

Mobile Technology and Education: Theoretical Study

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Abstract - *The aim of this study is to build a knowledge system, which features a clear picture of the mobile learning technology environment in the field, benefits, barriers and applications of mobile learning. Where the study concluded that mobile learning is an e-learning system based on wireless communications. It is part of the e-learning which includes similarity and differences of each other, so that the learner free access to educational materials, lectures and seminars at anytime, anywhere, outside the classroom. This in turn creates a learning environment in the framework of new educational situations, based on a participatory and interactive learning, and eases the exchange of information among the learners themselves on one hand and lecturers and learners on the other hand. Mobile learning techniques consist of IPod touch, PlayerMp3, Personal Digital Assistant, USB Drive, E-Book Reader, Cellular phone, Ultra- Mobile, General packet radio services (GPRS), Laptop Tablet, Smart phone, and Learning Mobile Author. Many of obstacles and difficulties hindering the use of mobile learning in education, these difficulties and challenges lie between educational content, the protection of security techniques, devices, storage capacity, frequency and the degree of unsustainable devices. In addition to these, preparation of educational curricula and individual differences among students also lead to Slow down the use of mobile learning. Moreover, the low level of culture and the experience of some teachers and students in dealing seriously with modern technology, and the high financial cost of inputs of this type of learning adding to that the absence of integrated educational strategies that support the use of mobile learning, all these together stand against the use of the mobile learning. The study concluded by emphasizing the importance of reviewing the input teaching process and procedures for its implementation, in order to absorb the concepts of knowledge, electronic and technological revolution, community mobilization, to achieve the current stage of the development of modern requirements.*

Keywords: *Mobile Learning, ICT, technology, Education technology*

I. INTRODUCTION

This era is characterized by rapid changes resulting from ICT progress and information technology, so it became necessary to the education system to deal with these changes to address the problems that may arise from them, such as the large number of information and exceeding number of learners and the lack of teachers and distances[1].

These changes have led to the emergence of patterns of many methods of teaching and learning, After the emergence of the technological revolution in the field of information technology, which has made the world a small village and led to a greater need to exchange experiences with others, and the need of the learner multivendor environments rich in research and self-development. There appeared a lot of styles and methods [2], and new tools in teaching and learning, including the emergence of e-learning. Technology is important in the field of education because it plays an important role of guiding to help both students and teachers in presenting the scientific material for the student. Technology also enables us to change the form of providing lessons to students in a manner that gives a larger and easier opportunity to understand and learn materials.

There are some modern Smart phones and educational techniques. That enables the students to pay their attention for the use and practice in the field of education [3]. It also assists teachers to provide the students with different materials in different manners and templates. One of the educational techniques is the internet. Internet opens a new field that helps students in the classroom to participate in various educational activities in the field of research and exchange information. Technology also provides a rich source of information that teachers and learner need. Technology as a source of communication opened a branch range in which teacher and learner became in constant touch by connecting over the Internet [4].

The great development of communication and information technologies and the spread of electronic knowledge among students of school and universities have led to the emergence of new forms of education systems in the past decades [5]. In this era, training and education -based tools mainly make use of the computer and different interaction with methods of taking advantage of the CD-ROM and local networks, and this century witnessed the evolution of the concept of e-learning tools and characterized by the use of the Internet. These days revolution of wireless communications and mobile technologies show new concepts of mobile learning.

Mobile technology and learning take the interest and the focus of people and pay the attention of human thought and article occupant of modern life [6]. Some storage tools cloud and share files and its importance in the field of education, as well as the relation to educational technology in particular, and the world of technology in general, we refer to the emergence of new technical terms recently as services cloud storage, music cloud, applications, and even operating systems cloud, on any devices.

Mobile technology can be used in all areas of life today; the mobile has the advantage of mobility, so it can be applied in any country. The exceeding use of mobile devices among people at all levels leads us to think about how to use this device to improve and develop activities to increase the interaction between government and citizens [7]. It has become the information and communication technology (ICT) and the basis of the origin of many of the services governments in many countries, and therefore, we find that everything in life depends on that technology.

II. LITERATURE REVIEW

The current study of this paper emerges from the fact it attempts to identify the uses of advanced technologies in the educational field, such as the use of telecommunication tools, especially mobile technologies in a new form of education termed mobile or portable learning. Mobile learning is one form of distant learning and an extension of e-learning applications which has invaded the world with the use audio, visual, cognitive, cooperative and interactive means via the use of smart and digital electronic devices in an attempt to create a direct, dynamic, ongoing learning environment, an environment that is not constrained by spatial and temporal boundaries, leading to the elimination of traditional classrooms, routines and imitation. Such form of learning enables the individual learner to move freely in the learning material, able at the same time to access to knowledge sources whenever the learner desires [8].

