17 v to analyze that data.

4 Research Findings and Analysis

4.1 Introduction

The chapter is divided into five parts, section 4.1 the introduction. Section 4.2 shows the background of ICT and E-Learning in the Syrian Education Commission schools and using E-learning in Syrian refugee camps. Section 4.3 explains the demographic profiles of the teachers. Section 4.4 presents the ranking of the main factors affecting the use of E-learning. Section 4.5 describes the differences between teachers' perceptions.

4.2 The Background of Using ICT and E-learning in Syrian Crisis

There are many projects and initiatives about using ICTs and E-learning to deliver education for Syrian students in countries hosting refugees.

4.2.1 The Syrian Virtual School

One project of the Syrian Commission for Education programs within the strategic programs, in the field of education and electronic training, starting from the Kindergarten stage and ending with secondary school level. The project based on the revised Syrian school contest or curriculum and direct according to the highest technical specifications and scientific standards. The project offered for students through the electronic platform, different kinds of storage, computers, tablet, and through other innovative means to deliver education and science to every Syrian student at anytime, anywhere and whatever its circumstances will be. The Syrian Commission for Education is "a non-profit civil organization specialized in the educational field, registered in the Turkish Republic under No 34-190/155 dated on 05/02/2013. It works for the sake of the Syrian students in supervising, pursuing and finding required solution" (http://www.syreducom.org).

4.2.1.1 The Idea of the Project

As a result of the increase of the tragedy in Syria and its direct negative impact on the education system and students, and with the existence of the fact that traditional ways fail to find radical solutions to this problem, there was a need to invent an innovative idea which has special attributes. For instance, flexibility, proliferation and access the largest segments of students, regardless their different circumstances and whereabouts. The idea of virtual school has been founded and its established base for resolving the educational tragedy for the overall root of this problem. Taking into consideration, different kinds of

solutions for the current situation and the accumulated problems during the last period, as well as the expected possible problems in the subsequent period (http://www.elmedresa.org).

4.2.1.2 Targeted Categories

All Syrian students within categories of basic, intermediate and high school education in hosting countries. Moreover, members of the Syrian and Arab families in the diaspora who have not the chance to learn the Arabic language. Also, Syrian children orphans under the age of school education (http://www.elmedresa.org).

4.2.2 Mobile literacy Project to Help Syrian Children

4.2.2.1 The Idea of the Project

This project tries to create a smartphone application that can significantly improve literacy levels in the Arabic language. Moreover, improve psychosocial well-being for Syrian children aged (4–10).The application is primarily designed for household use, to enhance the formal and non-formal educational programs, the project partners found in some communication surveys that high prevalence of smartphone ownership between Syrians living as refugees in host countries.(Nord,2015).

4.2.2.2 Project Partners

- The Norwegian Ministry of Foreign Affairs.

- The Norwegian Agency for Development Cooperation (Norad).

- The Norwegian Agency for Public Management and eGovernment (Difi).

- The Norwegian University of Science and Technology (NTNU)

- The mobile network operator Orange.

- The Inter-Agency Network for Emergency Education (INEE).

4.3 Demographic Profiles of the Teachers

This part shows a description of the demographic profiles of the 55 teachers who participated in this questionnaire.

4.3.1 Age

As Table 10. Shows that regarding age, there were 23.6% of the teachers between (20-30) year, 58.2% of teachers between (31- 40), 12.7% of teachers between (41- 50) and 5.5% of teachers between (51- 60).

Table 11. Teachers Ages

Item	Frequency	Percentage %
Age		
20-30	13	23.6
31-40	32	58.2
41-50	7	12.7
51-60	3	5.5
Total	55	100.0

4.3.2 Gender

As Table 11. Shows that in terms of gender, there were 40 (72.7%) male teachers and 15 (27.3%) female teachers.

Table 12. Teachers Gender

Item	Frequency	Percentage %
Gender		
Male	40	72.7
Female	15	27.3

Item	Frequency	Percentage %
Total	55	100

4.3.3 Field of Teaching

As Table 12. Shows that relating to the field of teaching, 30.9% of the teachers were math and science teachers, 27.3% were languages (Arabic, English, French) teachers, 25.5.7% were social sciences teachers, 25.5.7% were computer teachers, and 9% were teachers of various other fields.

