

# **mLEARNING : A NEW HORIZON TO IMPROVE EDUCATION IN THE MODERN AGE**

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## **Abstract**

*Recent decades witness definite improvements in the fields of education, particularly in the areas of increasing gross enrolment, decreasing drop-out rates, vocationalisation of education, ensuring access and even equity in terms of gender, marginality and regions. But, significant challenges are still there in regard to the delivery of quality education, particularly in areas where modern instructional technologies are not available. Information and communication technologies (ICTs) have definitely been the probable solutions to those challenges to cater the need of the learners in the odd places in the countryside. However, mLearning or mobile learning has become the call of the day and ICTs, specially cheaper and readily available cell phones, have been the major equipments to facilitate mLearning to improve the access to education and to promote new learning which have been the basic and stated goals of education in the modern world.*

**Keywords:** Cell phones; mLearning(mobile learning); instructional technology; information and communication technologies; new learning .

## **Education: a process of cultivation of mind.**

In its widest possible sense, education is characterized by the moral, intellectual, and spiritual development of a person. It may be noted that the conception of education as the all-round development of an individual, as a distinct form of learning, emerged in the nineteenth century. Since then, education as a process comprises cultivation of distinct qualities and traits through explicit instructions or through implicit inhibitions as part of growing up amidst family members, kin and peer groups. The domain of education enfolds both, what one learns in institutions as well as what one learns in the families and peer-groups as part of the process of socialization. To Peters (1977:11) “In other words, though previous to the nineteenth century there had been the ideal of the cultivated person who was the product of elaborate training and instruction, the term ‘an educated man’ was not the usual one for drawing attention to this ideal. They had the concept but they did not use the word ‘educated’ quite with overtones. Education, therefore, was not thought of explicitly as a family process which have as their outcome the development of an educated man in the way it is now”.

The equalization of the goal of education with literacy has invited a further shift in education. In the 1960s the UNESCO adopted a functional view of literacy with a view to foster reading and writing skills that would raise productivity in agriculture, manufacturing and other jobs. The Experimental World Literacy Programme (EWLP) narrowed down the goals by focusing on the needs of national

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economic development. It has not considered the socio-cultural and linguistic context of the learners.

The concept of literacy got widened and became a part of the educational process in the 1970s with the intervention of Paulo Freire who introduced the learners as beneficiaries. Freire treated them as 'actors' and 'subjects'. The hitherto been confined classroom learning found place in the socio-economic domain of the society. The concept of 'critical literacy' came in the foreground which emphasized the capacity of an individual to participate as an active citizen having rights to critiquing national and international practices , claiming rights and challenging power structures. The notion of learning and cultivation of mind found new dimensions in the modern age where educational technology and instructional technology directs the processes of achieving the goals of education.

Education as cultivation of reasoning ability has also been a matter of great discussion. In contrast to Plato's belief that all knowledge lies innate within the individual, Aristotle upheld that knowledge was derived from sense perceptions. The observation, for example, forms the basis of developing a principle or set of principles for understanding and explaining them. The process of arriving at general conclusions from specific or particular observations is known as 'inductive reasoning'. Aristotle has, however, referred to the last period of education as one of liberal education that "frees the mind from ignorance and is also the education appropriate for free man. The subjects to be studied in this period are similar to those that we believe were taught at Aristotle's Lyceum, chiefly mathematics, logic, metaphysics, ethics, politics, aesthetics, music, poetry, rhetoric, physics and biology"(Hobson 2001)

However, as an institution, education involves numbers of rules and regulations .It comprises both the permissive and regulative ways of life .It prepares one to follow the rules wherever necessary. At the same time education also restricts one to do anything detrimental to the society and to one's own self. It is the institution which performs the most regulatory functions in society and is correctly designated as the most important socializing agents in the society.

Though as an institution education maintains the stable and static presence of society it has processual aspects too. As a process education involves repetitive and sequential performances that keep the society in tune. In this sense education involves a movement of dynamism and continuity. It is better to be explained as a process of cultivation of mind. As a critical process, education implies extreme dynamism where the learners as actors questions the very structure and allows comprehensiveness and improvisation. Cultivation of mind involves certain specific ideas; while on the one hand it undertakes mind as vibrant receptor, on the other hand it put emphasis on the process of continuous improvement. It is an integrated and comprehensive process which cannot be ignored. As a whole the process involves specific methodology or pedagogy which can be explained as educational technology. The term technology here not necessarily means the techniques of teaching or learning but the logic of using techniques. It can be treated as an afterthought or effect. Educational technology involves the entire strategy to achieve

goals of education with the scope for improvising the process in respect to the time and space.