E-learning or Electronic learning also called 'online learning' is a general term used to refer to computer-enhanced or technology enhanced learning it is an approach to facilitate and enhance learning based on both computer and communication technology. It is used to support distance learning through the use of WANS (Wide Area Net Workers), and may also be considered to be a form of flexible learning where learning is possible in no time. It may include the use of web-based teaching materials and hypermedia in general, multimedia CD-ROMs, websites, discussion boards, collaborative software, e-mail, blogs, wikis, test chat, computer aided assessment, educational animation, simulations, games, learning management software, electronic voting systems and more, with possibly a combination of different methods being used [9].

E-learning is developed to apply information technology skills to education getting connected to the internet or any network is essential for E-learning.

E-learning is naturally suited to distance learning and flexible learning, but can also be used in conjunction with face to face teaching, in which case the term blended learning is commonly used. E-learning is a means of education that incorporates self-motivation, communication, efficiency, and technology. It is a flexible term used to describing a means of teaching through technology [9]

Today the mobile technology can be used in everyday life and more suitable to implement within any countries because the mobile has mobility features, the increase of using mobile devices among people with different levels leads us to ideating how this device can be used to improve and develop activities it can be used as new tool or method to increase interaction between government and citizens. Information and communication technology (ICT) have become a critical asset for many governments in many countries, because everything in the life depends on it [10]

Mobiles are an amazing educational tool for teaching and learning process. M-learning is the new sensation in the field of education. It is creating a new wave of educational development for sustainable and viable learning option. It is based on the convergence of mobile technologies and wireless infrastructure [11]

Mobile learning, or "M-Learning", offers modern ways to support learning process through mobile devices, such as handheld and tablet computers, MP3 players, smart phones and mobile phones and notebooks, mobile Tablets, iPod touch, and iPads are very popular devices for mobile learning because of their cost and availability of apps. The main purpose of this paper is to describe the current state of mobile learning, benefits, challenges, and its barriers to support teaching and learning [12]

Traditional classroom learning is founded as a stable context by setting up a fixed location with common resources, a single teacher, and an agreed upon curriculum. Mobile learning removes all these things and enhances the interrelated aspects of mobility it helps students to expand learning space for formal learning taken in the classroom to informal learning taken where ever they prefer it also means providing knowledge from portable tools and resources available in a handy device [13].

The Contributions and Limitations of this work concluded in table2 below:

Tabl2 :The Contributions and Limitations in the Related Work

YEAR / TITLE OF PAPER	METHOD	CONTRIBUTION	LIMITATIONS	STRONG
2015 / Mobile Computing Trends in Saudi Arabia An Exploratory Study	Exploratory Study	This study investigated the major trends in mobile computing by providing insight into key characteristics and quality levels of mobile computing practices in Saudi Arabia	the study showed trends and general characteristics of mobile computing practice it focus on displaying of content, but do not suggest practical solution for their evaluation and quality, usability heuristic evaluation of mobile computing and user acceptance testing of mobile applications	The purpose of this research paper is to develop and examine an understanding of the adoption behavior of mobile computing in Saudi Arabia.
2015/ Students' Perception of Their M-Learning Readiness	Case descriptive	This paper has presented the findings of a pilot study to Examine psychological readiness for m-learning among Saudi higher education students.	This study examine psychological readiness for m-learning ,this study did not address the issue of risk, trust issues, security and privacy	This paper aimed at achieving a better understanding of the psychological readiness for mobile learning (m-learning) among Saudi students also highlighted the unique opportunities m-learning provides from the perspective of Saudi students
2014/ Designing An Effective Mobile-learning Model By Integrating Student Culture	Design-based research	A proposal of designing and developing Mobile Learning Model	Not covering the different cultures factors towards mobile learning systems ,That apply through the cloud computing model in order to achieve the integration of application systems with the presence of this difference to ensure the success of these systems in multiple environments	The potential outcome of doing this research is to Designing An Effective Mobile-learning Model By Integrating Student Culture
2014/ Mobile Learning Aspects and Readiness	case study	The paper concludes that using mobile in learning can be one of the suitable technologies to enhance the learning systems, so it found that the most beneficial aspects and advantages of using mobile technologies for learning services were to give students an immediate access to information regardless of places	There are a few limitations of this study. First, The study is located in just one faculty, facility of Computer Science and Information Technology at Al-Zaiem Al-Azhari University in Sudan as case study for examines the readiness of the teachers and students towards using mobile technology in learning, Second the study shows only the teachers and students' adaptation, but not discussed the required infrastructure and architecture to implement m-learning	contribution of this study is that; it's the first study in, it used one of the Sudanese University as a case study, which can concenter it as reference work for this region and "may be" for the under developing countries.
2013/ Designing The Content Of M-Government Framework	Design-based research	This paper proposes a new framework shows the different issues that an m-government development and deployment policy must address , respect of four contexts, highlights the main guidelines that help improving Mobile -government content	researcher doesn't mention any details to describe the model, Not covering the following principles: Interoperability, Security, Openness, Flexibility, Scalability	proposes a new framework for adapting the content of M-government services by delivering personalized service content to the appropriate user efficiently and effectively
2013/M-Learning: A New Learning Paradigm	Case description	present the main concept of M-learning, Characteristics, ..., Advantages and Disadvantages of M-learning	the paper consider uses and the impact of wireless technologies in education, schools but not consider and discuss guidelines and policies that need to be in place to ensure the successful a new learning paradigm	Propose mobile learning anew learning paradigm, as making educational experiences more meaningful, encourages flexibility; learners do not need to be a specific age, gender, or member of a specific group or geography, to participate in learning