Table 13. Field of Teaching

Item	Frequency	Percentage %
Field of teaching		
Science and math	17	30.9
Languages (Arabic, English, French)	15	27.3
Social Sciences	14	25.5
Computer	4	7.3
Other	5	9
Total	55	100

4.3.4 Years of Teaching

As Table 13. Shows that regarding years of teaching, there were 29.1 % of the teachers between (1-5), 47.3 % of teachers between (6-10), 18.2 % of teachers between (11-20) and 5.5% of teachers more than (20).

Table 14. Years of Teaching

Item	Frequency	Percentage %
Years of teaching		
1-5	16	29.1
6-10	26	47.3
11-20	10	18.2
>20	3	5.5
Total	55	100.0

4.3.5 Number of Students in the Class

As Table 14. Shows that regarding number of students in the class, there were 7.3 % of the classes between (20-30) students, 58.2 % of the classes between (31-40) students, and 34.5 % of classes more than (40).

Table 15. Number of Students in the Class

The number of students in the class	Frequency	Percentage %
20-30	4	7.3
31-40	32	58.2
>40	19	34.5
Total	55	100.0

4.3.6 Years of Using E-learning

As Table 15. Shows that regarding years of using E-learning, there were 3802 % of the teachers never used E-learning ,45.5 % of teachers between (1-5), 16.4 % of teachers between (6-10) and there were no teachers used E-learning more than (11).

Table 16. Years of Using E-learning

Item	Frequency	Percentage %
Years of Using E-Learning		
Never	21	38.2
1-5	25	45.5
6-10	9	16.4
>11	0	0
Total	55	100.0

4.3.7 Have You Joined a Computer Course?

The study attempted to classify the teachers who have joined a computer course. As Table 16. Shows that 50.9 % of the teachers had joined a computer course while 49.1 % had not joined a computer access.

Table 17. Teachers who have joined a Computer Course

Have you joined a computer course?	Frequency	Percentage %
Yes	28	50.9
No	27	49.1
Total	55	100.0

4.3.8 Have you Used E-learning Environment?

The study attempted to classify the teachers who have you used e-learning environment before. As Table 17. Shows that 58.2 % of the teachers had used e-learning environment before while 49.1 % had not used e-learning environment before.

Table 18. Teachers who Have Used E-learning Environment

Have you used e-learning environment?	Frequency	Percentage %
Yes	32	58.2
No	23	41.8
Total	55	100.0

4.4 Descriptive Results of the Key Factors that Influence Using ICT and E-Learning in Schools.

To answer the first research question "What are the key factors that influence implementation of using ICTs and E-Learning in schools?". In the following parts, the study discusses and defines the each factor of the factors that study defined before according to the literature (students' characteristics, teachers' characteristics, information technology and design and content).

4.4.1 Students' Characteristics Factor

The teachers were asked to show their perceptions on the students' characteristics factor in use E-Learning. Three statements on Likert scale ranging from (1) Completely Disagree to (5) Completely agree were used to measure students' characteristics Factors .The results of the teachers' ratings for each of the statements are listed in Table 18. The mean scores ranged from 3.56 to 3.84.

Table 19. Descriptive Results of Items of Students' Characteristics

Sub-Factors	**St No.**	**Level of agreements**						**Mean**	
		N / %	**Completely Disagree**	**Disagree**	**Neutral**	**Agree**	**Completely agree**		
Student Motivation	1	n	0	3	18	27	7	3.69	**Agree**
		%	0	5.5	32.7	29.1	12.7		
Student Computer Skills	2	n	0	5	23	18	9	3.56	**Agree**
		%	0	9.1	41.8	32.7	16.4		
Student Attitudes	3	n	1	1	13	31	9	3.84	**Agree**
		%	1.8	1.8	23.6	26.4	16.4		
	Total							11.09	**Agree**

The results show that the teachers' sample surveyed agreed that the students' characteristics are key factors of E-Learning. The results showed that the teachers' view came to confirm that students' characteristics are key factors for the using of E-Learning.

As shown in Table 18. Students' attitudes came as a first place between the other students' characteristics factors, with the mean score of 3.84. As a second place students' motivation came with the mean score of 3.69, then computer skills factors came in third place with the mean score 3.56.The average ratings for the sub factors of this factor was 11.09. The results showed that teachers agreed with the survey statements.

