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mLearning: an innovative conceptualization to expand Education for everyone, anytime, everywhere

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Abstract

This paper conceptualizes how mLearning methodology can be used to provide high quality education for those who are unable to be present regularly in educational institution due to various reasons. The innovative approach to mLearning methodology proposed here is unique because this method has incorporated everything that a student will expect from an educational institution about his education and also what a teacher expects from his students. In addition, this method also has integrated all the elements that any educational institution provides for its community. Therefore, the mLearning method proposed here is different to all other mLearning versions available at present in the world since this method satisfies the needs of all the communities that are engaged in an educational institution. It can also be treated as a hybrid system which incorporates not only the available technologies but also all other social activities related to any educational institution.

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Abstract

This paper conceptualizes how mLearning methodology can be used to provide high quality education for those who are unable to be present regularly in educational institution due to various reasons. The innovative approach to mLearning methodology proposed here is unique because this method has incorporated everything that a student will expect from an educational institution about his education and also what a teacher expects from his students. In addition, this method also has integrated all the elements that any educational institution provides for its community. Therefore, the mLearning method proposed here is different to all other mLearning versions available at present in the world since this method satisfies the needs of all the communities that are engaged in an educational institution. It can also be treated as a hybrid system which incorporates not only the available technologies but also all other social activities related to any educational institution.

Key words: *education, mLearning methodology, available technologies, social activities*

Introduction

It is quite apparent that there is a dire need today in investigating new opportunities to enhance the learning process with innovative teaching methodology, with a view to achieving academic excellence to provide quality education. Although we are in the 21st century ICT Age, and have technologically tremendously progressed, a substantial proportion of children in the world today are still illiterate or less-educated because they have been denied the opportunity to enter into formal education systems for variety of reasons. They are in fact are underserved in relation to education and thus the employment opportunities. Although we have been talking about the rights of the children and their right to education and right-based interventions, the reality is a substantial number of children are still illiterate. United Nations expect all the nations to achieve universal primary education by ensuring that all boys and girls complete a full course of primary schooling by 2015. Therefore, there is a necessity to find all the possible means to deliver education for such marginalized groups in the globe without any further delays.

Often, we talk about globalization and its positive or negative effects on the lives of the poor. Globalization is a favourite catchphrase of journalists and politicians. Globalization has also become a key focus for discussion in education. Formal education system features as the major formal agency for conveying knowledge but in the globalization process, the physical presence of formal education systems become immaterial with the technological advances in Information Communication. In this context, one might expect that the use of ICT in education appears to have accelerated the globalization process in terms of dissemination of knowledge. However, in reality many more today are still illiterate or having lack of knowledge and denied the opportunity to get connected to formal education systems even with the available ICT technologies. Therefore, this forces us to think of devising a new methodology of how those who denied the opportunity for getting formal education due to various reasons such as the unavailability of places in the formal education system or incapacity

of absorbing eligible children to schools or universities, inability to be physically present in an educational institution at a given time point and/or inability of affording the expenses incurred by the formal educational institution, can be given an opportunity to get connected to formal education as the same way that internal students enjoy their education in any formal educational institution. This suggests that our intention is different even to available technologies today including conventional mLearning technology. This paper describes the main features of the existing mLearning technology and shows how the suggested technology deviates; produce better learning environment.

Existing “M-Learning” technology

The Mobile Learning venture is a pioneer innovative concept that transcends traditional barriers, taboos and boundaries of formal education. It is widely recognized that traditional learning shortcomings encountered in education can be overcome through the introduction of “M-Learning” technology.

M-Learning can be defined as a teaching and learning process through the use of mobile and hand-held devices such as mobile phones, Personal Digital Assistants (PDAs), laptops and tablet PC's. This innovative technique has multiple advantages: easy accessibility, strong search capabilities, rich interaction, powerful support for effective learning, and performance based assessment.