Educational technology as a strategy invariably requires techniques or mechanisms. The sum totality of the techniques of the mechanism as a whole are called as instructions. While educational technology presents the philosophy and strategy of the institution, instruction implies the mechanisms. As a mechanism, instruction involves the process of determining the rationality and capability of the process. Cost- effectiveness always remains to be an important denominator of instructional technology. The cultivation of mind, though an integrated process often get entangled with the instructional technology. But, the more the hiatus between educational technology and instructional technology, the less is the stated goal of education achieved. Instructional technology need not necessarily be a hardware-dependent one. It set to examine and confirm the accessibility and communicability of the performers involved in the cultivation of mind. Instructional technology is not meant to control the integrative strategy of education. It is not for the sake of using it. cultivation of mind thus involves an elaborate problem and strategy. The instructional technology definitely plays an important role in imparting education in human society. But, education as a whole refers to the process of cultivation of mind

#### **Cultivation of mind and educational technology:**

Cultivation of mind is linked with creativity and creativity can be enhanced through proper technological advancement. A creative learner needs to interact with creative teachers for development of their own creativity. Faced with unpredictable and accelerated change in almost every phase of our lives, learners are now faced with alternative points of view. A vast amount of information developing the ability of citizens to think critically becomes a condition for survival. The more choices a person has, the more he or she is in need of a reliable system to manage the right choice. It is an objective process, which considers all possible alternatives in a situation and the consequences of those alternatives. (Hefzallah1999) However, such an essential educational objective should not be considered only in a specific course of study with occasional mention in other areas. Critical thinking is an outcome of intense educational situations in which critical thinking becomes the standard procedure of interacting with the situations. Learning environment thus plays a serious role in designing educational technology which is the sine-qua-non of cultivation of mind.

Cultivation of mind is totally different as it implies detailed planning that to be applied in every field. Instructional technology takes a valuable role here. Most educational technologies would accept the proposition that integrating technologies into the educational context is complex task; partially there are many stake holders with differing respective values and interest. At this juncture, it becomes important to differentiate between the popular use of the term technology and the more robust and accurate representation. The word is commonly used in the field of instructional and educational technologies today to refer to the electronic tools.

Cultivation of mind is always related to the learning environment. Special attention requires to be given to the designing of learning environment conducive to

the cultivation of the educated person who possesses extraordinary qualities and technological skills .The learning environment is not a chance environment. It requires the planning and programming to achieve the designated educational objectives. The technology of information-age provides students and teachers the tools and vehicles through which models of excellence can be accessed.

In a learning environment, students have a choice in how they learn, which resources they use, and where they obtain the knowledge they need to be successful academically. In a learning environment a student has unrestricted access to all information resources both in physical and virtual world. In fact, it refers to an environment where physical barriers to learning no longer exists.(Wilens –Daugenti, 2009)

To structure an effective learning environment, clear understanding of educational technology is essential. In many teaching instances, technology is treated as an afterthought or as an addition to a teaching plan that can be executed without the use of technology. In other instances, use of technology in instruction is considered to be a practice of a teacher who is keeping pace with the times.

Instructional technology should not be an afterthought. It is not either a fad. It is firmly grounded in educational technology. Educational technology is a technology of mind which may or may not use hardware or a highly technical teaching strategy to achieve the stated educational objectives (AECT, 1977).Its main goal is to achieve excellence in education. It requires systematic planning based on our knowledge of human learning. It examines accessible communication and information technologies to determine those most appropriate for the achievement of the desired objectives in a cost effective manner. The choice of technology of instruction is determined not only by economic considerations, but by the unique characteristics of each technology, the purpose of using it, with whom it will be used, and under what circumstances.

### **Educational technology vis-à-vis instructional technology:**

The term educational technology is frequently used to denote programmes and systems designed specifically to teach any subject or concept. Educational technology is linked with instructional technology. Effective instructional technological programmes are usually designed to ensure the proper functioning of educational technology. Educational technology, in a more flexible sense, refers to the technology of mind, which need not necessarily depend on the use of highly technical teaching strategy to achieve the stated educational objectives. The choice of technology of instruction is determined not only by economic considerations but by the unique characteristics of each technology, the purpose of using it, with whom it will be used, and under what circumstances. However, effective teaching / learning system employing information media and technologies is generally proved to be advantageous to the learners. Effective method of storing and retrieving information also helps in the ways of professional assistance to teachers. With the help of proper educational technologies rich resources of information for the teachers are gathered for the use of the learners.

