M-learning in education: practical assessment of a new education tool in Open University Education

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ABSTRACT: The latest mobile and wireless technologies offer a wide range of possibilities in academic sectors. In this digital world every individual uses mobile devices, as it is the fastest means for direct access into any website or link. In higher education sector most of the students depend on smart phones to gain information related to their studies. In the expanding distance learning world mobile learning also known as m-learning is a comparatively new tool which assists students as well as academicians because of the availability of easy navigation options. Educational researches show that mobile learning is a rapidly growing method of learning that utilizes mobile devices to deliver content. This research work is oriented to measure the acceptance of mobile learning as blended learning tool in Arab Open University (AOU), Bahrain branch. AOU uses multiple sources providing academic information to students through various electronic communication sources such as Learning Management System (LMS), SMS messages and emails. The researcher demonstrates a mobile application which provides an instant and direct access to the services to AOU students instead of accessing required information through various resources and websites. After doing detailed study and analysis of the problem in information access some decisions have taken to build an integrated system which will be used in mobiles platform. The developed mobile application can offer customized m-learning experiences to fit with students smart phones such as the provision of course content, student support services, student-to-student interactivity and student to tutor. This research paper concentrates on describing the technical and pedagogical usability criteria and an evaluation for the mobile application's advanced features of mobile learning and environments. Recently many universities provide their services through smart phones that have seen in recent years the IT growth. AOU is one of the technologically advanced universities, students need of information about their university life to be accessible and available to them at anytime and anywhere also not to rely too much on the Internet to extract the information or relying on traditional computers to obtain information.

Keywords: m-learning, blended learning, mobile applications, open education

INTRODUCTION

The development of mobile technologies is rapidly increasing on a global scale. As a result, m-learning is gaining popularity in the domain of both learning and teaching. The evolution of handheld portable devices and wireless technology has resulted in major changes in the

social and economic lifestyles of people. Today, many technological devices are produced in portable form and all generations have become familiar to them. These smart devices are reshaping daily life of people in different ways. M-Learning is a technique that uses mobile and wireless technologies for learning and education. The open learning platform employed by the AOU is a form of distance education with added enhancements to ensure a quality learning experience for students. Unlike education by correspondence, whose main drawback is the lack of faculty-student interaction and inadequate quality control systems, the AOU open learning model has robust quality assurance systems in place and offers its students blended learning through the provision of high quality learning materials, a dedicated tutor and other forms of support. Pure open and distance learning systems revolve around the idea of tutored independent learning but the AOU blended learning model includes a key role for the course tutor.

LITERATURE RESEARCH

Mobile devices are increasingly becoming the first go-to device for communications and content consumption, according to Gartner, Inc. In the emerging economies, users are adopting smart phones as their exclusive mobile devices while in developed economies, multi-device households are becoming the norm, with tablets growing at the fastest rate of any computing device. As such, Gartner predicts that, by 2018, more than 50 percent of users will go to a tablet or smart phone first for all online activities [4]. As smart phones and tablets become more user-friendly and powerful, they will tend to replace desktop and notebook computers: it is estimated that the number of smart phones and tablets sold in 2016 will be 1.34 billion and 384 million respectively. M-learning is a new stage of e-learning in education [2]. According to Attewell, J., & Savill-Smith, C. and Hilton, J. m-learning has the ability to learn everywhere at every time through use of mobile and portable devices [1][5]. According to Motiwalla, L. F. and Hilton, J. the ongoing challenge remains as to how best improve learning and teaching methods for tomorrow's workforce [7][5]. The term m-learning or mobile learning refers to any sort of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies such as mobile phones and hand-held computers to enhance the learning process. The hand held devices such as smart phones and PDAs with their ability of connect to wireless

networks facilitate M-Learning. M-Learning provides academicians and learners a different experience from the traditional classroom concept. The portable smart devices provide academicians and learners flexibility in leaning methodologies with more communication as well as interaction opportunities. According to Sharma, S., F.Kitchens the change from e-Learning to m-Learning will excite the change in the educational Paradigm [8]. There is now little doubt that the World Wide Web is the most successful educational tool to have appeared in a long time. It combines and integrates text, audio and video with interaction amongst participants. The term M-Learning or "Mobile Learning", has different meanings for different communities, that refer to a subset of E-Learning, educational technology and distance education, that focuses on learning across contexts and learning with mobile devices. Mobile learning has many different definitions and is known by many different names, like M-Learning, U-Learning, personalized learning, learning while mobile, ubiquitous learning, anytime / anywhere learning, and handheld learning [9]. M-learning is e-learning through mobile computational devices: Palms, Windows CE machines, even your digital cell phone [10]. Mobile learning is considered to be the ability to use mobile devices to support teaching and learning. M-learning is a new stage of e-learning having the ability to learn everywhere at every time through use of mobile and portable devices.

METHODOLOGY

The purpose of this study was to assess the effectiveness of the M-Learning mode of education against Face-to-Face mode. The study was also designed to determine the extent to which students accepted the M-Learning education delivery approach. The main objective of this study is to explore the perceptions of students about using mobile communication tools in web-based instruction. Further, this study will compare m-learning against traditional learning. The objectives of the research are:

- To evaluate the scope of use mobile learning by Open University education.
- To determine the perceptions of Open University students about mobile learning technologies.
- To evaluate the adaptability and performance of the developed mobile application

The researcher have used literature research to collect related information about m-learning, analysed AOU's IT infrastructure to evaluate the adaptability of m-learning , designed a proposed model for m-learning using mobile application.

