Emergence of Mobile Learning: Future for Distance Learning

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Abstract

The convergence of Information technology and enabling technologies had a drastic impact on the life style of every individual and they have become more dependent on this emerging technology. Use of portable devices such as IPods, laptops, tablets, PDAs and Smart Phones, having wireless network empowers mobility and mobile learning thereby allowing teaching and learning process beyond the traditional classroom. In infancy stage of the information technology revolution, the technology was employed for e-learning, where-in the class-rooms were replaced with internet facility and the communication between the end-users were limited to email only. This era of e-learning was limited to private locations (*e.g.,* class rooms) and users were required to show the physical appearance at that particular location for learning process and information dissemination.

In order to overcome such short coming of e-learning process, a new and emerging concept got evolved in which the end users can participate in learning process and information dissemination anywhere and anytime having no geographical restrictions. This paradigm is known as mobile learning or m-learning. The m-learning has instant response with no geographical boundaries/restrictions. M-learning has the greater outreach and impact because of the availability of the communicating devices, enabled with Wi-Fi internet connectivity to a common man. M-learning has a greater impact on the concept of open and distance mode of learning (ODL) and has been and could be the source of inspiration for acquiring the knowledge or higher education through ODL mode of learning.

Key words:*Information technology, e-learning, m-learning, wireless networks, Distance learning*

Introduction

World has become a global village due to enhanced mobile technology which istransforming learning-teaching processand allowing flexible and quick access to rich digital repository. Mobile learning can play a significant and vital role in teaching-learning. M-learning is the newest education method growing very fast in education field compared to the conventional e-learning. Mobile teaching and learning (m-learning) in recent years has become a valuable and real contribution to learning environment rather than what it used to be in previous years as a theory, academic exploration, and technological idea (Alzaza&Yaakub, 2011).

Mobile learning can be defined in many ways and is known by different names, like M-Learning, personalized learning, and handheld learning. One of thedefinition 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" (O'Malley,Vavoula,Glew, Taylor, Sharples, Lefrere, &Waycott,2005). With the use of mobile devices, learners can learn anywhere, any time and own pace. Mobile learning is supposed to use mobile devices to support teaching and learning. The benefits of m-learning have been universally recognized to be cost effective communication technology, accessible, convenient and location-specificutility. The popular keyfeatures of M-learning among students include: Providing learning opportunities to learners at their own convenience, Internet access to learners through mobile devices, Growth of mobile learning devices, and Encourage independent and collaborative learning experiences.

Portability aspect of mobile E- learning makes it different from all other types of learning. This is because of portable devices haveunique features and functionsto support learners in various ways. The M-Learning community is still fragmented, with different national perspectives, differences between academia and industry, and between the school, higher education and lifelong learning sectors (Singh, 2010).

EDUCATION: CURRENT AND FUTURE

In distance education, the World Wide Web is mainly used as a learning tool to support distance mode programmes and also as a tool to deliver online programmes. It is well recognised that distance education institutions need a provision to provide a quality assured mechanism of teaching and learning to support the students to become more effective learners. The main purpose behind the use of web support technologies is to overcome the feeling of isolation of the distance learner and to encourage peer-to-peer and student teacher interaction. In Online programmes all the communication, teaching, learning, assessment and evaluation activities are done online. Web supported learning for distance mode programmes consists of learning resources other than face-to-face sessions, print based self-learning material, tele-conferencing and audio/ video. The additional learning resources include online audio/ video resources, supplementary learning material, e-books, pdfs, interactive material, interactive video, interaction through bots, discussion forum, blog, web conference, chat, etc. Mobile Web accessibility is showing phenomenal growth day by day around the worldand Mobile internet usage growth is 8 timesmore than PC based growth.Based onstudy, these technology models cover the six dimensions of distance education: Provision of course content, Provision of feedback to distance learners, Provision of learner support services to distance learners, Links to the WWW and other resources, Student-to-student interaction and Student to tutor and institution interaction.