## **Educational technology and learning environment**

Information technologies have proved to be of significant advantage to teaching / learning process. Development in these technologies provides more powerful and versatile application in education. Educators, from time immemorial have advocated the need for individualized, flexible interdisciplinary learning environment. One of the necessary conditions for effective learning environment has been its flexibility. To achieve the balance between learners – centered education and what educators, parents and the community considers being important, flexible teaching strategies supported by rich and diversified instructional materials have always been the essential component in planning and administering effective learning environment.

A flexible learning environment is one which is rich in resources and provides existing and appropriate learning experience to all students involved. It also helps to achieve a balance between student's individual needs and the study of systematic sequential curriculum which experts and educators consider essential for an effective and productive living.

An appropriate learning environment also ensures an interactive environment. One of the most significant characteristics of this new learning environment is that it uses technology in putting the learner in control of learning. Through pedagogically guided steps, students proceed in their learning at their own pace and follow avenues of the interest. The interactive environment follows the new avenues that become available in day to day life. In the early days of civilization man attempted to find answers to phenomenon, problems, or difficult task to handle. As a result of struggle with daily life, human knowledge expanded. As the time changes technology has contributed to the society to change the expanded knowledge more scientifically.

## **Technology and Learning environment**

Educational technology as well as the learning environment definitely put major emphasis on instructional technology which largely involves technical know-hows in the pursuit of knowledge. The changing nature of learning technology is gaining momentum giving priorities on certain specific realities. Firstly, technology based learning is perceived to be the conqueror of time and space in enabling skill and knowledge. It is considered to be a means to facilitate the inter connectivity of the people separated by time zones and other spatial walls. Secondly, it is assumed that technical support, particularly on line support, can easily substitute the class room (face to face) training. Thirdly, it is argued that learning technology with an upfront involvement may in the long run be cost effective and rather cheaper. Fourthly, it is also stated that technological apparatus can easily transcend the class room and can bring the learning situation in the work place, at home, at hotels or at the place as desired. Fifthly, as the work place has itself changed and has become the E-workplace, it is impossible to have an appropriate learning situation in the traditional classrooms. A complete re-thinking has become mandatory and dependence on technology has become unavoidable. All these, however, do not ensure that educational technology has totally been subjected to the instructional

technological devices. Over-reliance on technology simply equates itself with the means rather than the end. Education becomes as an enabler not a strategy; the highway and not the destination. The role of technology-based education hardly allows gestation period. It enforces the person to take deliberate steps. The experience and observation shows that the learning environment requires being an encompassive one. Continuous learning always remains an ideal. It embraces all of the technical and non-technical aspects to ensure an appropriate learning environment to ensure the stated goals of education.

### **Learning environment in the modern age.**

Learning environment, the base of any successful implementation of educational technology, varies in times. Definitely the learning environment in an information-age exhibits certain specific structures. It is assumed that the learning environment in the modern age is commensurate with the accelerated rate of scientific development. It also demands that the goal of education is compatible with the new situation where a facilitation of change becomes a new thrust for education. Learning environment in modern age cannot remain aloof from the serious world problems too. The increased use of technology and its consequent changes in the family life style also shapes the modern learning environment. Hence, changes in the socio-economic environment require to be addressed in assessing learning environment also. Moreover, strong needs for common shared information invariably place the current learning environment ahead of the early situations. It invites new forms of literacy in the forms of visuals, computer, media and retrieval literacy and all these invite new attention to understand the changing nature of modern learning environment.

To be educated for functional living in the 21<sup>st</sup> century, it becomes imperative that students acquire the basic understandings of scientific knowledge as all these are related to our daily living. It is also assumed that the learners in the modern age develop the ability to employ problem-solving skill in dealing with the variety of issues. Scientific investigations are thus extended to all fields of human knowledge and activities. It advances at an accelerated rate due to improvement in research tools and method of storing, sorting, analyzing and sharing information. To meet the challenge of the vast growing body of knowledge, learning and teaching should be more interactive and technology based.

Sharing of information is greatly facilitated by the advancement in telecommunication and information processing. Instant interaction and sharing of information now, is not limited to face to face communication. Change has become synonymous with life. As change is accelerated, our survival now depends on education, which prepares individuals to deal with change. Learning environment in the modern era has also been seriously linked with the issues like environmental pollution, deterioration of values; inflation, world hunger, terrorism, military confrontation, and similar problems that need immediate attention of the world community. Education can help in many a ways to solve the problems in a rational way. It may help in developing that how natural resources can be used without harming there inherent ability to renew themselves.