				opportunities
2013/ Mobile Learning for Education Benefits and Challenges	Qualitative descriptive research	The aim of this paper is to show the current state of mobile learning, benefits, challenges, and how mobile technologies can be used to improve education	the author mention that Mobile Learning focuses on the mobility of the learner, but cannot take account of the mobility of technology, and mobility of learning and any type of learning that takes place in learning environments	The goals of this study was to further understand and examine the impact of mobile phone usage on teaching and learning practices to find opportunities presented by the use of digital media on mobile devices
2013/ Exploring Major Challenges and Benefits Of M-learning Adoption-review	Mixed methods	This paper explored current available literature and expands on the M-learning concept, in order to get a good background on the benefits and challenges of the M-learning, adoption and establishes a relation between modern mobile technologies and current learning paradigm	This paper explored current available literature and expands on the M-learning concept, The study recommended to continue other future research that focus on the guidelines and policies which need to be in place to ensure the successful adoption of M-learning, avoid the wireless network trust ability	The strength of this paper is the result of explored current available literature and expands on the M-learning concept And find out the benefits and challenges
2012/ mobile learning (m-learning) and educational environments	Qualitative descriptive research	The paper has discussed the background of M-Learning and how it can be used to enhance the whole learning system, also provides highlights of the benefits and future challenges of M-Learning in our educational environments	paper showed that m-learning is the next generation of e-learning, explained benefit and future challenges of m-learning, but it did not provide suggestions to avoid these problems, for example avoid learners trusting the wireless network (Introduce and adopt policies guidelines)	The paper presents literature about mobile learning and presents the M-learning approach as the next generation of eLearning
2012/ A Survey on M-Learning	Survey	In this paper, survey on m-learning to makes the people to know the existing place of m-learning in the present scenario, the role of different networking technologies used for m-learning	The paper doesn't mention any details to describe the Security in mobile ad hoc networks (MANETs which have unique characteristics and constraints. The paper will work further on developing M-learning, Management and the communication of mobiles in ad hoc networks (MANETs)	This study makes the people to know the existing place of m-learning in the present scenario and provides an existing survey on developing M-learning. Management and the communication of mobiles in ad hoc networks (MANETs)
2011/ Mobile Learning Technology A New Step In E-Learning	Case description	The study concluded characteristics of mobile learning technology, its nature, context and benefits are presented , thus be able to address the different needs of students' populations and to keep abreast with the modern Communities we all live in nowadays.	The paper shed light on the concept of mobile learning, challenges hindering the implementation of mobile learning technology, But the author neglected any solution of these challenges, example security for Content or copyright issue from authoring group through wire and wireless networks	The study concluded with the need to reconsider the inputs of the teaching process and the methods used in it to develop a cognitive system, in which the characteristics of mobile learning technology, its nature, context and benefits are presented.
2011/ Mobile Learning In Saudi Arabia - Prospects And Challenges	Case study	This paper reviews the prospects and technological challenges of m-learning in SA as well as tries to measure the students' attitudes and perceptions towards the effectiveness of m-learning	Another important area not covered by the research is the types of mobile learning activities, investigates the availability and types of mobile devices being used, and benefits of mobile learning Therefore, it is recommended that a wider and more dispersed scope of samples should be taken by considering other social groups. The population that is enquired to answer the questionnaires should	This paper tries to measure the students' attitudes and perceptions towards the effectiveness of m-learning, reviews the prospects and technological challenges of m-learning in SA.

			be much more diverse and go beyond KSA such as other Asian countries, and USA to improve the generalizability of findings	
2010/ Defining Mobile Learning in the Higher Education Landscape	descriptive	the article seeks to provide a comprehensive definition of mobile learning and from its key components and arrange them under three different concepts mobility of technology, mobility of learners and mobility of learning	The paper does not explain the relationship between mobility of learners and mobility of technology in spite of new definition which shifted its focus from the mobility of technology to the mobility of the learner and how to contribute to increasing knowledge	this special issue also help to clarify what is meant by mobile learning by applying its key concepts to learning experiences in post-school education