4.4.2 Teachers' Characteristics Factor

The teachers were asked to show their perceptions on the teachers' characteristics factor in use E-Learning. Three statements on Likert scale ranging from (1) Completely Disagree to (5) Completely agree were used to measure teachers' characteristics Factors .The results of the teachers' ratings for each of the statements are listed in Table 19.The mean scores ranged from 3.33 to 3.76.

Table 20. Descriptive Results of Items of Teachers' Characteristics

Sub-Factors	**St No.**	**Level of agreements**						**Mean**	
		N / %	**Completely Disagree**	**Disagree**	**Neutral**	**Agree**	**Completely agree**		
Teacher Attitudes	4	n	0	3	22	27	3	3.55	**Agree**
		%	0	5.5	40.0	49.0	5.5		
Control of Technology	5	n	0	6	26	22	1	3.33	**Agree**
		%	0	10.9	27.3	40.0	1.8		
Pedagogy and Teaching Style	6	n	0	3	16	27	9	3.76	**Agree**
		%	0	5.5	29.1	49.1	16.4		
	Total							10.64	**Agree**

The results show that the teachers' sample surveyed agreed that the teachers' characteristics are key factors of E-learning. The results showed that the teachers' view came to confirm that teachers' characteristics are key factors for the using of E-Learning.

As shown in Table 19. Pedagogy and Teaching Style came as a first place between the other teachers' characteristics factors, with the mean score of 3.76. As a second place

teacher attitudes came with the mean score of 3.55, then Control of Technology factors came in third place with the mean score 3.33.The average ratings for the sub factors of this factor was 10.64. The results showed that teachers agreed with the survey statements.

4.4.3 Information Technology Factors

The teachers were asked to show their perceptions on the technology factor in use E-Learning. Five statements on Likert scale ranging from (1) Completely Disagree to (5) Completely agree were used to measure technology Factors .The results of the teachers' ratings for each of the statements are listed in Table 20. The mean scores ranged from 3.51 to 4.27.

Table 21.Descriptive Results of Technology Factors

Sub-Factors	**St No.**	**Level of agreements**						**Mean**	
		N / %	**Completely Disagree**	**Disagree**	**Neutral**	**Agree**	**Completely agree**		
Quality of Technology	7	n	3	2	14	36	0	3.51	**Agree**
		%	5.5	3.6	25.5	65.5	0		
	8	n	1	0	15	32	7	3.80	**Agree**
		%	1.8	0	27.3	58.2	12.7		
	9	n	0	4	13	36	2	3.65	**Agree**
		%	0	7.3	23.6	65.5	3.6		
Effectiveness of IT	10	n	0	4	4	20	27	4.27	**Strongly Agree**
		%	0	7.3	7.3	36.4	49.1		
	11	n	0	7	7	36	5	3.71	**Agree**

		%	0	12.7	12.7	65.5	9.1		
	Total							18.94	Agree

4.4.4 Design and Content Factors

The teachers were asked to show their perceptions on the design and content factors in the use E-Learning. Six statements on Likert scale ranging from (1) Completely Disagree to (5) Completely agree were used to measure technology Factors .The results of the teachers' ratings for each of the statements are listed in Table 21. The mean scores ranged from 3.45 to 3.98

Table 22. Descriptive Results of Design and Content Factors

Sub-Factors	**St No.**	**Level of agreements**						**Mean**	
		N / %	**Completely Disagree**	**Disagree**	**Neutral**	**Agree**	**Completely agree**		
Perceived Ease of Use	12	n	0	3	11	38	3	3.75	**Agree**
		%	0	5.5	20	69.0	5.5		
	13	n	1	1	5	44	4	3.89	**Agree**
		%	1.8	1.8	9.1	80	7.3		
	14	n	0	3	13	31	8	3.80	**Agree**
		%	0	5.5	23.6	56.4	14.5		
	15	n	2	10	7	33	3	3.45	**Agree**
		%	3.6	18.2	12.7	60	5.5		

	16	n	0	4	5	40	6	3.87	**Agree**
		%	0	7.3	9.1	72.7	10.9		
	17	n	0	4	3	38	10	3.98	**Agree**
		%	0	7.3	5.5	69.1	18.2		
	Total							22.74	Agree

4.5 Descriptive Results of Use ICT Outside of the School If Affect the Use of ICT inside the School.

To answer the *second research question* "How does the use of ICT outside of school affect the use of ICT in school? “

4.5.1 Do you have Access to a Computer at Home?

The study attempted to classify the teachers who has a computer access at home and who has not. The results presented that 94.5% of the teachers had a computer access at home while 5.5% had not a computer access at home.