Mobile devices and its technologies are eroding established notions of time as a common structure that had previously underpinned social organization and the consensual understanding of the world. Time-keeping is being replaced by the approx-meetingand the multi-meeting (Plant,2000), socially negotiated time(Sorensen,Kakihara, &Mathiassen, 2002), the micro coordination of everyday life alongside the softening of schedules afforded by mobile devices, time has become personalized.

MOBILE TECHNOLOGIES FOR M-LEARNING

Mobile technologies posses feature to maintain literacy skills and gain uninterruptedaccess to information. Mobile deviceshave potential to ownby the marginalized peoples and reaching remoteareas providing an access of learning.Mobile technologies provide opportunityof learning where access to education is difficult or interrupted because of geographic location and in conflict zones ordisaster affected areas. Mobile devices which can support mobile learning include:I-pods, Tablets,Digital note books and Smart Phones. Mobile learning technology largely depends on support for technical delivery modules which include providing high internet speed and data transfer rate, Wi-Fi facility to access resources via internet, Cloud based computing for storing and sharing large files, 3GPor 4GP for compressing and delivering audio-visual content.

In addition, we need baseline requirements for mobile technologies that support learning outside place of learning.These technologies should be portable, personalized, self-effacing, readily available anywhere/any place, easily adaptable, continualfor life time, useful to cater everyday needs to communicate and learning and accessible to use.

Indira Gandhi National Open University since its inception in 1985 has been growing steadily and has emerged the largest provider of higher education in the Open and Distance Learning mode. The multiple media instructional system for delivery of its academic programmesis constantly evolving thereby contributing significantly in democratizing higher education in the country. IGNOU strives to extend its outreach to all segments of the society with a focus to reach the underserved and

marginalized population of the country. Unique feature of the University is its dynamic student support services network, operational through 56 Regional Centers, 11 Recognized Regional Centres and over 3000 Learner Support Centers across the country. The support services are strengthened by technology-supported facilities like the online admission and re-registration system, examination form submission system, online registration records, evaluation and programme completion status, online grievance redressal portal and other online services.

After finalization of admission into ODL system, the distribution of study material is a challenge. At IGNOU distribution of Study material to the learners is being done through post offices delivered at addresses though in sometimes it is returned back due to various reasons which causedelay in academic activities. To overcome this undue delay, IGNOU launched mobile App 'IGNOU e-Content' on which Study material can be accessed anywhere and anytime. The web based E-Gyankosh portal is also playing crucial role in downloading IGNOU Study material in PDF format.IGNOU has launched student mobile App to provide all information related to admission status, assignment questions, counseling schedule, Re-registration, examination and result etc. The learners can also register their grievances and track them till resolved through online portal.

A study was carried out on 500 IGNOU learners enrolled in January & July sessions of 2018 and January session of 2019 in the Learner Support Centers (LSCs) of under IGNOU Regional Centers of Srinagar and Chandigarh spreading in Rural and Urban areas. The study covers the use of mobile technology by the learners on different online applications launched by IGNOU. The study consists of learner's profile showing programme& discipline wise distribution by the rural and urban learners, usage of types of mobile technologies, internet accessibility and impact of mobile learning.

Results

Learner's Profile

Profile of 500 IGNOU learners is given in Table 1 which shows that 45.5% learners were from rural areas and 54.5% from urban areas. There were 48.80% U.G. learners and 51.20% P.G. learners.

Table 1: Profile of the Learners

Profile	Classification of Learners	Total learners=500			Percent
		Rural-228 (45.60%)	Urban-272 (54.40%)	Cumulative	
Level of Academic Programme	U.G.	118	126	244	48.80
	P.G.	110	146	256	51.20
Discipline	Social Sciences	78	76	154	30.80
	Humanities	77	72	149	29.80
	Commerce	52	87	139	27.80
	Science & Computer Applications	21	37	58	11.60

Mobile Devices and Internet Usage

Mobile devices which are popular presently among the learners are Smart Phones which can also be used as pocket computer. Other devices are Tablets &Laptops.