The mobile application was developed based on the problems identified from the use of multiple information sources used by AOU students such as "time consuming", "slow process and can cause a lot of delay in acquiring the information required" and "not suitable for instant access". In order to solve the problem identified the researcher has come up with the idea of creating a smart phone application that includes all the basic information that the students need during their study period. The suggested advantages of the mobile application are it "provide instant access to university resources for students and teachers", "easy to handle" and "no delay can occur". Data will be available offline as well as online, so Student data can be accessed and viewed without needing internet connection. Figure (1) shows that the Information Technology infrastructure in AOU supports the mobile learning and Figure (2) shows the suggested model of the mobile application.
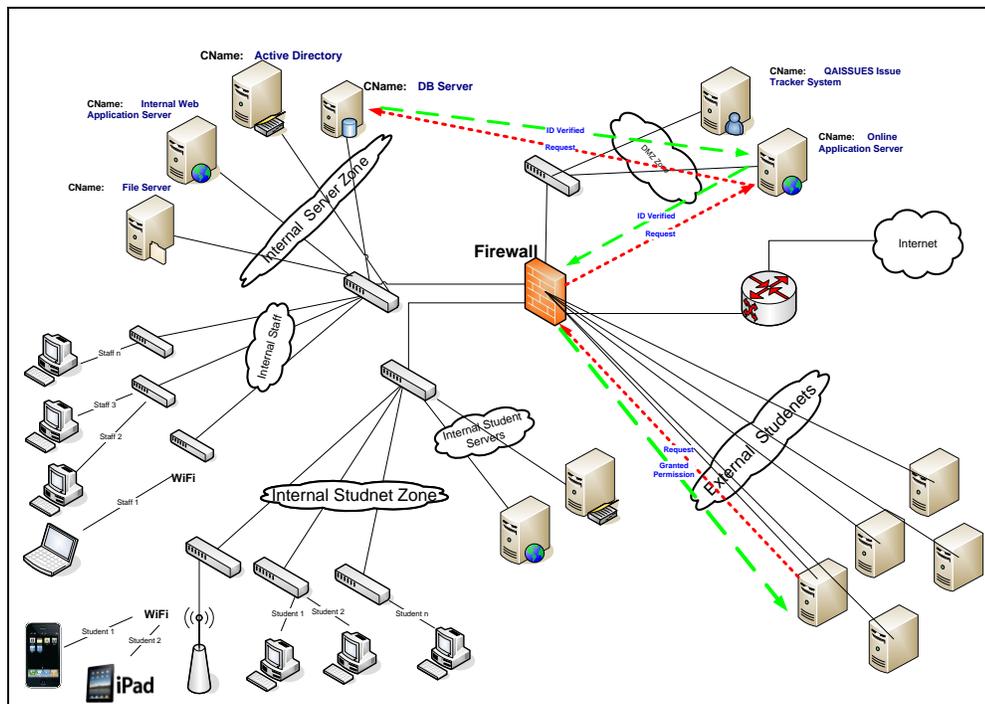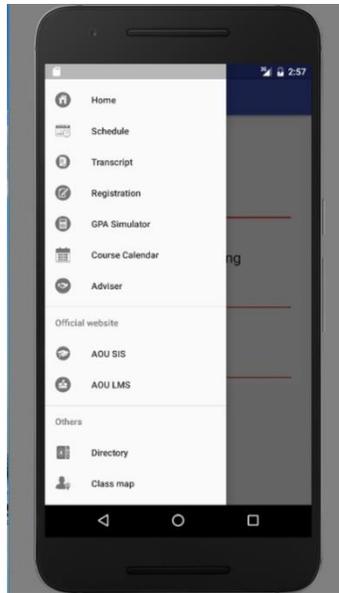

Figure 1: AOU – IT Infrastructure of blended learning system (including m-learning)

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Figure 2: Suggested model for M-learning using mobile applications

The features of the Mobile Application

- The interactive events will enable students to look at any updates published by tutors to the students.
- An alert will be sent in case of any university announcements or notifications that concern students.
- The alert will notify the students to check LMS website or SMS in case a notification was sent to the students.
- The students will be able to generate transcript for specific semester.
- The directory will allow students to know important contact numbers and email address in university without checking multiple resources in AOU sites.
- The students will be able to register courses for new semester.

In addition to the event notifications and the interactive calendar, the app will also provide an instant access to the official university sites. Communication between tutors and students will be faster and easier than it is now, the teachers will be able to disseminate broadcast message for students involved with them in the specific subject. Moreover, the application includes a

side bar that holds links for main features such as student profile, student schedule and notifications.

SYSTEM DESIGN AND DEVELOPMENT

The researcher will include the Mobile Application development and implementation in this section.

DATA ANALYSIS AND RESULTS

The researcher will include data analysis and results in this section.

SUMMARY AND CONCLUSION

The evolution of handheld portable devices and wireless technology has resulted in radical changes in the social and economic lifestyles of modern people. Mobile learning will be regarded as a core pedagogical activity in higher institutions of learning due to the advancement of digital technologies. Mobile learning helps learners to improve their literacy and numeracy skills and to recognize their existing abilities. Mobile learning can be used to encourage both independent and collaborative learning experiences. Mobile learning helps learners to remain more focused for longer periods.

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