International Journal of Multidisciplinary Education and Research
ISSN: 2455-4588; Impact Factor: RJIF 5.12
www.newresearchjournal.com/multieducation
Volume 1; Issue 3; April 2016; Page No. 32-36

M-Learning and education

Sarabjeet

Asst. Prof. in D.A.V College of Education, Hoshiarpur, Punjab, India.

Abstract
Education and training is the process by which the wisdom, knowledge and skills of one generation are passed on to the next. Today there are two forms of education and training: conventional education and distance education. Mobile learning, or "M-Learning", offers modern ways to support learning process through mobile devices, such as handheld and tablet computers, MP3 players, smart phones and mobile phones. This document introduces the subject of mobile learning for education purposes. It examines what impact mobile devices have had on teaching and learning practices and goes on to look at the opportunities presented by the use of digital media on mobile devices. The main purpose of this paper is to describe the current state of mobile learning, benefits, challenges, and it's barriers to support teaching and learning. Data for this paper were collected through bibliographic and internet research from January to March 2013.Four key areas will be addressed in this paper: 1.An analysis of Mobile Learning.2.Differentiating E-Learning from Mobile Learning 3. Value and Benefits of Mobile Learning 4. Challenges and Barriers of Mobile Learning: Study showed that M-Learning as a Distance learning brought great benefits to society include: Training when it is needed, Training at any time; Training at any place; Learner-centred content; Avoidance of re-entry to work problems; Training for taxpayers, and those fully occupied during university lectures and sessions at training centres; and The industrialisation of teaching and learning. And also, notebooks, mobile Tablets, iPod touch, and iPads are very popular devices for mobile learning because of their cost and availability of apps.

Keywords: M-Learning, Education, Class management

Introduction

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. One definition of mobile learning is, "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" (MOBIlearn, 2003). In other words, with the use of mobile devices, learners can learn anywhere and at any time (Crescente and Lee, 2011). Mobile learning is considered to be the ability to use mobile devices to support teaching and learning.

M-learning or mobile learning is defined as "learning across multiple contexts, through social and content interactions, using personal electronic devices." A form of distance education, m-learners use mobile device educational technology at their time convenience.

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. Using mobile tools for creating learning aids and materials becomes an important part of informal learning.

M-learning is convenient in that it is accessible from virtually anywhere. Sharing is almost instantaneous among everyone using the same content, which leads to the reception of instant feedback and tips. This highly active process has proven to increase exam scores from the fiftieth to the seventieth percentile, and cut the dropout rate in technical fields by 22 percent. M-learning also brings strong portability by replacing books and notes with small devices, filled with tailored learning contents.

Mobile learning is the delivery of learning, education or learning support on mobile phones, PDAs or tablets. E-learning has provided the ability for traditional learning to break out of the classroom setting and for students to learn at home. Mobile learning has enhanced upon e-learning by taking it a step further and allowing students to learn virtually anywhere a mobile signal is available.

New mobile technology, such as hand-held based devices, is playing a large role in redefining how people receive information. The recent advances in mobile technology are changing the primary purpose of mobile devices from making or receiving calls to retrieving the latest information on any subject. "Numerous agencies including the Department of Defense (DoD), Department of Homeland Security (DHS), Intelligence community, and law enforcement are utilizing mobile technology for information management.

Class management

Mobile devices in the classroom can be used to enhance group collaboration among students through communication applications, interactive displays, and video features.[1]

- Existing mobile technology can replace cumbersome resources such as textbooks, visual aids, and presentation technology.
- Interactive and multi-mode technology allows students to engage and manipulate information.

- Mobile Device features with WIFI capabilities allow for on-demand access to information.
- Access to classroom activities and information on mobile devices provides a continuum for learning inside and outside the classroom.