M- Learning is one of the best solutions to overcome the barriers of Electronic Learning. E-Learning is distributed in many different forms of educational programs including online courses and web enhanced learning. It can be accessed at fixed locations with internet connections such as computer labs or from homes. E-Learning can utilize several tools such as mini lectures, electronic conventional discussion or active cooperation.

A major difference between e-learning and mLearning is that mLearning offers greater flexibility in where and when learning happens. The use of mobile devices such as the mobile phones, PDAs' has the ability to deliver live learning

system to learners situated in the environment in which they will be learning. In addition, one of the major differences is the way that the content is delivered as depicted in the following figure. In the case of e-learning the delivery mode is the computer while the mobile devices are the delivery mode in mLearning strategy.

The major advantage of mobile learning is, learning can be done anytime and anywhere and it supports continuous learning. In addition, lecturers can incorporate multimedia demonstrations in teaching and receive real-time feedback from students, using question and answering system. The lecturer is able to obtain immediate feedback on the lessons being taught. Students can easily access to the live lectures and record and review of entire lectures by using the recording system as still in the case of e-learning.

Although the existing mLearning technology which is based on the current concept of mLearning which recognizes the difference is only the technological delivery mode, appears to be not sufficient to make the students to feel that they are internal students of a respective educational institution. Of course, as a delivery mode it does better by delivering the course content to the students through mobile devices but still it does not incorporate many other functions that a modern day educational institution deliver to its students, other than just teaching. This forces us to think what type of technology would be better suited to the students who are remote to the respective educational institution but still would like to feel that they are internal students and are not engaged in any distance learning mode. Following table shows the features available in the traditional e-learning and mLearning modes.

Table 1: Features of the existing e-learning and mLearning modes

Features	e-learning	mLearning
Live telecast of lectures		√
Live broadcast of lectures	√	√

Review recorded lectures	√	√
Online assignment submission	√	√
Online exams	√	√
Online and Offline messaging system including SMS Alerts	√	√
Online exams	√	√
Discussion forums	√	√

The above table shows that the students who are using traditional mLearning mode will still not feel that they are internal students of a particular educational institution because they just view a lecturer delivering his course content from a distant place. The student is still a receiver and he is not able to do more than recording or writing down his notes.

The proposed Mlearning technology

Live telecast of lectures

The proposed mLearning technology has the capability of live telecast of lectures. However, the way the lectures are telecast is different to traditional mLearning technologies. These special features are described in the following sections.

Lecturer's perspective

Viewing students by the Lecturer

Lecturer can deliver the lecture ideally (not necessarily) in a tele-studio where he can view his students (a substantial proportion) in front of him on a screen. This allows the lecturer to feel that he is in a class room. This is very important for a lecturer because lecturer would like to see the faces of his students and find out whether they really understand his lecture by just even looking at their faces. Any lecturer will be happy to find out that his lecture is being delivered very satisfactorily.

This method also allows the lecturers from any university in the world to deliver their lectures from their respective universities to any audience in the world. This will provide a unique opportunity to minimize the knowledge gap which exists between the two sides of the globe.

Lecturing from anywhere in the world

Let us imagine a situation that a particular lecturer is overseas and he can not be physically present to give lectures to his students in a traditional class room environment. However, the proposed method allows the lecturer to deliver his lecture from anywhere in the world, if he has a computer, webcam and the connectivity. His lecture can be screened in the class room in front of the students. In this particular case, lecturer will be able to view almost all the students at once.

Questioning students while lecturing

Any lecturer would like to ask questions from the students in order to find out whether the students really understand his lecture. This is a normal behaviour that any lecturer encounters while lecturing so this is being accommodated in the proposed mLearning technology. Lecturer can pick any student or few students and ask questions and see whether they have properly followed his lecture.

Use of Whiteboards and Power Point Presentations

Usually, lecturers use whiteboards and/or power point presentations for their lectures. This is possible with the proposed new mLearning technology. This allows the lecturer to feel that he is actually lecturing in a normal class room environment. This also enhances the quality of teaching.

