Mobile Learning in Higher Education

Dr. Sampada Gulavani

Asso. Professor,

Bharati Vidyapeeth Inst. of Management, Kolhapur.

ABSTRACT--In 21st century , the world is undergoing transformations due to rapid development of Information and Communication Technology (ICT) . Mobile-learning (M-learning) accomplished with the use of small, portable computing devices like smart phones, palmtops, personal digital assistants (PDAs), cell phones, tablet PCs, laptops and personal media player. M-learning provide students with digital literacy focusing on information processing. With m-learning students can access the learning resources anywhere in the campus where wireless access points are located . It provides the potential to provide the right information to right people at the any time and any place using portable learning devices. M-learning models allow communication between individual students and between students and teachers anywhere and at anytime and communication with local and international community with the use of e-mails and text message. M-learning encourage both teachers and students to take personal responsibility for their own learning. M-learning helps to bring a substantial change in the method of spreading knowledge to improve the quality in teacher education and hence will make teachers of global standard. Progression in mobile communication technology will push more educational environments into interactive community. The paper addresses application and impacts of mobile learning in higher education.

KEYWORD-- E-learning, M-learning, ICT, digital literacy, higher education,

1. INTRODUCTION

M-learning, is learning accomplished with the use of small, portable computing devices like cell phones , smart phones, personal digital assistants (PDAs) , tablet, laptop computers, palmtops, handheld computers, tablet PCs, laptops, and personal media players. Mobile Learning is a method of applying wireless and mobile technologies for educational system by extending access data to one desktop-based online environment such as mobile phones or personal digital assistants (PDAs). Over the last few years, mobile devices have undergone continuous improvement. Mobile technologies have seen significant growth in their use around the world. Mobile learning facilitates direct communication between teachers and students. The term mobile learning can be termed as m-learning, hypermedia-assisted learning, ubiquitous computing, mobile instruction technologies and handheld learning. El-Hussein & Cronje (2010) define mobile learning as "any type of learning that takes place in learning environments and spaces that take account of the mobility of technology, mobility of learners and mobility of learning". M-learning provides the potential to provide the right information to right people at any time and any place using portable learning devices. Today the growing use of mobile technology at colleges and universities is the most current trend in higher education. Mobile learning is uniquely placed to support learning that is personalized, authentic and situated. In this context, author tries to explore the use of ICTs in mobile technology, types of mobile technology used in higher education, characteristics of mobile learning and advantages of mobile learning in higher education. [1, 3]

2. ICTS FOR INTERACTING

The first published studies focusing on M-Learning began around 2000. In the April 2000 issue of Computers and Education, Sharples (2000) discussed the potential for new designs in personal mobile technologies that could enhance lifelong learning programs and continuing adult educational opportunities. Specifically in the last decade , the use of mobile devices for communication and information access has increased exponentially. The mobile phones are used for education purpose because of wireless internet and broadband services. Mobile technologies are able to support learners' engagement in creative, collaborative, critical and communicative learning activities. Recently introduced 3G and 4G services is useful for education purpose. [4]