In a literature review conducted by FutureLab, researchers found that increased communication, collaboration, and understanding of concepts was a result of mobile technology applications.
Mobile devices can be used in brick-and-mortar or online settings to enhance learning experiences.[

- The mobile phone (through text SMS notices) can be used especially for distance education or with students whose courses require them to be highly mobile and in particular to communicate information regarding availability of assignment results, venue changes and cancellations, etc. It can also be of value to business people, e.g. sales representatives who do not wish to waste time away from their busy schedules to attend formal training events.
- Mobile devices facilitate online interaction between instructor and student, and student to student.

M-learning in the context of work can embrace a variety of different forms of learning. It has been defined as the "*processes of coming to know, and of being able to operate successfully in, and across, new and ever changing contexts, including learning for, at and through work, by means of mobile devices*".

- M-learning for work
- M-learning at and through work
- Cross-contextual m-learning

Learning for work, which could be also described as 'just-in-case' learning, involves classic and formal education activities, such as training courses, that prepare learners for future work-related tasks. A typical, corporate application is the delivery of mobile compliance training, which can be seen as a viable means to reach geographically mobile employees, such as consultants or staff in logistic and transport systems. Another application is mobile simulations that prepare learners for future situations, for example real-time SMS-based simulations for disaster response training.
Learning at and through work, which could be labelled as "just-in-time" mobile learning, occurs in informal education settings at the workplace. Employees can use the mobile phone to solve problems via handheld devices in situ, for example by accessing informational resources (such as checklists and reference guides) prior to customer visits or mobile decision support systems. The latter are popular in clinical settings where they support highly mobile medical staff through rule-based algorithms in the decision regarding more complex patient cases. Their application was associated with learning and in particular with practice improvement of medical staff. Learning through work also occurs by interacting with distant peers via phone. "People tagging" is an approach whereby people assign topics they associate with co-workers. The aggregation of interests and experiences serves not only as a means to raise awareness but also to help find competent experts on demand, for example with context-sensitive expert location systems.

Cross-contextual learning that bridges the gap between work settings and formal education formats has perhaps the biggest potential for work-based mobile learning, especially with respect to tertiary education systems. This involves approaches in which learning in the workplace is facilitated and substantiated (for example through formative assessments, reflective questions or the documentation of personal achievements in multimedia learning diaries or portfolios The so-created materials are later used in more formal educational formats, for example in the classroom or in the discussion with tutors. The value of these mobile phone-mediated learning practices lies in the integration and reconciliation of work-based learning and formal education experiences which otherwise tend to remain separated.

Lifelong learning and self-learning
Mobile technologies and approaches, i.e. mobile-assisted language learning (MALL), are also used to assist in language learning. For instance handheld computers, cell phones, and podcasting (Horkoff Kayes 2008) have been used to help people acquire and develop language skills.
Benefits

- Relatively inexpensive opportunities, as the cost of mobile devices are significantly less than PCs and laptops
- Multimedia content delivery and creation options
- Continuous and situated learning support
- Decrease in training costs
- Potentially a more rewarding learning experience
- New opportunities for traditional educational institutions
- Readily available a/synchronous learning experience

Social and educational challenges

- Accessibility and cost barriers for end users: digital divide.
- How to assess learning outside the classroom
- How to support learning across many contexts
- Content's security or copyright infringement issues
- Frequent changes in device models/technologies/functionality etc.
- Developing an appropriate theory of learning for the mobile age
- Conceptual differences between e-learning and m-learning
- Design of technology to support a lifetime of learning
- Tracking of results and proper use of this information
- No restriction on learning timetable
- Personal and private information and content
- No demographic boundary
- Disruption of students' personal and academic lives
- Access to and use of the technology in developing countries
- Risk of distraction
- Mobile usage habits among different countries and regions

Growth
Mobile learning is widely used in schools, workplaces, museums, cities and rural areas around the world. In comparison to traditional classroom pedagogical approaches,

mobile learning allows widened opportunies for timing, location, accessibility and context of learning.
Current areas of growth include:

- Testing, surveys, job aids and just-in-time (J.I.T.) learning
- Location-based and contextual learning
- Social-networked mobile learning
- Mobile educational gaming
- Delivering m-Learning to cellular phones using two way SMS messaging and voice-based Cell Casting (podcasting to phones with interactive assessments)
- Cloud computer file storage

