Mobile learning in Education: An Overview

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Abstract

Tremendous advancements in the field of information and communication technologies have brought about tremendous changes in the world around us. M-Learning is also the result of the evolutions of these advancements. It has become the future technology to impart formal education in the best possible way to the learners. Although it is compact and convenient in usability still it has certain constraints of security and implementation. A positive attitude of the teacher and learner can enable in providing this mode of learning in the best possible manner. Policy makers, stake holders, politicians and administrators have to come forward and support this technology by enacting suitable measures for its widespread implementation and utilization in the education sector.

Introduction

The advancement in the field of information and communication technology has brought about tremendous revolutions in all walks of life. Mobile technology is also the result of these evolutions which is now being transformed from the means of communication to a tool of entertainment, socialization, teaching and learning. India is the second largest mobile phone user with over 900 million users in the world. Today all our day to day activities are networked through mobile phones may it be buying vegetables or fruits from market, calling out a auto rickshaw or rickshaw puller to drop you at the market, calling a maid or paying the bills etc. The era of television and cable phones has now become the examples of the past. Today the people talk about smart phones and tablet PC's. Initially it was known as the technology admired by young generations, but now it is the need of all age groups.

Mobile learning in education sector has become a pertinent issue now days because the present as well as future generation learners are demanding for access to information or learning materials from anywhere and at anytime as they move from one location to the other in a wireless environment. The concept had generated an excitement in the learners and teachers as there would be a reallocation in the whole set up of traditional educational environment. Time is not far away when everywhere in the world the books and notes would be replaced with very small and slender devices known as smart phones, notebooks and tablets. As a result the teaching and learning environment will become convenient, virtual, effective and entertaining and above all mobile.

Winters (2006) has highlighted four categories of mobile learning; firstly as techno centric- where learning is considered as use of mobile devices PDA's and mobile phones, secondly as its relationship with e-learning i.e., extension of e-learning, thirdly as augmenting formal education and fourthly as learner centered enabling the possibility of lifelong learning. Many colleges and universities are already using this technology as a teaching and learning tool by providing easy access to mobile communication technologies that are rapidly evolving to include local area wireless connections using

Wi-Fi, Third Generation (3G) mobile communications, and Worldwide Interoperability for Microwave Access (WiMAX), and related mobile computing devices such as smart phones, pocket PCs, tablet PCs, and various Personal Data Assistant (PDA) handheld devices. Many of them are in line to use them in best suitable way inspite of funding problem as they are now well aware that mobile technologies are the for the future learners and has enormous importance in education.

It is quite obvious that today's generation is not at all interested and motivated to learn through traditional modes of teaching rather they are more inclined towards alternative modes of delivery of instruction and interactive course materials which are faster, flexible, and more multimedia-enriched. The reason is that they have become habitual in using convenient, user friendly, speedy and multi-utility and above all low cost devices that provide them every sort of information anytime and anywhere.

The paradigm shift is happening so fast that even researchers and educators are finding it hard, in terms of time, to invent suitable strategies and modules to incorporate it in teaching learning or education. Till date researchers are actively involved in finding suitable techniques to integrate mobile technology in education sector effectively. Even teachers have their own fears they think that this technology although easy and widespread can be more of a distraction for the students and will inculcate the habit of cheating.

Even researches conducted on mobile learning emphasize that students feel active, increases the understanding of content, brings more collaboration and control over learning process and increases the achievement level of students in comparison to traditional methods (Guenther et al., 2008; McConatha et al., 2008; Al-Fahad, 2009). Study conducted by Rogers et al. (2010) revealed that mobile learning led to excitement and interest; while Williams & Bearman (2008) added that it brings about better understanding and enables better review of lecture concepts. However, still the content of researches lack the means of integrating them in education sector.

Benefits of M-Learning in Education

The impact of mobile technology is now pervading all sectors of society such as business, government, entertainment, including education. Following are some special benefits of m-learning in education sector:

- Provides freedom for anywhere and anytime learning.
- Easy to operate, and carry in pockets or handbags.
- Teaching and learning is self paced, flexible and quick.
- Provides immediate feedback and reinforcement.
- As it is the most used technology by youngsters therefore creates motivation and interest.
- Effective teacher taught relations as learning is spontaneous.
- Is cost effective as it replaces desktop with laptops and wired networks with wireless one.
- It can reach at those corners of the country or region which are remote and do not have any access to school, teachers and libraries.
- No need of infrastructural facilities, classrooms, libraries, etc.
- Improved team work, sharing ideas, commenting, evaluation, etc.
- Increases students content retention power.
- Better communication and fewer hassles.