$H_0$1a: There is no significant difference between teachers' perceptions who has an access to a computer at home of factors that impact on E-Learning.

For this null hypothesis, the t-test was used. The results are shown in Table 22.

Table 23. Results of t-test for Teacher who has an Access to a Computer at Home Differences of Teachers' Perceptions in on Critical Factors of E-Learning

Factors	**Group**	**N**	**M**	**S.D**	**t**	**Sig. level**
students' characteristics	Yes	52	3.6987	.68044	0.081	0.936
	No	3	3.6667	.00000		
Teachers' characteristics	Yes	52	3.5321	.66095	0.634	0.592
	No	3	3.7778	.38490		
	Yes	52	3.8077	.43016	1.593	0.180

Information technology	No	3	3.4667	.11547		
Design and content	Yes	52	3.7821	.30880	0.961	0.372
	No	3	3.9444	.09623		

The results of the t-tests revealed no statistically significant differences among the teachers who has an access to a computer at home with regard to the students' characteristics, teachers' characteristics, technology and design and content factors.

Thus, the teachers who has an access to a computer at home agree with the teachers who has not an access to a computer at home on the students' characteristics, teachers' characteristics, technology and content and design factors. Thus, the null hypothesis was supported with regard to those factors.

4.5.2 Do you have Internet access to at home?

The study attempted to classify the teachers who has an Internet access at home and who has not. The results presented that 94.5% of the teachers had an Internet access at home while 5.5% had not an Internet access at home.

H01b: There is no significant difference between teachers' perceptions who has an Internet access at home of factors that impact on E-Learning.

For this null hypothesis, the t-test was used. The results are shown in Table 23.

Table 24. Results of t-test for Teacher who has an has an Internet Access at Home in Differences of Teachers' Perceptions in on Critical Factors of E-Learning

Factors	**Group**	**N**	**M**	**S.D**	**t**	**Sig. level**
students' characteristics	Yes	52	3.6987	.68044	0.081	0.936
	No	3	3.6667	.00000		
Teachers' characteristics	Yes	52	3.5321	.66095	0.634	0.592
	No	3	3.7778	.38490		
Information technology	Yes	52	3.8077	.43016	1.593	0.180
	No	3	3.4667	.11547		
Design and content	Yes	52	3.7821	.30880	0.961	0.372
	No	3	3.9444	.09623		

The results of the t-tests revealed no statistically significant differences among the teachers who has an Internet access at home with regard to the students' characteristics, teachers' characteristics, technology and design and content factors.

Thus, the teachers who has an Internet access at home agree with the teachers who has not an Internet access at home on the students' characteristics, teachers' characteristics, technology and content and design factors. Thus, the null hypothesis was supported with regard to those factors.

4.6 Teachers' Perceptions of the key Factors that Influence Implementing and using ICTs and E-Learning in Schools.

To answer the third research question "How do the teachers differ in their concepts the factors that influence implementing and using ICTs and E-Learning in schools?" based on (age, gender, the fields of teaching).

4.6.1 Gender

H02a: There is no significant difference in male and female teachers' perceptions of factors that impact on E-Learning.

For this null hypothesis, the t-test was used. The results are shown in Table 24.

Table 25. Results of t-test for Gender Differences in Teachers' Perceptions on Critical Factors of E-Learning

Factors	Group	N	M	S.D	t	Sig. level
students' characteristics	Male	40	3.5667	.65459	2.68	0.012
	Female	15	4.0444	.56155		
Teachers' characteristics	Male	40	3.4583	.70685	1.65	0.105
	Female	15	3.7778	.39171		
Information technology	Male	40	3.7350	.39843	1.55	0.125
	Female	15	3.9333	.47610		
Design and content	Male	40	3.7833	.34010	0.300	0.765
	Female	15	3.8111	.17668		

The results of the t-tests revealed no statistically significant differences among the male and female teachers with regard to the students' characteristics, teachers' characteristics,

technology and design and content factors. Thus, the null hypothesis was supported with regard to those factors.

4.6.2 Age

H02b: There is no significant difference in different ages of teachers in teachers' perceptions of factors that impact on E-Learning.

To test this null hypothesis, the one-way between-groups *ANOVA* test was conducted. The results are shown in Table 25.