I. PROBLEM OF THE STUDY

Scientific progress and development of this technology has led us to the mobile era, in which it has become a means of technology moves with individuals and hand-held, and is used as facilitator at anytime, anywhere, and mobile phone became the most important of these means, and has spread rapidly among the learners, regardless of age, sex or economic level of the learner, so that the number of mobile phones in some countries exceeds the number of individuals that uses it. Governments in both developed and developing countries prompting to employ all new technology in the fields of education, in order to develop their systems, and activate the input to do the job, in turn service for individuals and society. Due to the technology age in which we live, and the interest to renew the backbone of education and raise their capabilities and the development of learning and teaching methods, using different types of activities became the most efficient develop the use of (blended learning) as part of educational situations, that mainly based on sharing and interaction, to create a rich learning environments, improve personnel requirements and fill their needs and increase their productivity and access to high quality educational outcomes which achieve the requirements of the current stage

This study will shed the light on the mobile learning system (third-generation learning or networking) in the world which facing changes and developments in knowledge and technology, these developments on the ground created new educational functions and responsibilities and enabled both the teacher and the learner , seriously consider the importance of the stage in order to be qualified and able to deal with the technical powerfully, which develops the learning process in terms of qualitative and quantitative.

For those changes in technological and information technology, it became necessary to keep up with the educational process of these changes. This study addresses some of these problems not all that may arise from those changes, such as: the profusion of information, and the increase in the number of students, lack of teachers and distances.

II. QUESTIONS OF THE STUDY

To accomplish the purpose of this study, the following research questions will be addressed:

- *What are the technology of learning, mobile learning, their technologies and components of mobile learning?*
- *What are the characteristics and benefits of mobile learning and the challenges that face mobile learning implementations?*

III. OBJECTIVES OF THE STUDY

The purpose of this study has the following objectives:

- *Shedding the light on the concept of e-learning and mobile learning as one of its forms.*
- *Highlighting the technology of teaching and mobile learning.*
- *Focus on mobile learning environment, its components and characteristics.*
- *Review of the similarities and differences between the mobile learning and e-learning*

IV. THE SIGNIFICANCE OF THE STUDY

The significance of this study comes from the significance of identifying the very modern technology, including educational systems, communications, wireless technologies, especially mobile technology to show new patterns of learning, learning using mobile phones or laptops. Mobile learning or M-learning is learning accomplished with the use of small and portable computing devices. These computing devices may include: smart phones, personal digital assistants (PDAs) and similar handheld devices. There is some debate on the inclusion of tablet and laptop computers. Mobile learning refers to the use of mobile or wireless devices for the purpose of learning while on the move. Typical examples of the devices used in mobile learning include cell phones, smart phones, palmtops, and handheld computers; tablet PCs, laptops, and personal media players can also fall within this scope. M-learning is the idea that a student can learn from any place at any time using portable learning devices.

M-learning is any type of learning that takes advantages of learning opportunities offered by mobile technologies [1]. This study will cover environment of mobile learning and its components, characteristics and advantages and benefits. It also highlights the role of technology in support of education and solving some problems, upgrading its outputs, and links it to life. The present study also identifies the similarities and differences between E-learning and M-learning.

V. THE RESEARCH METHODOLOGY

The researchers adopted and followed some steps to achieve the research objectives like: first, collecting related researches in the same area by focusing in the quality of those researches, the modernity and their real contributions. Second, investigated those researches and highlighting their contributions and limitation by analytical approach in the collection of views, information, facts and concepts related to the syllabus study, in order to build an integrated knowledge system, third, show the problem of the study, its background, significance, objectives. Last, the study consulted a number of studies and research articles, and access to some international experiences in the field of e-learning technology, to display aspects related to the concept of mobile learning and its environment and its components, and the rationale and benefits in the educational process.

VI. PROCEDURAL DEFINITIONS

E-Learning: is defined as a way to teaching and learning by using modern techniques of computers, networks and technologies communication, and multimedia such as voice, image, and graphics and techniques discussed, in addition to electronic libraries, the goal of these techniques to secure instruction and interactive environment, synchronous or asynchronous at any anytime, anywhere, depending on self-learning and interaction between the learner and the teacher. In addition to the possibility of communication between teachers and learners the best possible way so as to deliver information to the student in the shortest time, with less effort and more possible benefits. Also define as educational method which uses modern communication techniques, Computer techniques, as part of an interactive process between the components of the educational process, to achieve specific goals, serving the individual and society present and future

Mobile Learning: is a new linguistic term that refers to the use of wireless devices , cellular and mobile phones and their equipment in an educational interactive environment which was not constrained by time or place , which is an extension of e-learning and a form of distance learning.

Education Technology: a systematic process for planning, implementing and evaluating various aspects of the educational process , according to general clear and specific goals, based on the research results of the educational process , and employing a range of human elements and diverse educational resources , in order to reach effective education.