Recording (Attendance) Participation to lectures

In a normal class room context, lecturer takes attendance of students. Similarly, the new mLearning technology also allows us to take attendances with their

respective login and logoff times to the system when live lectures are telecast. In this way, level of the participation of students can be judged by the educational institution which will be ultimately helpful to maintain the quality of the study programme.

Assignments

In any type of course delivery today, continuous assessment system is regarded as an integral part. Therefore, the new mLearning methodology has introduced this on the mLearning web with the student's weekly schedule so students know exactly what to do and when to submit their assignments.

Examinations

We all know that some educational institutions are moving away from the traditional three hour examinations but still many prefer to have such examinations, may be even for a shorter durations, in order to judge students' organizational skills. Examinations can be held in two ways: online exams and in examination halls. The latter is preferred over the other since students will have the opportunity to come to the university/educational institution and feel and claim that they are part of that institution. In addition, this will avoid some of the expected exam offences that can encounter with online examinations.

Student's Perspective

Viewing lecturer by the students

Students would like to see their lecturer while viewing a live lecture. It will provide them a unique opportunity to feel that they are in a normal class room because the lecturer is giving a lecture in front of them. This is possible with the new mLearning technology.

Viewing the lecture from anywhere in the world

If the students have mobile or any handheld device connected to the system, they are in a position to view the lecture lively from anywhere in the world. Therefore, this technology is ideal for those who are on the move or mobile due to various reasons such as their employment etc.

Interacting with the lecturer during the live lecture

If the students have questions, they should be in a position to pose them to the lecturer in order to get clarification on certain subject matters. The new methodology proposed allows the student to do so and thus this methodology can be regarded as a user-friendly technology. In this technology, student can make a signal to the lecturer indicating that he has a question. Lecturer then will find out that some students have questions in relation to certain issues so he can lively interact with those students.

Assignments and feedback

Although both lecturer and education institution are very much interested in having assignments as an integral part of their continuous assessment system, students are similarly eager to have feedback on their assignments from the lecturer. This is being incorporated into the new methodology so students have the capacity to get feedback from the lecturer. In addition, they can also communicate with the lecturer during at an agreed specified time.

Examinations

It was mentioned earlier that the examination under this new methodology can be provided by both online and in examination halls. In order to make the students feel about the study programme and also about the educational institution that they are engaged in, it is always preferable to hold examinations in the premises of the educational institution. This will also allow the students to

interact with their fellow colleagues who are otherwise usually seen only online. Results of course can be released online.

Consultation after lectures

In normal traditional setup, students would like to consult lecturers after the lectures. Usually lecturers then assign certain consultation hours for the students to come and meet them to clarify subject matters. Similarly, the new mLearning also allows students to do the same with the use of an appropriate mobile or hand-held device.

Interaction among students

Interaction with fellow colleagues on educational as well as social matters is a part of the day to day life of any student in any educational institution. The proposed method also allows such chatting system so students will not feel that they being isolated from other communities in the educational institution.

Social-side of the academic life

As indicated earlier, students must feel that they are part of the educational institution that they are studying and hence they should enjoy all the other extracurricular activities and social events that other internal students are enjoying during their academic life. The new mLearning mode proposed here accommodates all these activities in order for the students to feel that they are internal students of the respective educational institution.

Registration and orientation

Registration for the study programmes and orientation about the study programme and the institution will provide some sort of socialization to the new students in any educational setup. The students will start feeling this is their educational institution and will not have feeling that they are remote unlike most of the students who follow programmes through distance-education modes.

Therefore, the mLearning method suggested will incorporate this activity into its process in order to make the technology proposed to be socially blended.

Workshops/Seminars

Although we consider workshops/seminars are integral part of academic life, most importantly they provide an opportunity for the students and staff to socially interact. Most often, these events will push the students and staff to a friendlier environment. Therefore, this component also is incorporated into the newly suggested model.