Table 26. Results of ANOVA Test for Teachers' Ages Differences in Perceptions of Critical Factors of E-Learning

Factors	Source of Variation	Sum of Squares (SS)	df (Welch F)	Mean Square (MS)	F	Sig. level
students' characteristics	Between Groups	1.855	3	.618	1.449	.239
	Within Groups	21.761	51	.427		
	Total	23.616	54			
Teachers' characteristics	Between Groups	5.701	3	1.900	5.686	.002
	Within Groups	17.046	51	.334		
	Total	22.747	54			
Information technology	Between Groups	.343	3	.114	.617	.607
	Within Groups	9.450	51	.185		
	Total	9.793	54			
Design and content	Between Groups	.063	3	.021	.220	.882
	Within Groups	4.893	51	.096		
	Total	4.957	54			

The results of the t-tests revealed no statistically significant differences among the ages of teachers with regard to the students' characteristics, technology and design and content factors. Thus, the null hypothesis was supported with regard to those factors.

Hence, a significant difference was found in Teachers' characteristics factors between ages of the teachers. Thus, the null hypothesis was not supported with regard to this factor.

Then, the null hypothesis was partially supported.

4.6.3 Field of teaching

H0c: There is no difference in the perceptions of factors that impact on E-Learning between teachers of different Field of teaching.

To test this null hypothesis, the one-way between-groups *ANOVA* test was conducted. The results are shown in Table 26.

Table 27. Results of ANOVA Test for Teachers' Field of teaching Differences in Perceptions of Critical Factors of E-Learning

Factors	**Source of Variation**	**Sum of Squares (SS)**	**df (Welch F)**	**Mean Square (MS)**	**F**	**Sig. level**
students' characteristics	Between Groups	4.673	5	.935	2.417	.049
	Within Groups	18.944	49	.387		
	Total	23.616	54			
Teachers' characteristics	Between Groups	8.183	5	1.637	5.506	.000
	Within Groups	14.564	49	.297		
	Total	22.747	54			
Information technology	Between Groups	2.673	5	.535	3.679	.007
	Within Groups	7.120	49	.145		
	Total	9.793	54			
Design and content	Between Groups	1.337	5	.267	3.619	.007
	Within Groups	3.620	49	.074		
	Total	4.957	54			

The results of the t-tests revealed no statistically significant differences among the field of teaching of teachers with regard to the students' characteristics, technology and design and content factors. Thus, the null hypothesis was supported with regard to those factors.

Hence, a significant difference was found in Teachers' characteristics factors between fields of teaching of the teachers. Thus, the null hypothesis was not supported with regard to this factor.

Then, the null hypothesis was partially supported.

5 Conclusion and Recommendations

5.1 Introduction

After the rapid growth of Internet and information communication technologies-Learning has become an essential factor in the learning/teaching process in the educational institutions. The majority of universities and schools around the world and in Arab countries are now using E-learning in their institutions. E-learning has the potential to motivate the students and teachers to join the learning environments and offer powerful tools for perfect interaction and communication.

Additionally, E-Learning is defined by the flexibility of access to the information and increase chances of students to get the useful knowledge to satisfy their needs. Nevertheless, many studies indicated that E-Learning in some educational environments is not successful and not effective. Therefore, this study tries to determine the key Factors that influence the implement and use of E-Learning.

5.2 Conclusion

- Most of the participants of the study sample have access to a computer and to the Internet and the percentage of teachers who have access to the computer and the internet at home (94.5%), which emphasizes teachers' awareness of the importance of the Internet and use of it.

- The findings showed that there are many key factors which influence the use and implement E-Learning in the schools. These are teachers' characteristics, students' characteristics, technology and design and content.

- Also, the results showed that there are some differences in perceptions between teachers according to age, gender, Field of teaching, years of teaching and years of using E-learning.

- Moreover, the results revealed that no statistically significant differences among the teachers who has an Internet access and a computer access at home and who has not with regard to the students' characteristics, teachers' characteristics, technology and design and content factors.

5.3 Recommendations

The study finds through the results the following recommendations:

1- Focus on improving the process of researching in the field of e-learning continuously to inform teachers and students about the importance of using the technology in the learning/teaching process.

2- The training of teachers on the computer is not enough. However, must also involve the teachers in specialized courses in how to employing this technology for teaching purposes.

3- Training the teachers on the use of information and communication technology in education/learning process by providing schools with all educational technologies.

4- Make information and communication technology is an essential tool in the teaching/learning process in all grades. Also, to providing the ICT infrastructure in schools such as computers, laboratories, networks.