VII. THE RESEARCH PLAN

After explaining the background of the study, its importance, its problem, objectives and questions, the study will proceed to five main phases:

1. *First Phase: The concept of education and e-learning and mobile learning technology.*
2. *Second Phase: The concept of Mobile learning environment and techniques.*
3. *Third Phase: Characteristics m-learning, its features and benefits.*
4. *Fourth Phase: Similarities and differences between m-learning and e-learning.*
5. *Fifth Phase: The challenges of implementing m-learning.*

FIRST PHASE: THE CONCEPT OF MOBILE LEARNING ENVIRONMENT AND TECHNIQUES

Education Technology: some people believed that education technology is simply the use of computers, Internet, multimedia and educational materials in the education environment ... etc, and it tends to believe that the president of the technology field is the electronic brains. But the reality is far from this and that because the area of technology deals with planning, design, implementation, and evaluation of various aspects of the educational process of learning the field, depending on the results of research and educational studies, and human elements, diverse and educational resources, in accordance with the general goals of pre-defined and private, in order to reach effective education [20]. Under this concept exceeded the use of technology devices and educational tools, and bypass the traditional concept of education, became concerned with how to apply. Methods and modern educational systems that use all the means and possibilities of modern computing and networks (the Internet) and software , in order to provide the best educational service , as soon as possible and modest cost , without any complications, and away from the time and place accounts. It is not important in the field of humanities is just the use of machinery and miscellaneous tools, but the most important is the introduction of the manner of cognitive and methodical , which lies behind the work of these machines , and the means used to achieve specific objectives efficiently distinct and effective [21].

And confirms (the invasion, 2004) on the role of education systems in their quest to reinvent itself and its ability to radical shift in the provision of various high and technical excellent quality of educational services , and to reflect the integrated holistic view of the inputs to this process and its relation to other closely reciprocal systems.

E-Learning: Many teachers and students think that their use of a personal computer, or the data show in the classroom, or access to the computer and sit Laboratory in front of your computer and use the Internet, you may come to the e-learning fully, and sees others that e-learning is achieved distribution of computers and multimedia on universities and schools offices. E-learning refers to the utilization of electronic media, knowledge and various communication technologies like GSM, GPRS, 3G, etc. in the field of education. E-learning completely changed the traditional methods of classroom teaching in electronic way; teacher provides information, the delivers a prescribed syllabus to the students and manages sequence of the course content and the assessments which are associated with the content [2].

Some important definitions of E-learning are as follows:

- *E-learning is electronically delivered instruction may be in a part or wholly with the help of Internet or an intranet, or through any multimedia system such as CD/DVD-ROM [22].*
- *E-learning can be defined as a structured, purposeful use of personal computer or laptop for the learning process [23].*
- *E-learning consists of various applications and processes, for example, Web-based learning, virtual classrooms, digital collaboration and computer-based learning. It consists of delivering content by the intranet/extranet, LAN/WAN, audio/videotape, satellite broadcast/interactive TV, and CD/DVD-ROM [24]*
- *E-learning is training delivered by a system which includes CD/DVD-ROM, Internet/intranet which is specially designed for individual learning and also for organizational performance goals [25].*
- *E-learning is learning from the educational experience offered by various electronic technologies [26].*
- *E-learning can be defined as the use of new technologies and applications in the service of learning [27].*

E-learning comprises of mainly four components: content, management system, consumers / customers and finally delivery / distribution system. Based on the above mentioned e- Education is the way of organization for education using modern communication techniques of computer , networks , software , multimedia voice , image , graphics , mechanics of search , electronic libraries , as well as web portals , whether remotely or in the classroom. Finally, we can say that e-learning exceeded the use of traditional tools and methods of education to become a complete revolution were in line with the development of computer technology, software and communications.

Mobile Learning (M-Learning): The term Mobile, whether prescription or word, it means in language dictionaries Negotiable moves any movement or move or moving object, the idea of mobile learning returning to the eighties of the last century. Mobile learning is a kind of synthesis of learning ,also defined as learning that takes place via wireless devices such as mobile phones, (PDAs), other hand held devices or laptop computers. Where student are gets to educational materials and multimedia available on the Internet. According to Sharples “learning is mobile in terms of space, i.e. "it happens at the workplace, at home, and at places of leisure; it is mobile between different areas of life, i.e. it may relate to work demands, self-improvement, or leisure; and it is mobile with respect to time, i.e. it happens at different times during the day, on working days or on weekends” [5]. Mobile learning is an electronic educational system based mainly on telecommunications, so that the learner access to educational materials, lectures and seminars at any time, Place which increase the effectiveness of mobile learning outside the classroom. Take advantage of time and place as a factor creates a new learning environment based on participatory learning , and ease the exchange of information among the educated themselves on the one hand , a lecturer and learners on the other hand. The author argues that mobile learning is not an extension of e-learning, but is the future of e-learning is the use of handheld devices in learning and education, training and career support business processes, and management duties and functions of home for the student and the supervisor, it is also up to a larger number of students, and is easy to apply, and use it on any type of mobile devices. Value added mobile learning to the educational process, including cognitive and educational side, it was in entirety a real translation process and the philosophy of distance education which is based on the expansion of educational opportunities for individuals, and lower cost compared with traditional education systems, as a philosophy accentuate the right of individuals to take advantage of educational opportunities is restricted time or place or category of learners, so mobile learning is suitable for some students , it establishes the concept of self-education.