As shown in Table 2, a total of 90.6% of learners owned smart phones, whereas 9.4% learners owned mobile phone. Further, 11.4% learners owned Tablets and only 10% owned Laptopsalso. The 92% learners amongst learners having smart phone, tablet or/and laptop were having internet connection and remaining 8% use internet through Wi-Fi or Hotspots.

Table 2: Use of Types of Mobile Devices

Devices	Learners =500	Percent
MobilePhone	47	9.4
Smart Phones	453	90.6
Tablets	57	11.4
Laptops	50	10.0

It is also found that 87% of learners were familiar with IGNOU online applications and using IGNOU e-Content mobile App very frequently on almost daily basis to cover the curriculum. It is also inferred from the study that IGNOU learners on an average use mobile learning for 2-3 hours each day which also includes other learning sites also.

Impact of Mobile Learning in Higher Education

Mobile learning contributes to learn at any place and anywhere as per convenience of its users. It is very effective to utilizein free time and during travelling. A total of 63.42% of learnerssaid mobile learning apps are very effective, whereas 30.52% of them found it effective and 6.06% learners were neutral. Further, a total of 89.45% of the learners observed that mobile learning apps can make a great impact on theirvarious educational needs and requirements, whereas only 11.55% learners hadnegative opinion.

DISCUSSION

Mobile learning has emerged as one of the answer to the challenges faced by education and academicians. Implementing mobile learning in higher education is still on trial and has cultural, social, and organizational factors as challenge. Therefore, for successful implementation of mobile teaching and learning process in higher education is the understandingof factors whicheffect learners' acceptance of mobile learning. Mobile learning in classrooms can be used asblended learning which encourages learnersto workmore interdependently, individually orin groups to solve variousacademic problems. Mobile learning provides approach to number of digital content instantly atany timecreating opportunities for formal and informal learning inside and outside the classroom. Datarevealed that Smart phones areprominent features for mobile learning because of low cost and availability of applications. Mobile devices are used for collecting students' responses, instructor- student communication, reading digitalbooks, student to student communication, recording activities, documentation, feedback to student, collecting and analyzingdata, presentations and much more. Mainreasons for acceptance mobile learning are that it uses devices which can be carried everywhere easily, user friendly, economical and can be used continuously in all situations and in different settings.

The social acceptance of mobile learning is crucial in developing countrieswhichhave thesame need for M-Learning as those in developed countries do.Educational policy, digital divide, stakeholders' attitude is required to be changed in the present changing scenario. The importance of

M-Learning is its capability to make learning mobile, beyond classroom or workplace. Wireless and mobile technologies providefreedom of learning to learners who do not have direct reach to educational institutions. Mobile devices are an economical alternative compared to traditional E-Learning equipment such as PC's and Laptops. If it could be established that mobile learning has to become the established method for universities and colleges to communicate urgent information to their student body, a very large revenue stream would be opened up. The use of mobile telephony is a much more efficient and quicker means of communication thanconventional contact or email. Use of mobile learning for academic contact in colleges and universities can be adopted as next step. Mobile learning comprising 4 to 5 screen summaries of content, examination information, questions for course revision, guidelines for course preparation or counseling provision for learnersrequirement will be of great benefit which can be developed and can be communicated to either all students or a group of students. A final phase of the strategy for the introduction of mobile learning in mainstream education should be applied by developing and offering of full modules by mobile learningto the students. With the availability of 4G and 5G technologies viable course modules can be evolved.

Conclusion

ICT is a powerful tool for augmenting learning, and mobile devices form an essential part of that process. If present ICT strategies and policies for education amended to introduce mobile devices with preloaded digital learning materials, support for teachers, and comprehensive best practices guidelines, mobile learning soon will become an integral part of education. Education Institutions have to develop collaboration with mobile device manufacturer to make devices secure, user friendly and preloaded customized applications.

Technology enabled education can make the teaching-learning more flexible and collaborative. To bridge the gap between confirmation of admission and receipt of study material by the students, the learners may be advised to use the e-content of study material till they receive the study material which is accessible on all devices including mobile phones. Besides it, the use of other Open Educational Resources available on authentic portals should be encouraged.

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