Mobile Technology and Mobile Learning

As mobile phones, tablets, and other connected devices become more prevalent and affordable, wireless technology can dramatically improve learning and bring digital content to students. Students love mobile technology and use it regularly in their personal lives. It therefore is no surprise that young people want to employ mobile devices to make education more engaging and personalize it for their particular needs.
Technology-rich activities can sustain high levels of student engagement and peer collaboration compared to less technology focused activities. Educators need to figure out how to harness mobile platforms for instructional purposes and employ them to boost educational learning. A majority (52 percent) of students in grades 6-12 believe that having access to a tablet computer is an essential component of their ultimate school. Fifty-one percent of school administrators agree with these sentiments as well.
As a country, we need to educate the next generation of scientists, inventors, engineers, and entrepreneurs. Educating a workforce that is effective in a global context and adaptive as new jobs and roles evolve will help to support our economic growth. Mobile learning makes it possible to extend education beyond the physical confines of the classroom and beyond the fixed time periods of the school day. It allows students to access content from home, communicate with teachers, and work with other people online. The value of mobile devices is that they allow students to connect, communicate, collaborate and create using rich digital resources.
Smartphones and tablet computers are radically transforming how we access our shared knowledge sources by keeping us constantly connected to near-infinite volumes of raw data and information. We enjoy unprecedented instant access to expertise, from informal cooking lessons on YouTube to online university courses. Every day people around the globe are absorbed in exciting new forms of learning, and yet traditional schools and university systems are still struggling to leverage the many opportunities for innovation in this area.
Recently frog has been researching how learning models are evolving—and how they can be improved—via the influence of mobile technologies. We've found that the education industry needs new models and fresh frameworks to avoid losing touch with the radically evolving needs of its many current and potential new constituencies. These range from a generation of toddlers just as comfortable with touchscreens as they are with books, to college-aged men and women questioning the value of physical campuses, to middle-aged and elderly professionals hoping to earn new skills in their spare time to secure a new job in turbulent economic times.

We have been focusing on the concept of mLearning—where "m" usually stands for "mobile" but also just as easily for "me." The near-ubiquity of handheld devices and their constantly lowering costs will enable the idea of "education that you can hold in your hand," so it becomes a widespread reality in so-called developed markets and resource-challenged parts of the globe alike. Thanks to findings from a frogMob—an open research tool that allows people to upload and contribute their own observations from around the globe—along with additional research and other insights contributed by our partners at the World Economic Forum, we have arrived at 10 key themes that are likely to drive the development of mLearning initiatives in innovative directions. Here they are.

1. Continuous learning

Up until now, most people relegated "education" to a finite time in their lives: entering school at around five years old and attending school institutions all the way to university. Education had an expiration date, then working life began. This model, which has its roots in the industrial era, is quickly becoming less relevant or applicable to the way we live our lives in the connected age.
Education is getting increasingly interspersed with our daily activities. On our phones, tablets, and PCs, we download and digest life or work-related articles with instructions on how to fix our appliances or how to use a new professional software program. Many people across age groups decide to take formal online courses in their spare time, including complex subjects such as artificial intelligence, computer science, and game theory—all real examples of free courses offered by Stanford University and taken by everyday people, including 11-year-old kids and retirees.
Continuous learning will simply be a given for the generations of today's youngsters who are often literally born within reach of a connected personal device.

2. Educational leapfrogging

Continuous learning isn't just happening in the developed world. With low-priced computers, tablets, and cell phones in the hands of children in resource-challenged communities, many kids who are engaging in technological leapfrogging will have the opportunity to skip past outdated formal school systems, too. This is especially relevant in the case of children living in poverty, who may be denied an opportunity to improve their condition through education because they start working very early to help sustain their families or do not live near schools.
The ability to interstitially access educational content during pauses throughout their daily routine, or at night, or even as a running "soundtrack" that accompanies them during their tasks are all novel opportunities offered by a classroom that can follow you wherever you go.

