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Mobile Learning adoption in the Middle East: Limitations, Challenges and Features of the Mobile Devices

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Abstract
In light of the increasing use of Mobile learning (M-learning), there is a need to understand the challenges and the feature of using M-learning. M-learning has become an essential tool in all universities around the world. However, little is known about the implications and challenges of M-learning in the Middle East. Thus, the purpose of this paper is to investigate the limitation, challenges, and features of M-learning. The paper has three aims: First, it investigates the adoption of mobile learning in the Middle East. Second, It identifies the success factors, challenges, and limitations of mobile learning. Third, it focuses on the classifications of Mobile Technology for learning, which includes the features of mobile devices, pedagogical advantage, and user's expectations. Suggestion for academia and practitioners are given in this paper.

1. Introduction

Expanded advancement in innovation combine with a extend of desires and needs from a variety of partners to make it basic for instructive institutions to continually overhaul the techniques and arrangements for educating and learning with competitive and progressive way. The entrance of information technology (IT) has great opportunities for learners to gotten to be progressively computer proficient. Mobile technologies are broadly utilized in numerous diverse settings, counting excitement, commercial applications, and education [1], [2]. More people tend to have more than one portable gadget and utilize them on everyday premise [3], [2]. In an instructive setting, mobile devices offer modern conceivable outcomes to bolster educating and learning [2].

The integration of versatile gadgets within the instructive framework presents gigantic openings extending from moved forward productivity to openness of instruction to communities living in farther zones [4]. In later a long time, critical propels have been accomplished in data innovations. With the expanded utilize of cutting-edge communication advances, modern terminology for example e-learning and mobile learning was arisen. All e-learning methods, which take advantage of data innovations for example web and interactive media framework, were created to exceed the quality of learning by encouraging get to assets and preparing administrations [5].

In later a long time, increment within the utilize of mobile technologies has influenced different benefit segments such as managing an account, tourism, and library investigate. mobile devices, as a result of this development, have entered into exhibition halls, work environments and classrooms supporting learners interior or exterior the formal education systems [6]. Mobile learning is presently the most current innovation to attain ideal learning advantages, by giving the opportunity for instructors as well as learners to get to instructive materials and administrations through portable gadgets at any time and place [7].

M-learning can be characterized as the acquisition of any information and aptitudes through the utilize of portable innovation at anyplace and anytime of the day [8]. Portable innovation devices are the result of two meeting innovations: computers and mobile phones. Various stages are accessible, each with its possess points of interest, specialized determinations and fetched [9].

The advances in portable innovation and the progressively fast expansion of versatile gadgets, such as smartphones and tablets, are changing learning forms [10]. Mobile devices are progressively getting to be an imperative component in people's existence exercises and such gadgets are presently used in different spaces such as managing an account, commerce and instruction [11]. The portability of innovation depicts the ubiquity of the mobile devices such as smartphones, advanced cameras, media players, iPods and individual advanced help gadgets (PDAs). The portability of

the learners regards the reality that learners are not as it were inaccessible from their educates, but they have the complete opportunity of controlling completely their get to of data on their versatile gadgets, which is done freely.

Supporting this view, Uden [12] opined that portable innovations offer unused openings for students' instructive exercises in that they can be utilized over diverse areas and times. The versatility of learning sees learning preparing from a relevant point of see. "The setting is absolutely person – totally diverse from the inflexible cost of the conventional classroom or address room, and the computer laboratory" [9].

