SWITCHING FROM E-LEARNING TO M-LEARNING IN HIGHER EDUCATION

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Abstract

Due to increasing use of mobile devices and its latest features, E-learning concept is switching to M-learning that is the intersection of mobile computing and E-learning. It has great potential to make learning even more widely available and accessible. As far as Higher Education is concerned M-learning can offer opportunities for optimizing the interaction between educators and learners and also because of mobile devices learning can possible anytime & anywhere. M-learning can contribute to improve the quality and interaction in the learning process. The present study aims to study the different factors for switching from E-learning to M-Learning in Higher Education Environment.

INTRODUCTION

The term **m-learning** or "mobile learning", has different meanings for different communities, covering a range of use scenarios including e-learning, educational technology and distance education, that focuses on learning with mobile devices. Mobile learning is defined as "learning across multiple contexts, through social and content interactions, using personal electronic devices" [1] (Crompton, 2013 p. 4) In other words, with the use of mobile devices, learners can learn anywhere and at any time.[2]

M-learning technologies include handheld computers, MP3 players, notebooks, mobile phones and tablets. M-learning focuses on the mobility of the learner, interacting with portable technologies, and learning that reflects a focus on how society and its institutions can accommodate and support an increasingly mobile population. There is also a new direction in m-learning that gives the instructor more mobility and includes creation of on the spot and in the field learning material that predominately uses smartphone with special software such as AHG Cloud Note. Using mobile tools for creating learning aides and materials becomes an important part of informal learning.

This may be the banner year for m-Learning, where large numbers of folks access university services using an alternative, usually portable device. Where e-learning time-shifts, space-shifts and redefines the social experience of education, m-learning substantially accelerates these effects via 1) a range of devices that provide new and unprecedented functionality and 2) the ability to have learning opportunities occur in the same context where they are applied (aka situated learning), via a continuous connection to the internet. [Campus wireless information]

m-Learning applications might include, for example, videoconferencing with colleagues while studying, recording audio and video on a field trip on a camera-phone, using the global positioning system to orient a research study or explore an ecosystem, or superimposing educational models over visual experiences in real time (augmented reality, in education).

1.1 Current capabilities and applications

Basic mobile phone features include:

- Making and receiving calls
- Sending and receiving text messages
- Basic office tools e.g. calculator

Advanced***** mobile phone features include:

- Bluetooth
- Camera capable of taking stills and more commonly now video
- (e-book readers, games)
- Recording audio
- GPS / location aware
- Web browser to connect to the internet

* The term **Smartphone**

It is quite common to hear the term 'Smartphone' which is meant to signify that it has many features that traditional mobile phones do not. However in the last few years this gap has blurred as nearly all new phones would fit in this 'Smartphone' label so we will just be using the term 'mobile phone' as we are looking at current and emerging mobile phones.

By now, it should be clear that with the wide range of mobile phone functionality, there will be many potential uses for mobile devices in education, including the creation and delivery of content. Not directly related to the teaching itself, there are also potential secondary benefits, such as the possibilities for making the teaching environment (smart buildings) more aware of learners based on their mobile phone acting as a beacon or identifier and then both parties having the ability to respond or act on pre-defined inputs and outputs. For example the Mobile Campus Assistant Project gives learners information about PC availability and bus departure timetables in nearby campus buildings.

2. OBJECTIVES OF THE RESEARCH:

The objective of the research is to study the need mobile learning in higher education for making learning more interactive and accessible in higher learning system following are the objectives of research.

1. To study the technologies used in higher education for interaction
2. To know about availability of mobile technology
3. To ascertain the utility of mobile in higher education system
4. To propose M-learning conceptual model for higher education system.

3. M-Learning Technology

The Available m Learning Technology broad categories include PDAs, mobile phones, and MP3 players. Generally, mobile devices can be defined as electronic devices that are small enough to fit in a shirt or jacket pocket. Mellow (2005), states that, "This would include such devices as mobile phones, portable digital assistants (PDAs) and *iPods*. It would not include laptops, as while they are portable, they are not mobile . . . Mobile devices should fit in your pocket" . In relation to the widespread availability of these devices, Petrova (2004) says that, " . . . Now the mobile communication devices are exceeding the number of personal computers" Finally, Trifonova and Ronchetti (2003) define mobile devices as, ". . . by mobile device we mean PDAs and digital cell phone, but more generally we might think of any device that is small, autonomous, and unobtrusive enough to accompany us in every moment of our every-day life, and that can be used for some form of learning".