Ubiquitous Learning (or U-Learning): is similar to some form of simple mobile learning, e.g. that learning environments can be accessed in various contexts and situations. The Ubiquitous Learning Environment (ULE) may detect more context data than e-learning. Besides the domains of e-learning, u-learning may use more context awareness to provide most adaptive contents for learners at the right time at the right place in the right way [3]. A ubiquitous learning environment is any setting in which students can become totally immersed in the learning process. So, a ULE is a situation or setting of pervasive or omnipresent education or learning. Ubiquitous Learning Materials (ULM) is defined as learning materials that may be transferred to mobile devices via cable or wirelessly and be operated in these mobile devices [4]

SECOND PHASE: THE CONCEPT OF MOBILE LEARNING ENVIRONMENT AND TECHNIQUES

2.1: Mobile Learning Environment: The design of the mobile learning environment is not limited to the use of devices and cellular phones, but must be dynamic and open system, which integrates software and technology with aids, devices, so let it be used and re- used on acceptable bases, and standards of logical and objective, in order to increase the flexibility and effectiveness of distance education [6]. According to [7], And environments that were conducted around the mobile learning study has some areas in compliance with previous studies.

These features include:

1. *Promote availability and accessibility of information networks;*
2. *Enable students to participate in activities related to learning in different physical locations;*
3. *Based on collective action to support the project;*
4. *Grown communication skills and cooperative learning in the classroom, and.*
5. *Enabling quick content delivery.*

The mobile learning environment serves as the educational situation, enable learner to engage in learning whenever he wants from any time any place, and mobile learning means that learning is widespread, and can be reached easily by using learning devices mobile, learning environment distributor consists of educational entities, portable and variety devices connected together, interact with the learns. It can identify some of these entities - Mobile Pocket PC and mobile phone and computer and reading e-books digital assistants - Wireless technology include Bluetooth and Wi-Fi - sensors are used to detect the presence of the students - database that stores all the data about the hardware , users and interactions that occur between the mand learning strategies which help and enhance student understanding, through interaction and feedback, and analyze student answers to questions and discussions, and to provide them with the necessary information.

2.2 Mobile Learning Technologies:-IPod touch a player and portable media, allowing users to download music, books written, audio, images and video, it has an address book , calendar, and a storage device , and read e-books , and share files and information , and cooperation projects and recording lectures. The IPod has some disadvantages: it is high cost; the IPod is too expensive which make it difficult for the students to own in addition to some technical limitations, for example, its screen is generally small.

- Mp3 player to download music and audio files, listen to audio lectures, and, some of its advantages are that, it has the characteristic of mobility and good voice, but it is one direction use.

3. Personal Digital Assistant, a handheld device that combines computing and access to the internet, combines single network and notepad, address book and productivity tools and technology Bluetooth and Wi-Fi system. And it is used as a voice, video, and flash movies, displays the documents, allows users to access e-mail, and web content and text messages, and can be used for storage. It has some advantages: it has a clear screen and it is easy to read, it also combines computing and communications tools in a single device and the data can be entered through the keyboard.

- Terminal Equipment: Computers, large compared with other portable devices, and portable devices are not effective for the introduction of e-mails without the use of the introduction of peripherals.

- USB Drive: It is a comprehensive storage device, a small engine and a laptop and is compatible with all modern computers, features that capacity storage for large seminars, lectures, courses, projects and video and audio files, and works to transfer files from home to school and vice versa, the only disadvantages is that it is used for storage only [7].

Mobile technologies outlined in table 1: bellow

Transport options	Devices options	Delivery options	Software options	Platform options
<ul style="list-style-type: none"> •GPRS •GSM •Bluetooth •3G 	<ul style="list-style-type: none"> •Mobile phones •Smart phones •PDA •Palm computers 	<ul style="list-style-type: none"> •SMS •MMS •E-mail •WAP •HTTP 	<ul style="list-style-type: none"> •J2ME •API •MIDP •XML •ASP.NET 	<ul style="list-style-type: none"> • Symbian OS • Microsoft Windows Mobile •Palm OS • iPhone OS •Android

Finally there are many devices such as: E-Book Reader, Smart phone, Cellular phone, Ultra- Mobile, (GPRS) General packet radio services, communications, Bluetooth and Wi-Fi, Laptop Tablet, Learning Mobile Author. There are some other devices such as pens, scanning and storage media via the UBS and digital video players, digital glasses that displays information from wireless computers, small portable wireless such as mobile phones and PDAs.

All of these devices and others helped teachers, supervisors or trainers to publish educational article without reference to the programmers, and have a simplified methodology for the deployment of interactive content with sound, image, video and text in different languages, some of which can conduct scientific experiments and research and interactive learning. Some of them allow cell phones to connect to the Internet by leaps and bounds and the possibility of data and files, storage, retrieval and sharing wirelessly reception.