3. A new crop of older, lifelong learners (and educators)

A by-product of the continuous learning phenomenon is the fact that the grandparents of children growing up with a touchscreen in their hands—people in their 60s today—are being pulled into mLearning more than ever, motivated to adoption by the need to stay in touch with their grandkids.
The availability of tablets and other touch-enabled devices has radically reduced the perceived complexity of computers,

helping older users to more easily communicate with their middle-aged children and grandkids via email, Facebook, Twitter, and Skype.

This is a demographic group that often has the time availability to take online courses for fun, but the same time availability also offers another untapped opportunity: Retirees represent a huge potential talent pool of educators who could address the scarcity of qualified teachers in many areas of the world—especially if they teach remotely, via mLearning.

4. Breaking gender boundaries, reducing physical burdens

In parts of the globe where, because of centuries of cultural practices, young women may still not be allowed to access a formal education, mLearning promises to be able to put girls and women of all ages in contact with high-quality education privately and on their own time. Along similar lines mLearning also helps bring educational material within the reach of people with extreme disabilities, who may not be physically able to get to a classroom or campus on a regular basis. In both of these cases, new freedoms can be exposed. As a result, these groups can take control of their educational and professional destinies.

5. A new literacy emerges: software literacy

MLearning could usher in a boom of interest in learning software programming languages, which could very well become a new lingua franca. This is already happening; Numerous startup web-based businesses today such as Codecademy teach people via interactive lessons how to understand and write software programs. Not even a year old, Codacademy has more than a million "students" and has raised about $3 million in venture-capital funds.

This scenario is particularly relevant in emerging economies, where gaining software development expertise can introduce new opportunities for economic growth, or give communities what they need to address unmet local needs. Consider the boom of homegrown startups in Kenya that has been shaping mHealth solutions to solve some of the many health care issues affecting the country, or the success of an organization like Ushahidi, which has been financing a social high-tech accelerator called iHUB in Nairobi precisely to promote software literacy and local entrepreneurship.

6. Education's long tail

MLearning solutions are poised to tap into the vast amount of existing educational materials that could be made accessible via mobile channels. This is especially true with YouTube, Vimeo, and other video-sharing services already providing a critical mass of tips, tutorials, and full-fledged lessons that can be re-aggregated by theme and packaged as educational material. The recent TED-Ed initiative attests to the opportunity offered by the clever repurposing of existing quality lessons.

Others have leveraged the video-sharing social platforms to distribute educational materials created in an ad hoc way. It's a model made famous by Salman Khan, an MIT graduate who, with his eponymous academy, "flips" the traditional education model by having pupils absorb lessons at home, and practice and discuss what they've learned at school instead.

The range of mLearning materials does not need to be limited to higher education but can easily encompass valuable, practical know-how, from grandmothers showing how to prepare traditional recipes to companies demonstrating how to install solar panels on mud huts.

The nature and complexity of educational materials can also vary greatly and not necessarily require a video-capable smartphone: Humanitarian organizations like MAMA have put to good use simple text messages to help mothers in developing economies learn about pregnancy, childbirth, and caring for their infants.

These examples illustrate how the power of mLearning lies in its ability to offer solutions for numerous niche audiences.

7. Teachers and pupils trade roles

The same handheld-connected tools that enable children and adults to access existing educational solutions also provide the opportunity for them to capture and share knowledge in return. In other words, imagine kids who are raised with programming and video-production knowledge from very early ages creating educational materials for their peers, or even to teach adults, exposing them to very young people's points of view of the world. Imagine a 12-year-old boy explaining how effectively to communicate health information to him as a tutorial for nurses, physicians, and parents.