It is interesting to note that these definitions, by default, eliminate notebook computers from classification as mobile devices. As Mellow(2005) stated, there is a distinct difference between portable and mobile. The prime characteristic of mobile devices is that they are carried on a regular, if not constant basis. The old routine of picking up car keys and wallet every morning has for most people expanded to include at least a cell phone, if not a PDA and MP3 player as well. It is this constant access to the devices that drives m-Learning as a viable delivery system.

## 4. Switching Gear Moving from E- Learning to M-Learning:

With the increasing number of electronic devices like mobile phones, PDA, laptops, tablets. Students of higher Education are switching from E-learning to M-learning because of increasing number of portable electronic devices. With the development of Bluetooth, Wi-Fi, WAP, GSM and GPRS, The technological structures for wireless telephony and wireless computing are now firmly in place.M-learning, or mobile learning involves delivery of digitized content to either wireless phones hooked into laptops or personal digital assistant. The wireless technologies of the mobile revolution have seen the worldwide proliferation of wireless communication devices. The idea behind m-learning is that it allows on the go professionals to connect to training courses anytime and anywhere. M-learning can include anything from job aids and courseware downloaded on personal digital assistant to Net-based, instructor facilitated training via laptop. M-learning allows users to access IT courseware modules via the mobile LMS system. The Microsoft and CISCO courses, covering telecommunication fundamentals, TCP/IP, UNIX and javascript are already available in m-learning format. Mobile technology enables schools to extend learning beyond

the walls of classrooms. Mobile devices can be loaded with applications. Such as financial calculators, reference books, literature books, coursework organizers, and word processors etc. the academic environments have already started experimenting with this technology to develop new ways to enhance the educational experience of its students and the teaching experience for its students and the teaching experience for its faculty. Because of increasing technology in mobile devices and internet facility in it people are switching towards M-learning Environment.

5. Proposed M-learning model for Higher Education Institute:

The present study revealed that M-learning will be suitable in Dr. RafiqZakaria Campus for Higher Learning Aurangabad. The findings justify the proposed model which discovered the following.

→ 92% Staff is already aware about learning facilities available in mobile devices.
→ 100% of staff in the institute having mobile devices
→ 95% of staff in the institute having internet facilities in mobile devices
→ According to staff 75% of students from remote areas ask their queries using mobile phones.
→ 85% of staff feel mobile is easy to operate as compared to PC.
→ 72% of staff opined that study material should also be supplied in audio visual, graphical and textual form.
→ 95% of staff feels M-learning can make learning easy in higher educational environment.
→ 70% of students feel mobile easy to operate as compared to desktop
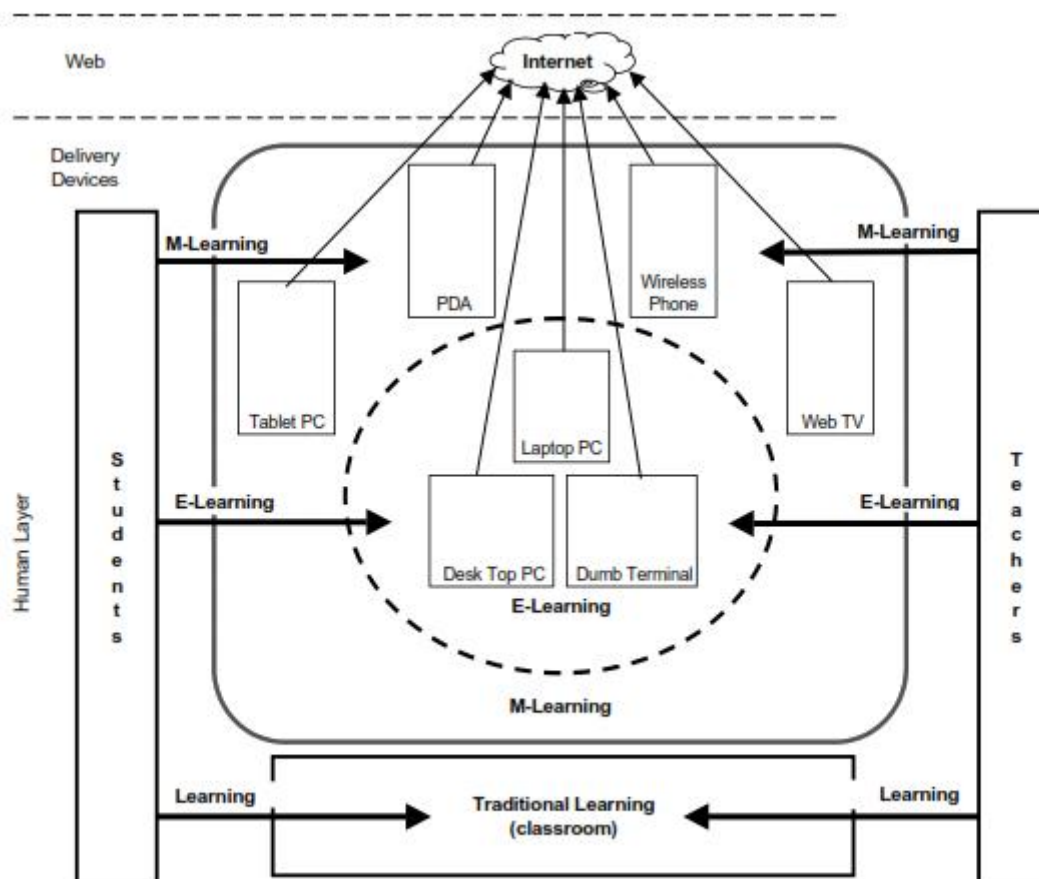
5.1 Application layer :