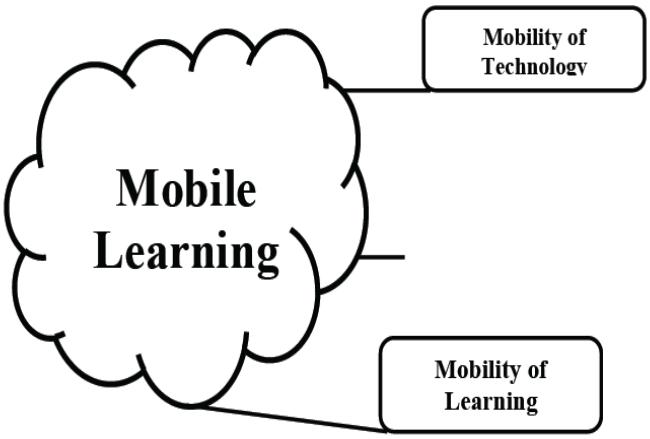

Figure 1: The three concepts of mobile learning

2. Mobile learning in Middle East

Within the bounds of Middle East, E-learning is exceptionally full of promise both to organizations and instructive educate. Versatile gadgets have revolutionized communication and excitement frameworks of the world today. However, the instructive gain from portable devices still unexplored within the least developing countries in the zone of Middle East [4].

There are as it were few nations that may use the mobile devices in education and learning environments very viably. Those nations incorporate USA, Taiwan, South Korea, Japan, Singapore, Australia, European Union and Malaysia as well. Developed countries have made solid procedures and approaches to take care of the 21st century instructive require. Those techniques are unsuccessfully investigated in Middle East. There are four great stimulations within the rise of mobile learning advertise in the zone of Middle East which incorporates: buyer request for mobile learning applications, widespread publication of tablets within the instructive segments, endeavours for digitization at the country level through schools' education within the local language, and the quick selection of mobile learning within the segments of the higher education [13].

Concurring to the International Telecommunication Union (ITU), the countries in Middle East have a few of the most elevated versatile entrance rates within the world. Within the increasing number of portable gadgets in the zone of Middle East, portable network is exceptionally great for well internet network. It can be apparent for Omani Authority of Information Technology , that the nation has higher than 150% of versatile entrance rate per tenant for versatile web administrations. Thus, each Omani school, organization, office domestic, and trade has got to the World Wide Web. Maximum vitally, they will ability to utilize the web availability within versatile innovations associated, execute, and pick up the desired of information. The most key driving components of portable network notoriety in Oman is the conventional landline alternatives which basically inaccessible or are restrictively badly designed to get to numerous districts within the nation [14].

In this manner, wireless technologies is the most web framework. The web administrators give 4G and 3G systems and they have propelled 4G Long-Term Advancement (LTE) administrations. In show disdain toward of an impressive versatile and the network penetration, a few discoveries within the Middle East locale have uncovered that partner needs mindfulness and some benefits within the mobile learning. The need of mindfulness within the partners almost the great positive instructive esteem that that could be included in versatile phones, and a generalized conservatism with regard to utilize the portable phones by youthful individuals, moreover, serve as repressing variables for appropriation of mobile learning in these nations.

Few nations of the Middle East are takeover activities in presenting mobile learning to their instructive framework, such as Saudi government has started ventures of distance and mobile learning JUSUR (Saudi Learning Management System), also Digital Library in Saudi Arabia. Moreover, The Qassim College of Medication in Saudi Arabia is the primary higher instruction college, which giving mobile learning. Mobile learning framework of a nation based on the national broadcast

communications also data framework. The instructive organization should have legitimate foundation for a legitimate preparations of mobile learning arrangements [4].

Mobile learning companies in educational sectors much less advanced international locations in the Middle East zone are less focused on the inexperienced persons' traits and styles. Maximum of the existing materials are not organized well as the non-academic. In Saudi Arabia, Mobile learning have faced the troubles of custom designed materials. For instance, an examine at King Khalid University, found out the interference among gaining knowledge of and non-learning materials on social media [14].

M-learning suppliers in instructively less created nations of Middle East are less focused on student characteristics and methods. Many of the accessible substance are disorganized in addition to that non- educational. In Saudi Arabia, mobile learning confronts the issues of planed substance. For illustration, a ponder at Lord Khalid College, uncovered that the impedances among non-learning and learning contents on the social media [14].