8. Synergies with mobile banking and mobile health initiatives

Developers of emerging mLearning ecosystems can learn a lot from their predecessors in mBanking and mHealth and such services as mobile money transfers or mobile health monitoring. Beyond adapting some ideas, including using text messaging to deliver short lessons, teacher feedback, and grades, mLearning, mHeatlh, and mFinance can also be synergistically combined. After all, better education can easily improve people's financial condition and in turn positively influence their health. These three factors can be combined in different orders without changing the result, which will always be more than then sum of the individual components. Applied on a micro or macro scale, this virtuous cycle has the potential to become a very effective way to improve personal, regional, and even national economies.

9. New opportunities for traditional educational institutions

The mLearning phenomenon will not necessarily compete with well-established schools but actually complement and extend their current offerings. An intriguing new model was offered when Harvard and MIT announced that they have teamed up to offer free online courses via a joint nonprofit organization, edX. Both universities will observe how students respond to the courses to better understand distance learning.

After a few missed opportunities in the early 2000s, established universities seem to be looking beyond turning a profit and are turning to mLearning as a means to find new promising students or research how people learn. Traditional institutions could also help mLearning solutions scale quickly by leveraging their vast and established networks of students, faculty, and alumni. The business potential could also be big; a report published in February by Global Industry Analysts projects the global market for online and other electronic distance learning to reach $107 billion by 2015.

10. A revolution leading to customized education

The key for successfully channeling the mLearning revolution will not simply be about digitizing current educational systems. The real appeal will be allowing people to choose their own paths, leverage their talents, and follow their passions and callings. MLearning has much business potential, but the most exciting and rewarding aspect of these solutions is that students of any age or background might have the chance to pursue knowledge that is meaningful, relevant, and realistic to achieve in their own lives.

Some other benefits

Mobile learning allows the learner to communicate with tutors and peers, as well as access learning resources, while on the move. It facilitates "just in time" learning and the ability to gather and submit evidence for assessment.

- **Work out the cost benefits**

As most learners will bring their own mobile devices, you may be able to divert some of the cost saved on upgrading or replacing desktop computers by providing free technical support to students and enhancing the wi-fi infrastructure.

- **Embrace open technologies to support a growing range of devices**

You may wonder how your organisation can support the wide range of mobile devices and platforms students will have. Technology can enable learners to access networked information irrespective of which platform or devices they are using.

- **Understand the security, privacy and legal issues**

Mobile learning raises concerns around security, privacy and accessibility. Our guide, 'Your students, mobile devices, law and liability' addresses the legal issues surrounding student mobile use with lots of helpful scenarios.

- **Opportunities for accessible learning**

Our guidance on accessibility and inclusion will help you maximise the potential of mobile technologies for learners with disabilities.

We are currently producing a series of video case studies showcasing the use of apps to support students with learning or physical difficulties.

- **Help students to apply mobile technologies to learning**

Although learners may be familiar with using mobile devices in their everyday lives, they don't always know how to apply this to learning.

- **Be inspired by current progress**

We've supported a range of mobile apps and websites for education in areas including hairdressing, healthcare, law and geography. Through our co-design work, we are supporting student led projects through the Summer of Student Innovation competition.

We have also funded a range of innovative projects across the FE and Skills sector and supported projects to develop the use of assistive technologies in FE and Skills

- **Looking forward**

Through our research and development work we are exploring new ways of delivering content and services to students.

We are looking to transfer our expertise and experience developed through the eduroam service across the public sector in order to save public money, improve efficiency, and facilitate roaming between education and government venues.

References

1. https://en.wikipedia.org/wiki/M-learning
2. http://www.m-learning.in/home.php
3. http://www.m-learning.in/pricing.php
4. www.ericsson.com/res/thecompany/docs/...mobile_learning.../book.pdf
5. Lencioni M Patrick. The Ideal Team Player: How to Recognize and Cultivate -The Three Essential Virtues Hardcover, 2016.
6. Woodill, Gary, Ed. D., *et al*. mLearning: Mobile eLearning Paperback –. The Mobile Learning Edge: Tools and technologies for developing your teams, 2006.
7. Woodill, Gary. The Mobile Learning Edge: Tools and Technologies for Developing Your Teams Hardcover, 2010.