Technological advancement has also affected the family life styles. When technology gets into home, especially at an early stage family lives get affected and technology proves to be apparently useful. As the time passes the usefulness of technology improves and can be applied to the daily life of the people for long term improvement of the society. Automation can help to make life easier. It can eliminate the mundane efforts one might spent in performing one function to another. It can speed up communication between people and it can shorten the physical distance between people. It can increase the speed and efficiency with which a service is offered. However the limitation of automation may lead to the breakdown and may cause problem. Scientific and technological products can always be improved, people seems to find it easier to grasp the advantages of machinery products. Man does not have to abandon technological development because of mishaps. To foster proper communication in a society there is a need for shared information among the citizens. Lacking common information, communication among community members may hamper the improvement of the society. The need to broaden the knowledge-base of young people is urgent. Technological advances, however, could complicate the problem of lack of shared information in many a ways. Advance technology will dictate highly specialized personal and need for improvement in the society. Similarly, as the pace of modern life has become faster, it has also affected cultural literacy rapidly. To be an educated person in the modern communication and technological age, one has to posses some basic information about technologies. Now a day's literacy programs around the world are aimed not only at the training of the uneducated masses in basic courses regarding the writing skill but also making the people well equipped in computer application also.

### **mLearning in the modern age : the Cell-phone device**

As instructional technology has been highly linked with technology, modern learning has become mobile in different perspectives. Information technologies have definitely been proved to be of significant advantage to the teaching / learning process. Development in these technologies often provides more powerful and versatile application in education. One can look at our current era as the golden era of technology in education. Educators have at hand very efficient tools to structure learning environments conducive to the achievement of the goals of educational reforms. All these have been preceded by individualized, flexible, interactive and up to date learning environment. It has promoted new learning and ultimately mLearning has become one important dimension of modern educational technology. The concept of mobile learning (mLearning) – understood as learning facilitated by mobile devices – is gaining traction in the developing world. The number of projects exploring the potentials of network and mobile phone-facilitated mLearning in the developing world is steadily growing, spurred in part by the use of mobile technology in the educational sector in the developed world. The use has expanded from short-term trials on a small scale to large-scale integration. However, there remains a lack of analysis that brings together the findings of the rising number of mLearning projects in the developing world. The literature on mLearning points to a variety of benefits that mobile phones could have on the educational sector. For heuristic purposes, the impacts of mobile phones on educational outcomes that are

identified in the mLearning literature can be classified into two broad categories. On the one hand, mobiles supposedly impact educational outcomes by improving access to education while maintaining the quality of education delivered. On the other hand, mobiles purportedly impact educational outcomes by facilitating alternative learning processes and instructional methods collectively known as *new learning*. (Kukulska-Hulme & Traxler 2007, Traxler, 2007).

Of the many different forms of ICTs, mobile phones are thought, for several reasons, to be a particularly suitable tool for advancing education in developing regions. First, mobile phones are the most prevalent ICT in the developing world, and the penetration rate is rising rapidly. In Asia, mobile penetration has doubled within a short span of time; in 2001, average penetration was 19.7 per 100 inhabitants while in 2005 the penetration rate rose to 40.9 (Orbicom, 2007). Currently the penetration has reached to its maximum. Also relevant is the fact that mobile phone ownership is increasingly more common in the lower socio-economic segments of society (Samrajiva & Zainudeen, 2008). Second, mobile phones are an especially good 'leapfrogger' since they use the radio spectrum. There is, therefore, less need for new physical infrastructure such as roads and phone wires, and base-stations can be powered via generators in places where there is no electrical grid (Economist, 2008). Finally, in addition to voice communication, mobile phones allow the transfer of data, which can be particularly useful for delivering educational content over long distances.

Mobiles can also supposedly facilitate knowledge-centred learning by providing efficient and inventive methods by which students can learn with understanding – meaning that they deepen their understanding of a specific subject matter rather than merely memorizing large amounts of information – and then use this knowledge as a basis for new learning through integration and interconnection. Mobile devices make possible assessment-centred learning as well by enabling the provision of continual feedback throughout the learning process, presenting learners with diagnosis and formative guidance as to what might be improved or what might be learned next. Moreover, in providing prompt feedback, mLearning maintains the appeal of learning and provides a motivating factor that can at times be lacking in traditional modes of education (Geddes, 2004). Mobile phones also facilitate community-centred learning, meaning learning that the learner deems valuable because of its relevance to the surrounding social context; mLearning facilitates learning that can be used to achieve socio-economic goals that respond to problems, such as problems related to health or family care confronting the surrounding community (Sharples et al., 2007; Wagner & Kozma, 2005). A new horizon, a new road-map thus can be easily sorted out to improve the scope of education in the developing countries at the initial decades of the current century.

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