3. Success factors, challenges and limitations

The hit task will result a continuous positive circumstance or gain development thus fulfilment factors are crucial for the sustainability of mobile learning. Papanikolaou and Mavromoustakos [15] treated the troubles as critical success factors for the improvement of mobile learning programs for example perception of traits, distinctive feature and qualifications of the diverse cellular devices and the technologies for using in m-learning knowledge of, learners' necessities and needs also exam for the best modules that are usability, capability, performance, maintainability, reliability and portability. In line with Bates & Poole [16] the suitability of the technology for college learners, reliability, ease of use and, prices, coaching and getting to know techniques, cooperating, structural problems, modernity and pace are critical elements. Moreover, for fulfilment factors, obstacles and demanding situations are also crucial for preserving a specific condition or development.

Al-Bahadili, Issa, and Abuhamdeh [17] designated some restrictions on cellular devices along with software, hardware, and network restrictions. Ting [18] studied the future challenges of mobile learning and acquiring knowledge, they stated three challenges: the idea of adapting mastering, which should be educational strategies and studying content material need to design in a way to adapt to learner's characteristic and individual wishes, the confined text show in addition to the response time and region.

Berge and Kearsley [19] clarified the distance schooling sustainability and obtained a huge form of responses. Some responses are cope with layout and developing: fees and time related to the improvement of e-learning; retaining up with fast adjustments in generation; figuring out what schooling necessity could be first-class to meet the way of e-learning; designing and maintaining hobby in e-learning; an excessive amount of time spending on the development of the generation and not enough at the coaching [20].

4. Classifications of Mobile Technology For Learning

In understanding the real idea of usage mobile technology for learning, Traxler [21] opined that classifying the mobile learning will facilitate tackle the matter of definition from completely different direction. Traxler [21] thus classified mobile learning through the utilization of technology into the following:

i. Technology-driven mobile learning – a particular mechanical advancement is sent to demonstrate specialized achievability and academic plausibility, maybe the modern iPhone.

ii. Miniature but convenient e-learning – mobile, remote and portable devices are used to re-enact approaches and arrangements found in customary e-learning, and possibly transfer innovation based on e-learning to multi-use devices.

iii. Classroom-related learning – the same innovations are used in a classroom preparation to promote inactive cooperative learning, and may be related to other classroom innovations; individual reaction frameworks, graphing calculators, PDAs connected to intuitively whiteboards and others.

iv. Mobile training and performance support – the innovations are utilized to progress the productivity and effectiveness of versatile laborers by conveying data and back just-in-time and in setting for their quick needs, parts and obligations.

v. Large-Scale Implementation – the sending of portable innovations at an organization or departmental level to memorize approximately organizational issues vi. Incorporation, assistive and differences – utilizing grouped versatile and remote innovations to upgrade more extensive instructive get to and interest, for illustration individual data administration for understudies with dyslexia.

vi. Casual, customized, arranged mobile learning – the same centre innovations are improved with extra interesting usefulness, for illustration location-awareness or video-capture, and conveyed to provide instructive encounters that would something else be troublesome or outlandish; for illustration casual context-aware data in gallery spaces.

vii. Remote, rural and advancement mobile learning – the advances are utilized to address natural and infrastructural obstacles to conveying and supporting instruction where 'conventional' e-learning advances would fall flat [21], [9].

4.1. Features of the mobile devices

Highlights of the gadgets were advance categories into three perspectives, to be specific: ease of use, technical and functional.

4.1.1. Usability

From the convenience viewpoint, mobile learning tools are few, light, and versatile [22]. These highlights make learners feel comfortable because learning is not necessary for classrooms as there are bulky backpacks containing piles of books and other educational materials. This flexibility makes the way of information is adaptable and can be implemented anytime, anywhere.

4.1.2. Functional

Functionally, the gadgets can give accurate and unrestricted data [22], [23], [24]. There is time when learners must obtain certain data quickly. For illustration, quick answers to specific questions such as definitions, equation and condition. Utilities will be provided for learners to quickly search for this data. Moreover, the progression is another useful angle.

Mobile learning can be a learning show that allows learners to capture learning materials anywhere and anytime. Being able to move forward with learning without the necessities of time and region, is a vital component affecting how to convince learners to use their mobile applications [25], [24]. Learners' access to data and learning does not stop essentially since their area. Without a doubt, learners can reach different places and link them in multiple places and in multiple circumstances.