Mobile learning can be termed as the extension of e-learning where M-learning is a subset of e-learning and e-learning is a subset of distance learning. Low and O'Connell (2006), however, view the relationship in terms of flexibility and learning space, by comparing traditional learning, e-learning and m-learning where m-learning offer greater ease of access, can reach a larger number of students and facilitate a larger learning space (Fig. 2.2).
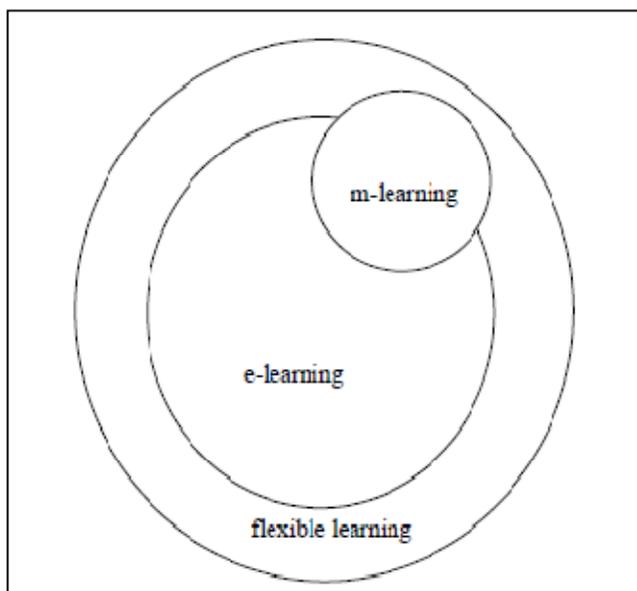
Figure 2.2 Relationship of E-Learning, M-Learning and Flexible Learning (Low and O'Connell, 2006)

Preferred ICTs to communicate with peer group peer are email, mobile phone, skype , instant messaging, chat and LMS. Mobile phones are less used to directly learn with them and more to communicate with peers for learning-related purposes. M-Learning can take place in two ways:

(a) Outside the classroom - Students learn in their own time. This can support the 'flipped classroom' model.
(b) Inside the classroom and during class time –This often works best when there is a 1-to-1 initiative, where students have a device each such as a tablet or iPad.

Useful additions to mobile devices, such as GPS , video/audio enhancement and concept-mapping applications (apps) to trace connections between communication theories make the possibilities of the devices themselves much more robust. Todays mobile phones are termed as smart phones which provide wide range of other amenities such as text messaging, multimedia messaging service (MMS), e-mail, internet access, short-range wireless communications via infrared and bluetooth, business applications, gaming, photography and reading. There are multiple platforms for which mobile apps are being developed, such as iOS, Android, Windows Phone, Blackberry or other cross-platform solutions based on HTML5.

3.TYPES OF MOBILE TECHNOLOGY USED IN HIGHER EDUCATION

Following categories of mobile technology are used by the students in higher learning.   [8]

i) Reference Tool: Students use different functions of the device like calculator, online editing and reference tools (Dictionary.com), as well as specific Apps (e.g. thesaurus).

ii) Curriculum Resource: The mobile technology can be used off-line, with specific applications that had been downloaded by their teacher or requested by students. The Apps provide information or an activity related to specific curriculum content, e.g. Planet Apps in science, musical instrument Apps in music, translation Apps in French, drawing apps in Art, calculation games in Math, etc.

iii) Research Tool: Mobile device can be used as a research tool for "locating information", "answering questions", and "searching for pictures".

iv) Strategic Learning Tool: M- technology is also used for a multitude of purposes beyond curriculum and research. The technology was used to create and produce as well as to assess and assist in learning. It is also used to take pictures, record voice memos, listen to music, search for images, plan the day, drawing, writing stories, typing, back-channelling, telling time, chatting and making a poster.

4.CHARACTERISTICS OF MOBILE LEARNING

M-learning provides three different elements for mobility like convenience, expediency and immediacy which are valuable to teachers and students while they are teaching and learning. It
provides reading along with other features such as search and cross reference functions, hypertext links, bookmarks, annotations, highlights, multimedia objects and interactive tools. Mobile devices and ubiquitous connectivity potentially allow students to access course materials and activities through the creation of hybrid, virtual and real-world resources and social spaces. Learning can take place in any location and at any time, including traditional learning environments, such as classrooms, as well as other locations like workplace, at home, community locations and in transit. Communication and data transfer possibilities created by mobile technologies can significantly reduce dependency on fixed locations for both work and study and thus have the potential to revolutionize the way we work and learn. Important characteristics of M-Learning are discussed below : [2,9,10]

i) Ubiquitousness : M-learning becomes possible to develop mobile applications services that are proficient of

replying to subscribers whenever it is required. By growing coverage by mobile network, m-learning services can have more and more ubiquitous presence.