Festivals and other social events

Any educational institution will have many social events such as various kinds of festivals and other social events (sports meets, debates, musical shows, trips etc.) for its staff and students. If we cannot provide such an environment through our learning modes, then we are not doing any justice to the staff and students who are supposed to get engaged in that learning mode. Therefore, it is proposed that we incorporate all these events into the method suggested in this paper.

Graduation ceremony

Graduation ceremony is a very important event for any student's life in any environment. Usually, staff appreciates their students by actively participating at graduation ceremonies. Parents attend graduation ceremonies to recognize and appreciate their children's performance in the studies. By recognizing this fact, we incorporate this element as an essential element of our mLearning strategy.

Advantages

The major advantage here is that those who are denied the access to education will have access to education like the internal students in any educational institution since we have incorporated all the elements such an institution possesses.

Student does not have to be physically present in a designated class room but still he will see the lecturer and interact with the lecturer. This will be very useful for the employed people who are on the move or who are unable to attend classes regularly. However, their on-line participation for the lectures will be monitored.

Student will have the opportunity to master latest available telecommunication technologies with this learning mode. This will enhance their employment prospects.

Since the students need to use English language with this technology, they will be able to improve English language skills which will be an added advantage in the globalization context in order to improve their employability.

Students who are denied the access due to war or any other disasters may still have access to carryout their education without any interruption with this learning mode.

Those who are remote but willing to study will still have access to education through this mode in a similar way that an internal student enjoys his education.

Developing Technology and Connectivity

Following table exhibits how the existing ICT technologies can be used in a hybrid manner to provide education through the proposed mLearning in order for the students who take courses through this learning mode to feel they are no different to internal students of that particular educational insitution.

Table 3: Main features of the new mLearning mode

Features	On-line		Off-line (in the educational institution)
	Availability	Device which can be used	
<u>Live telecast of lectures</u>			

<i>Viewing students by the Lecturer</i>	√	Webcam PC / Laptop Broadband connectivity	
<i>Lecturing from anywhere in the world</i>	√	Webcam PC / Laptop Broadband connectivity	
<i>Questioning students while lecturing</i>	√	Keyboard for text Monitor Speaker / Headphone Microphone for Voice	
<i>Use of Whiteboards and Power Point Presentations</i>	√	Monitor Mouse / Mouse pen	
<i>Recording (Attendance) Participation to lectures</i>	√	System log	
<i>Assignments and Feedback</i>	√	Upload through broadband Correction could be done on the same document	
<i>Examinations</i>	√	Online exams	√
<i><u>Student's Perspective</u></i> <i>Viewing lecturer by</i>	√	PC / Laptop Broadband connectivity	

<i>the students</i>			
<i>Viewing the lecture from anywhere in the world</i>	√	PC / Laptop Broadband connectivity	
<i>Interacting with the lecturer during the live lecture</i>	√	Microphone / Text	
<i>Assignments and feedback</i>	√	View from the site	
<i>Examinations</i>	√	Online attempt	√
<i>Consultation after lectures</i>	√	Chat or discussion after the live lecture using microphone	
<i>Interaction among students</i>	√	Chat, SMS, email, offline messages	√
<u>Social-side of the academic life</u>			
<i>Registration and orientation</i>			√
<i>Workshops/Seminars</i>			√
<i>Festivals and other social events</i>			√
<i>Graduation ceremony</i>			√

Conclusion

This paper shows that the mLearning methodology proposed here is unique because this method has incorporated everything that a student will expect from an educational institution about his education and also what a teacher expects from his students. In addition, this method also has integrated all the elements that any educational institution provides for its community. Therefore, the

mLearning method proposed here is different to all other mLearning versions available at present in the world since this method satisfies the needs of all the communities that are engaged in an educational institution. It can also be treated as a hybrid system which incorporates not only the available technologies but also all other social activities related to any educational institution.

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