4.2. Learner's expectations

4.2.1. Ownership

Naismith and Corlett [26] studied numerous fruitful versatile learning ventures within the procedures of the m-Learning conferences in the period of 2002-2005, and distinguished five basic victory highlights. One of five important variables said within the ponder is possession. From the other point of view, the user will be more motivated.

4.2.2. Privacy

When compared to portable computing tools with other computing tools (such as a tablet and PC), of course, the precedent provides learners with a sense of security. Mobile apps give the private virtual world to learners who feel safe and pushed. Feeling safe will provide multiple reasons for learners to associate with the tool. Learners can access and download data independently from other learners [27], [24].

4.2.3. Self-Regulated learning (Control of the learning)

Researchers simplify the importance of allowing learners to exercise more control over learning their demands. Learners are more likely to access learning encounters if they are able to claim a more dynamic role in their learning [28]. Versatile education provides an opportunity for learners to be in the middle of the preparation process, playing a dynamic role from setting their goal to arranging an assessment. Once effectively locked into the task, they will most likely create educational methodologies that help improve their learning, and thus contribute to their inspiration. Unlike other advanced media, it can carry a versatile tool all the time and give its customers an incredible amount of control over how and when they access their mobile devices [24].

4.2.4. Flexible learning

The long ingenuity of learners nowadays makes learning adaptable to the core. Mobile learning have opened more openings to learn to ask to be placed in any situation of time and time. Learners are free to be in a region completely different from the coaches, to study according to their speed and time given their possession of the equipment and the organization of the foundation [29].

4.2.5. Life-long learning

Because of the current financial and social change and the transition to a knowledge-based society, lifelong learning has resulted in an essential national drive in most countries. Mobile learning is seen as one tool that can be embodied in deep-rooted learning. HandLeR and relative extension at Tampere College of Innovation (Finland) [30] have researched lifelong learning through portable tools.

4.2.6. Fun Recreation

Fun recreation is an essential character that influences the use of mobile applications. Prensky [31] claims that advanced recreation is not just for fun, or for the necessary scrutiny of subjects, it can moreover be used exclusively for learning. Learners learn all the capabilities that are included in each level within the entertainment, and they end up participating and persuading and do not realize that they are in learning the truth. Usually, where Prensky claims that while learners play conversion, they feel height and interaction that they don't feel regularly while "learning" at school. In this way, these advanced conversions ended up being an alternative to the world of learning where everything learners are old-fashioned, essentially boring.

4.3. Pedagogical advantage

The researchers highlighted a few experimental considers that have demonstrated versatile gadgets can back the educational approaches or techniques underneath.

4.3.1. Collaborative learning

Social consideration is an important factor for collaborative learning. Scholars work together to achieve one common goal. Open to, the versatile gadgets revisit and allow more openings for support, and as a result, learning becomes more useful. Many researchers advocate the use of portable innovations that further integrate learners into the learning handle [27], [32].

4.3.2. Blended learning

Blended learning is one of the learning styles which combines two styles, it mixes the study in classroom and study online. The mobile learning can improve and maximize the face-to-face style [32]. The learners could do their assignments and projects using the versatile gadgets after a course session with their coach.

4.3.3. Interactive learning

Portable advances also support intelligently learning environment. The versatile gadgets act as intelligent professionals who allow to transform levels of interaction and engagement with innovation, thereby enabling the way to recognize what is happening which indicates that learning is happening [33].

4.3.4. Experiential learning (Learning in context)

The diversity of tools allows learning that is not forced into educational situations. The devices create the relationship between school and other regular exercises [34]. This gives the idea that instructions can go beyond class preparation and important "things" for learning itself can be entered in the classroom and can improve various visiting angles for learning purposes [24].

4.3.5. Problem-based learning

KNOWMOBILE project in Norway is one case that versatile learning underpins Problem-Based Learning. PDAs and smart phones were utilized for test in therapeutic instruction of understudies from the School of Medication at College of

Oslo. The learners effectively find and work with substance in problem-based learning that they decide to be vital to fathom the issue given by the educator [24].

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