ii) Bite sized learning : Through bite-sized approach, short learning modules can be added into the abstract. This type of learning content can be appropriate for rendering and delivery on small mobile devices. M-learning components require being short in time duration. There is probably to be a necessity for "bite-sized" learning .

iii) Collaborative Learning : Mobile technologies can be exploited as collaborative devices that help learners in informal and formal environment to manage activities and complete results by

increasing the sense on motivation . Collaborative learning is afforded via m-learning including SMS, MMS (multimedia message sending), voice, email contact and sharing information by uploading to central location. It allows students to expand discussion and investigation beyond the walls of the classroom and enable students to collaborate and create knowledge and to interact with a larger range of content.

iv) Blended approach : M-learning provides blended environments which present pictures, graphs, animations, simulations and video clips that the learner has the ability to manipulate them. Mobile blended learning activates extending a course, supplying packaged content that can act as performance support and providing access to tutors and learners. [16]

v) Novelty : Since M-technologies bring a new style of learning, students become enthusiastic for the novelty of mobile learning. The devices provide something different and make class more interesting.

vi) Device category : Mobile technology can be explained into some devices such as mobile phones, smartphones, blackberry, iPhone or Google Android, PDAs, netbooks , notebooks , laptops, tablet PCs . It also includes non-telephony devices such as Apple□s iPod and mp3 players, eBook readers such as Amazon□s Kindle and Sony□s eBook reader.

vii) Learning Styles : Mobile technology offers a change from more standard lecture and discussion-based activities in college classrooms. The devices help to solidify the things learned in class and helped to give an alternative method of practicing those ideas and concepts.

viii) Convenience and Usability : Mobile technology is touted for its intuitive use and convenient portability. The features of mobile technology like speed, portability, intuitive functions and navigation, comfortable design and small size acts as contributing factors to its convenience in a learning environment.

ix) Interactive: Mobile technology enables students to closely link with their peers, teachers, distant partners, and even interest groups worldwide.

5. REQUIREMENTS FOR SUCCESSFUL INTEGRATION OF MOBILE LEARNING

Social networking, social media, technology and virtual classrooms have transformed the way teachers demonstrate and students acquire knowledge. Abdullah & Siraj stated that advancements in technology have transformed how we live our lives. Today the developed and underdeveloped countries are separated by technology. Technology has made a wide learning gap between privileged and underprivileged countries. Students from developed countries are learning through mobiles and computers while in underdeveloped countries, they are learning using torn printed textbooks. Mobile technologies aids in learning and will further enhance the development of new educational method which simplify students-centered or self-access learning involvement, thus escalating chances to flourish the education anytime and anywhere. [14,15]

For successful integration of m-learning in higher education, there is a need of

- The production of a m-learning development kit for distribution to universities and colleges to enable them to introduce mobile learning.
- The production of course guides, course summaries, examination reminders and helps with difficult parts of a course.
- Need to develop literature on m-learning .
- Need to write Books on m-learning.
- To organize Conferences on m-learning.

6. CONCLUSION

Mobile technologies aids in learning and will further enhance the development of new educational method which simplify students-centered or self-access learning involvement. Mobile devices are pivotal in students' everyday life and mobile technologies are expected to play a bridging role between informal and formal practices of learning. As types of mobile technologies become increasingly available in schools and home contexts, learners and instructors will need to explore and define the most optimal contexts for mobile learning tools. However instructional design and comfort with technology are significant factors which should be considered while designing course material on mobile technology. To introduce new technology in teaching, it requires a support from the teachers. Mobility, support, connectivity, immediacy, collaborative, readability, usefulness and text satisfactory plays an important role in accepting mobile devices for reading purpose. Educators must continually gauge students' level of knowledge and comfort with new information and communication technologies. As mobile technology continues to grow and develop, colleges and universities should ensure that their classroom spaces receive strong Wi-Fi signals . Further improvements and research is required in mobile technology to introduce adaptable user interfaces, faster processors, ergonomically best designs with time and users needs, hands free

operations, etc. In the future, mobile learning will produce additional carriers and professions worldwide.