It is the user interface layer which provides various services between students and teacher which include administrative services like admission services, fee submission, grade sheet and language translation. Also use to communicate between student and teacher.

5.2 Delivery Device Layer:

This layer is used to receive the content using internet internet enabled multiple devices. The flexible services architecture support all purpose personal communicator systems geared to societies "on the go", including multifunction cell phones, e-mail capability, PC, Web surver, fax, video television, picture phone.

5.3 Human Layer:

This layer consists of users of M-learners which are students teachers and administrator which creates the services, and they interact which application layer and also there will be direct student teacher interaction (communication).

To implement the above services architecture for m-learning, the m learning technology environment may include mobile device such as pocket PC, mobile phone, and portable keyboard. M-learning device will have the power of desktop computer that gives access to PDF reader, MS-office , media player, Digital dictionaries, pocket internet services, Internet explorer, outlook express, e-mail.

6. FINDINGS AND CONCLUSION:

The age group of higher education is between 20-25 Years of age. The staff profile has shown that 85% of the staff is Ph.D. holders, this suggests that highly qualified staff is available in Dr.RafiqZakaria Campus of Higher learning. It is also found that phone is most common mode used by students for asking their queries to staff regarding academic instructions or subjects as 60% staff feels that phone is common available medium in all students. Internet and mobile device is very useful for communication as 92% felt that they use internet for communication, for finding study materials, tutors ,e-mails etc. and they regularly use mobile for communication, dictionaries, address books, SMS and MMS.

Mobile devices are also used in emergency situations like if teachers require to give important notifications such as change in exam venue or time table. This is discovered 72% staff opined to prefer mobile phones and 28% opted to release a press not. Mobile is much easier to operate than desktop as 85% staff opined mobile is easier to use only 15% said desktop is much easy. This suggest that it is some time difficult to access internet everywhere at the place other than office or home, whereas mobiles are always available anywhere anytime even with internet facility. Students like to access internet through their mobile phones as 75% staff opined that they observed students like internet facility in mobile more compared to the other facility. This suggests students can be benefited if they are provided with facilities to learn using their mobile internet.

The highly qualified staff of the institute is already aware about internet and E-learning could be easily made available on mobile phones as it was opined by 95% staff and only 5% of staff unaware about it. M-learning can make higher education more easy. This is suggest that staff is ready to accept M-learning and this discovered justifies the proposed M-learning model. Average students are in the age group of 20 – 25 years of age pursuing their post-graduation and other professional courses.

Students are aware of internet and E-learning facilitates available with mobile phone. Majority of students ask their queries regarding academic instructions, exam registration and any subject topics etc. by using mobile phones and internet and few students rely on postal services. Students of the Dr. Rafiq Zakaria Campus for higher learning use mobile phones according to the finding 100% have their own mobile. As per statistics 72% of students wants both facilities internet as well as recorded lectures on mobiles, where as 28% are happy with old system. It is also noted that mobile learning can also helps slow learner and for cooperation and collaboration learning.

Most of the higher education students preferred to learn at their own pace, place and time viewing audio, video lectures, notes and also textual notes on their mobile devices. This is discovered from opinion of 78% of respondents who want to listen audio, video and textual notes of lectures on their mobile and 12% opted only for textual notes on mobile and remaining 10% opted only audio or video. Most of the students feels that mobile learning increase the quality of E-learning as it could facilitate learning anywhere anytime therefore students can spent more time in mobile learning.

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