- Easy installation and no wiring problems.
- Quick uploading and downloading of teaching-learning content.
- Added features of graphics, animation, etc. improves learning.
- Provides access to both audio and video conferencing.
- It is an environment friendly technology as no paper work is involved.

Thus, M- learning provides benefits of both mobility and reachability to both the teacher and learner.

Constraints of using M-learning:

Although the benefits of m-learning are greatly appreciated but like any other technology this one also has certain constraints and those are:

1. Security constraint
2. Lack of appropriate technology literacy or digital literacy skills among teachers as well as students.
3. Screen size and key size of the mobile phones or PDA's or other mobile devices pose hindrances in reading.
4. Input of long study material poses problem.
5. Problem of connectivity is sometimes irritating.
6. Battery life of few devices is very short.
7. Storage of data or content is of limited capacity.
8. Regular updating of technology is required otherwise it becomes obsolete.
9. Become distractive for some learners as they get involved in gaming, chatting, cyber crimes and often cheating.
10. Technical support, training, high cost and maintenance act as major constraints.

Mobile devices are currently being used by the students for informal purposes such as for chatting, sending or receiving SMS, entertainment, etc. rather than for formal academic purposes. The need of the hour suggests that the importance of mobile learning has to be highlighted that means awareness among the learners has to be enhanced about the advantages of m- learning. They have to be properly trained in the digital literacy skills so that use of mobile technology is possible to the fullest extent with minimum problems. There are a number of barriers to the implementation of m learning in the field of education. They are:

1. **Infrastructural Barrier**: India lacks a robust telecommunication infrastructure with reliable bandwidth for better internet connectivity.

2. **Literacy and Skill Barriers**: To have proper access to digital information IT literacy is highly required. Even lack of skills of using mobile devices, mobile phones, etc. for effective m-learning is also a barrier.

3. **Financial Barrier**: Generally people or learners belonging to lower income groups do not have enough money to spend on internet connectivity on their own.

4. **Language Barrier**: In India many students tend to learn the content in their own mother language which again can be a barrier in m-learning as the content will be available in English language. To develop the content in other language will be again a tedious activity.

5. **Connectivity Barrier**: In many of the remote areas on India internet facility is not at all available. Thus, connectivity will be a barrier for the learner in those areas.

6. **Content Barrier**: M -learning will be a difficult task for the students of linguistics and even many other subjects. Development and delivery of content of such subject will be a tedious activity for the teachers.

Despite these barriers the main task ahead is positive attitude and strong determination to implement m-learning in a purposeful and effective way. Following are few **recommendations** in this regard:

- Broad based robust telecommunication infrastructure has to be set up to successfully implement m-learning all over India.
- Faster networks, better connectivity, higher level machines, more complex software's are required for m-learning.
- Mobile learning content development has to be taken up along with its proper distribution and orientation in the colleges and universities.
- Curriculum, evaluation procedures, etc have to be accordingly developed so that can be easily assessed on the handsets.
- Teachers have to be properly trained in the method and techniques of teaching through mobile devices at the pre service and in service training centres.

M-learning and Teacher

The use of mobile devices in and out of the classrooms is the talk of the world. The issues of how to use these devices effectively in the teaching learning situations in education are still prevalent. It is evident that a nation cannot progress until we keep ourselves abreast with the latest technology and m-learning is one such technology that has to be integrated in the education sector with positive and amorous attitude. In such conditions the role of teacher becomes more pertinent. M-learning is the technology of 21st century and has to be used as a tool for research as well as to access, manage, integrate, and evaluate information. Thus, teachers have to train their students to use this technology effectively in their future careers. Sometimes lack of digital literacy and skills become a factor of fear among teachers to use this technology in their teaching. In that context the teachers must try to keep themselves updated and do not hesitate to learn its use. Only then they will be able to suitably provide digital knowledge to their students. It has also been revealed through certain studies that teachers feel that to some extent mobile learning is possible through mobile devices but every type of content or subject matter cannot be taught through mobile learning. For those concepts traditional methods are more applicable.

Conclusion:

We are still at the initial stage of implementation of mobile learning in the field of education. At this point of time policy makers, stake holders, academicians, administrators and teachers must come forward to think about more rational measures that can be taken to integrate mobile wireless phones into teaching and learning environments. M-learning can be used to solve the traditional learning system problems. Both teachers and students need a proper and handy system to interact with each other

and facilitate the teaching system. Finally, our learners, instructors or teachers should be prepared for the next generation of learning and training.

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