THIRD PHASE: CHARACTERISTICS M-LEARNING, ITS FEATURES AND BENEFITS

3.1 Mobile Learning Characteristics

There are some important characteristics of M-learning mentioned below:" [1]

- *Accessibility*: Information is always available when requested by the learners.
- *Immediacy*: learners they retrieves information immediately.
- *Interactivity*: through different media the learners can interact with peers, teachers and experts efficiently and effectively.
- *Context-awareness*: The environment can adapt to the learners to provide adequate information.
- *Permanency*: The information remains unless the learners purposely remove it.
- Flexible Learning, Large mass covered, reduces students' indiscipline and unrest problem.
- We can say that mobile devices reasonable prices compared to prices of desktop computers.
- Similar size and light weight than desktop PCs.
- Ensure bigger students engage as M-learning are based on modern technologies, which students use in everyday life." Also Mobile education has been the focus and title of scientific and international conferences in previous years, which resulted in a set of properties and features, namely:
- *Mobility*: transfer of the learning process away from any fixed point, without restrictions of time and place limits, walls and classrooms, and the learner freedom of movement at any time and place.
- *Freedom of movement*: give more freedom to the process of learning to take place inside and outside the walls of educational institutions.
- *Adjustment*: the sense of giving the learner enough freedom, and respect for his abilities and his desire to interact with the educational community, without having sit in specific places and certain times in front of computer screens.
- *Interaction and sharing*: achieving any idea of sharing and cooperation between the students themselves and their teachers, regardless of geographical distance.
- *Availability*: the sense that the process of learning can occur at anytime, anywhere.
- The ease of mobility devices learning, because of the light weight and small size

3.2 Mobile Learning Features

- Form of e-learning which based on the principle of mobility (learning-learner-device-context) freely, without being bound by time and place.
- Provide a deeper concept of what is known as the best achievement at anytime, anywhere.
- The migration from the concept of learning which restrict the time and place to the concept of learning at any time and place.
- The possibility of connecting readable information, audio and video in real time from distance.
- Save time and comfort travel and mobility of the learner.
- Fast storage and efficient operations.
- The clarity of the sound, the image, scientific designs, tables and graphs.
- Provides opportunities of networking learning, social learning, real learning, Interactive learning and distance learning.

3.3 The Benefits of Mobile Learning

Addition to the previous characteristics and features, the benefits of mobile learning appear as follows:

- Enhances the learner needs by centering of learning.
- Support savvy-student who uses technical devices.
- You can access to education content at any time and place.
- Facilitate cooperation through contact with synchronous and asynchronous.
- Reduction of cultural barriers between students and teachers using various communication channels.
- It accommodates a large number of portable devices rather than desktop devices.
- Handwriting a special pen (STYLUS PEN) in Educational equipment - much easier than using the keyboard.
- The involvement of educated young people in the education of a lot of games and useful activities in capacity development.
- Mobile learning helps students to set up a small library of videos for a particular field.
- You can carry out cut, copy, paste text via e-mail, PDA, using infrared
- It supports and complements the learning process rather than to be part of it.

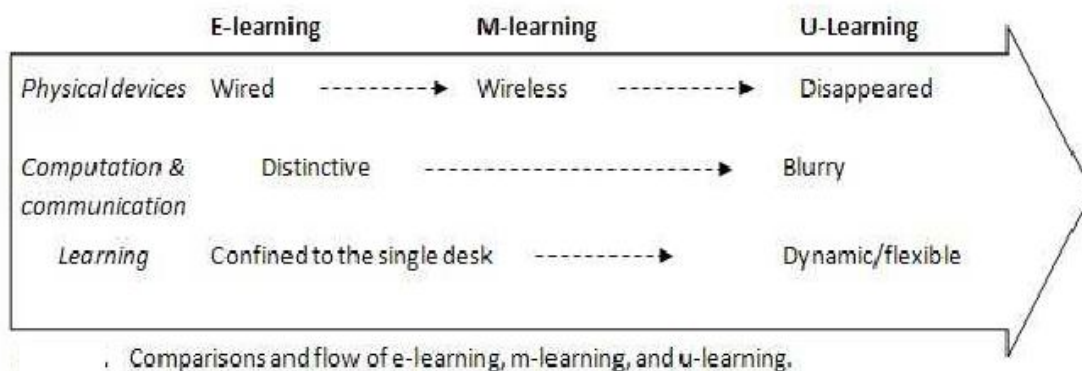
- Reducing the digital divide, because mobile devices less expensive than desktop computers.
- Mobile learning approach uses different types of activities
- Mobile learning provides some of the activities like games and simulations ... etc.
- It can draw diagrams and maps directly onto mini- computers screens, using appropriate software
- Mobile learning takes from the learner environment, the real environment for learning.

FOURTH PHASE: SIMILARITIES AND DIFFERENCES BETWEEN M-LEARNING AND E-LEARNING

The difference between reading the papers the book and browse the Internet, is the method of access to information, and that the difference between e-learning and mobile learning is a way to access information as well, but the technical development and the requirements of the current stage, switching from wired to wireless revolution that creates a set of positions of similarities and differences between both models.