5- Reconsider the courses and the material developed for the students at various levels in schools.

6- Develop learning activities by teachers, Teachers can implement some activities which integrate visual, audio or text materials.

7- Teachers should rely on E-Learning tools that could help them to manage their teaching process such as online exams, posting e-announcements, and inviting the students to count on these tools

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Appendix 1 – Questionnaire Form

Introduction

The main goal of this Survey is to study the key factors that affect using ICTs and E-Learning environments. Using ICTs in education and e-learning is the use of electronic technologies, applications, software, processes, and tools in the teaching and learning process. Study evaluate these factors can affects the implementation of E-Learning in education. In addition, this survey aims to receive your feedback in relation to these factors that influence implementation of E-Learning. This feedback will be used to develop implementation of E-Learning in order to achieve the education quality.

SECTION A	
Question	Possible answer
Age	- (20-30, 31-40 , 41-50, 51-60)
Gender	- (Male , Female)
The field of teaching	- (Science and math, Languages (Arabic, English, French),Social Sciences - ,Computer, other)
Years of teaching	- (1-5, 6-10 ,11-15, 16-20, >20)
The number of students in the class	- (20-30, 31-40, >40)
Do you have access to a computer at home?	- (Yes , No)
Do you have Internet access to at home?	- (Yes , No)
Have you joined a computer course?	- (Yes , No)
Have you used e-learning environment?	- (Yes, No)
How long have you been using E-Learning in learning/teaching process?	- (Never, 1-5 years , 6-10 years , >11years)
Please justify your level of agreement based on the statements below. (1) Completely Disagree, (2)Disagree , (3) Neutral , (4) Agree,(5) Completely agree)	
SECTION B	
The use of E-Learning facilitates learning more than the regular method	- ((1), (2), (3) , (4),(5)
The use of E-Learning provides more chances to participate in learning activities than the traditional method	- (1), (2), (3) , (4),(5)
The use of E-Learning provides more enjoyment than the traditional method	- (1), (2), (3) , (4),(5)

SECTION C	
The use of E-Learning is better in the learning / teaching process	- (1), (2), (3) , (4),(5)
The use of E-Learning provides more control on learning /teaching process than the traditional method	- ((1), (2), (3) , (4),(5)
The use of E-Learning is more effective and efficient than the traditional method	- (1), (2), (3) , (4),(5)
SECTION D	
The use of E-Learning is harder than traditional learning /teaching process	- (1), (2), (3) , (4),(5)
Availability of E-Learning materials online 24/7 is useful for learning and teaching process	- (1), (2), (3) , (4),(5)
E-Learning environment provides more opportunities for participating in electronic classes	- (1), (2), (3) , (4),(5)
Using e-learning environment needs training and assisting from the beginning	- (1), (2), (3) , (4),(5)
Using e-learning is more effective (for you as a teacher and for students)	- ((1), (2), (3) , (4),(5)
SECTION E	
E-Learning environment is easy to integrate with the learning/teaching process	- ((1), (2), (3) , (4),(5)
Using e-learning easier to manage and update the content	- (1), (2), (3) , (4),(5)
By using E-learning environment, the student is more engaged with the content than in the traditional method	- (1), (2), (3) , (4),(5)
Designing E-Learning environment content and materials is time consuming and a waste of efforts	- ((1), (2), (3) , (4),(5)
Using the E-Learning improves the quality of content	- (1), (2), (3) , (4),(5)
Availability of Electronic content is a necessary point in E-Learning implementation.	- (1), (2), (3) , (4),(5)

Appendix 2 – Questionnaire Form- Arabic Version

تحية طيبة وبعد،

يقوم الباحث بدراسة عن "تقيم العوامل المؤثرة في استخدام تكنولوجيا المعلومات والاتصالات في التعليم و التعليم الالكتروني في سوريا " . وصممت هذه الاستبانة كاداة سوف يتم استخدامها في هذه الدراسة ، وتهدف هذه الدراسة الي التعرف علي العوامل المؤثرة في تطبيق التعليم الالكتروني في مناطق الازمات . يمكن تعريف التعليم الإلكتروني على أنه " منظومة تعليمية لتقديم البرامج التعليمية أو التدريبية للطلاب أو المتدربين في أي وقت و في أي مكان باستخدام تقنية المعلومات والاتصالات التفاعلية مثل (الإنترنت و القنوات التلفزيونية و البريد الإلكتروني و أجهزة الحاسوب و المؤتمرات عن بعد ...) بطريقة متزامنة أو غير متزامنة ".