7.   REFERENCES

1. A. Kukulska-Hulme, D. Evans, and J. Traxler, "Landscape Study in wireless and mobile learning in the post-16 sector," Retrieved October, vol. 14, 2005.

2. D. Laurillard, "Pedagogical forms of mobile learning: framing research questions," 2007

3. D.Mcconatha, M.Praul, M.Lynch , "Mobile Learning in Higher Education: An Empirical Assessment of A New Educational Tool", the Turkish Online Journal of Educational Technology – TOJET, ISSN: 1303-6521, Volume 7 , Issue 3 , July 2008 .

4. E.Rapetti, A. P.Vannini () , " Is mobile learning a resource in higher education? Data evidence from an empirical research in Ticino", Journal of e-Learning and Knowledge Society, English Edition, Vol.7, No.2, ISSN: 1826-6223.

5. El-Hussein, M. O. M., & Cronje, J. C., Defining mobile learning in the higher education landscape. Journal of Educational Technology & Society, 13(3), 2010.

6. I.Mary Jacob and B. Issac, "Mobile Learning Culture and Effects in Higher Education", IEEE Multidisciplinary Engineering Education Managezine, Vol.2,No.2, June 2007.

7. J.Macharia, "Mobile Applications to Enhance Versatility of Mobile Learning in Higher Education", Proceedings and reports of the 6th UbuntuNet Alliance annual conference, ISSN 2223-7062 , 2013.

8. J.Mueller, E.Wood, D. De Pasquale & K.Archer , "Students learning with mobile technologies in and out of the classroom", Education in a technological world: communicating current and emerging research and technological efforts A. Méndez-Vilas (Ed.), FORMATEX, 2011.

9. J.Rossing, W. Miller, A.Cecil, S. Stamper, "iLearning: The future of higher education? Student perceptions on learning with mobile tablets", Journal of the Scholarship of Teaching and Learning, Vol. 12, No.2, June 2012, pp. 1 – 26.

10.M.Barati ,S.Zolhavarieh, "Mobile Learning and Multi Mobile Service in Higher Education", International Journal of Information and Education Technology, Vol. 2, No. 4, August 2012.

11.M. Wang, R. Shen, D. Novak, and X. Pan,"The impact of mobile learning on students' learning behaviours and performance: Report from a large blended classroom," British Journal of Educational Technology, vol. 40, no. 4, pp. 673-695. 2009

12.R.Somipam ,Shimray, C.Keerti and C.Ramaiah ,"An Overview of Mobile Reading Habits", Journal of Library & Information Technology, Vol. 35, No. 5, September 2015.

13.S.Chandran , "Application and Impacts of Mobile Learning: A Case Study in Technology for Sustainable Distance Learning", Learning Technologies.

14.S.Paliwal, K.K. Sharma(2009) , "Future Trend of Education – Mobile Learning Problems and Prospects", ICAL – POSTER PAPERS.

15.S.Shimray, C. Keerti, C.Ramaiah, "DESIDOC Journal of Library & Information Technology", Vol. 35, No. 5, 2015.

16. T. R. Hill and M. Roldan, "Toward third generation threaded discussions for mobile learning: opportunities and challenges for ubiquitous collaborative environments," Information Systems Frontiers, vol. 7, no. 1, pp. 55-70, 2005.

17. Y. Rogers, M. Scaife, S. Gabrielli, H. Smith, and E. Harris, "A conceptual framework for mixed reality environments: designing novel learning activities for young children," Presence: Teleoperators and Virtual Environments, vol. 11, no. 6, pp. 677-686, 2002.