Many researchers define that E-Learning is a subset of Distance Learning; Mobile Learning is a Subset of E-Learning. The conceptual mobility from E-learning to M-learning then to u-learning is given in below Fig. [1]

Fig 1: Comparisons and flow of e-learning, mobile learning, and u-learning



4.1 Similarities:

- To obtain similarities of E-learning and mobile learning, each of them needs an infrastructure and a broad base of community in dealing with wired or wireless computer technology.
- Each of them needs high- cost technology system.
- Provide a kind of digital culture which focuses on process knowledge and information.
- Both models used the style of problems solving, and the development of creative
- Definitely student is the focus and targeted by the educational process by all it senses and activities, in both models (self-learning).
- Students can access to the Internet and browse both models.
- Accommodate large numbers of students in both models.
- Updated educational materials always will be possible in both models.
- Allows contact and communication between students and teachers at anytime, anywhere on the one hand, and between the local and global community on the other hand via e-mail and SMS.
- Content in both models will be in the form of text, graphics, animation and still images and footage Video.

4.2 The Differences:

- There are many devices used in e-learning such as fixed wireless desktop and laptop computers. While in Mobile learning uses electronic devices mobile wireless cellular, smart such as telephones, digital assistants and mini-computers.
- E-learning will be contacted by telephone to the internet service if available. While in mobile learning wireless communication anytime, anywhere.
- E-learning exchanging letters between students through Internet. While in mobile learning exchanging messages between students easily features through 'MMS & SMS.
- E-learning difficulty transporting devices among the educated, while easily passed between students in mobile learning.
- E-learning techniques used for storage is greater than the techniques used in mobile learning.
- E-learning is difficult to exchange books and transfer files between the educated. While Mobile learning environment enable to exchange books and files via Bluetooth technology, or by using infrared.

- E-learning communication may be unsafe because the learner is using more than one device. While learning in the mobile communications safe because the learner uses a special device that connects with others.

FIFTH PHASE: THE CHALLENGES OF IMPLEMENTING M-LEARNING

The characteristics enjoyed by mobile learning , and the benefits that accrue to the learner from the use of this type of learning , are many and varied and endless, but there are still some challenges to the ways of applying this learning between now and then, and these challenges appear in:

5.1 Technical Challenges:

- Copyright of the content of education rights (security and protection of educational content).
- Availability of resources necessary to meet the display frequency bands and rapid flows appliances.
- Short battery life, small screen size and the size of the keys.
- Storability modest.
- Successive and rapid development in the production of mobile learning devices and change their models, It makes it difficult to keep pace

5.2 Educational Challenges:

- E-Learning evaluation, assessment process and follow them outside the classroom
- Fraud in the learning process.
- The digital divide between users of mobile devices to students' education.
- How to support the learning process through a variety of courses and educational contents.
- Design and preparation of curricula and educational content.
- Mobile learning attitude of learning and teaching theories.
- Academic and personal turmoil for some students.
- Savvy students in technology and non-savvy.
- Could create a kind of feeling of isolation for some students.
- Difficulty of using animation in mobile learning.
- Teachers and learners needs to be adequate training.

5.3 General Challenges:

- Some mobile learning devices are expensive.
- Needs a clear strategy.
- The differences between some of the concepts of electronic and mobile learning.
- Geographic and topographic boundaries.
- No limit to the demographic.
- May require some messages directing and teaching materials in multiple formats.
- Students may allow contacts outside the framework of the educational process.
- Can be easily lost or stolen.
- Less strength and durability and bearing of office equipment.
- Needs to infrastructure and wireless networks and modern devices.
- Security breaches for wired and wireless networks sometimes.

VIII. CONCLUSION

Mobile learning as a new technology that was imposed by the fast development of the technology, even though there are some disadvantages, M-learning will become more popular with the progress of information and communication technologies. The study also pointed to the need to reconsider the education process components and techniques used where even has the ability to accommodate technical developments, and thus be able to meet the different needs of students and to keep pace with modernity The M-learning community is still fragmented, between academic, industry, school, and between higher education and lifelong learning sectors. Mobile learning may currently be most useful as a supplement to ICT, also to an online learning and more traditional learning methods, and can do much to enrich the learning experience. Although these issues have been handled, but there are some topics that haven't been touched.

In front of all the rippling of technology, and information revolution, and their impact now and on the future especially on the educational field, and in the light of what came in the literature of the study and its effects, the researcher recommends the following: first, reconsider the programs and curricula and strategies for their implementation, in order to absorb the concepts of electronic and technological revolution, and integrate them into the classroom, in a manner to achieve freedom and creativity requirements, and meets the needs of individuals and society for life.

Second, emphasize the importance of mobile learning and its ability in the educational process, being served in many segments of society, away from the limits of place and time limitations, also emphasize the importance of the use of educational technology in teaching as well as information technology to access to the era of communication and information revolution.

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