ان المشاركة في هذه الاستبانة تساعد على تطويرالتعلم الإلكتروني في المستقبل، ومعرفة العوامل التي تساعد علي تحسين جودته.علمًا بانه سوف يتم التعامل مع المعلومات المدونة في هذه الإستبانة لأغراض البحث فقط.

القسم الأول	
العمر	(20-30, 31-40 , 41-50, 51-60)
الجنس	- ذكر - أنثي
مجال التدريس	العلوم والرياضيات - اللغات (العربية،الانجليزية،الفرنسية)- العلوم الاجتماعية- الحاسوب- أخري
عدد سنوات التدريس	(1-5, 6-10 ,11-15, 16-20, >20)
عدد الطلاب في الفصل	(20-30, 31-40, >40)
هل ليدك اتصال بجهاز حاسوب في المنزل؟	- نعم - لا
هل ليد اتصال بالانترنت في المنزل؟	
هل التحقت بدورة تدريبية لاستخدام جهازالحاسوب؟	
هل استخدمت بيئة التعلم الإلكتروني من قبل؟	
منذ متى تستخدم التعلم الإلكتروني في عملية التعلم والتعليم ؟	(أبدا- (1-5) – (6-10) – أكثر من 11)
حدد رأيك في العبارات الآتية : يمثل رقم (1)غير موافق بشدة، رقم (2) غير موافق ، رقم (3) لا أعلم ، رقم(4) موافق ، رقم (5) موافق بشدة	
القسم الثاني	
أستخدام التعليم الالكتروني يسهل عملية التعليم اكثر من الطريقة التقليدية	- (1), (2), (3) , (4),(5)
استخدام التعليم الالكتروني يزود فرص للمشاركة في النشاطات اكثر من التعليم التقليدي	- (1), (2), (3) , (4),(5)
استخدام التعليم الالكتروني اكثر متعة من التعليم التقليدي	- (1), (2), (3) , (4),(5)
القسم الثالث	
استخدام التعليم الالكتروني افضل في عملية التعليم والتعلم من التعليم التقليدي	- (1), (2), (3) , (4),(5)

استخدام التعليم الالكتروني اكثر فاعلية من التعليم التقليدي	- ((1), (2), (3) , (4),(5)
استخدام التعليم الالكتروني يزود تحكم اكثر في عملية التعليم والتعلم من التعليم التقليدي	- (1), (2), (3) , (4),(5)
القسم الرابع	
توجد صعوبات أثناء تطبيق التعلم الإلكتروني أكثر من التعلم التقليدي	- (1), (2), (3) , (4),(5)
توافر المواد التعليمية علي مدار الساعة يساعد علي تطويرعملية التعلم والتعليم	- (1), (2), (3) , (4),(5)
بيئة التعلم الإلكتروني تهيء فرصًا للمشاركة والتفاعل في الدروس	- (1), (2), (3) , (4),(5)
استخدام التعلم الإلكتروني يحتاج إلى تدريب ومساعدة في البداية	- (1), (2), (3) , (4),(5)
استخدام التعلم الإلكتروني سوف يكون فعال(لك كمدرس و للطلاب كمتعلمين)	- (1), (2), (3) , (4),(5)
القسم الخامس	
التعلم الإلكتروني يمكن ادماجه في عملية التعلم والتعليم بكل سهولة	- (1), (2), (3) , (4),(5)
استخدام التعلم الإلكتروني يسهل إدارة وتحديث المحتوى الإلكتروني أكثر من التعليم التقليدي	- (1), (2), (3) , (4),(5)
استخدام التعلم الإلكتروني يساعد في الانخراط في المحتوى الإلكتروني أكثر من التعلم التقليدي	- (1), (2), (3) , (4),(5)
تصميم وإعداد المحتوى الإلكتروني يضيع الوقت ويستهلك الجهد	- ((1), (2), (3) , (4),(5)
استخدام التعلم الإلكتروني يزيد جودة المحتوى ويطورعملية التعلم والتعليم	- (1), (2), (3) , (4),(5)
توافر المحتوى الإلكتروني أمر أساسي وهام عند تطبيق التعلم الإلكتروني	- (1), (2), (3) , (4),(5)