A STUDY ON E-LEARNING AND E-LEARNING MODULES IN EDUCATION

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Abstract

This paper analyzes on the technology and impact of e-learning on education. Education is a lifelong process which proceeds from birth to death. "Teacher Education is, of course, at the base of all educational systems. The quality and nature of teacher training determines the nature and success of educational systems" (Mohan Radha, 2013). Educational technology has a significant positive impact on achievement of subject areas, across all levels of school, and in regular classrooms as well as those for special needs students. The rapidly growing usage of technology in today's world is stressing the teachers to consider the integration of ICT into classroom. ICT can be used as a tool for motivating students to learn in a different way. e-learning is often used to designate an educational programme that uses computer or internet. The term covers a wide set of applications and processes, such as web-based learning, computer-based learning, virtual classrooms, and digital collaboration. Today, opportunities abound for learning through multiple media from pictures, overhead projectors, and filmstrips to moving pictures, videos, and computers. Hence this paper tries to bring out a clear picture on the impact of e-learning on education.

Introduction

The term 'education' has been defined by different educationalists, philosophers and thinkers in many ways. According to James L. Mursell, 'Education is shaping of personality'. **Swami Vivekananda** says "Education is the manifestation of the perfection already existing in man." According to **John Dewey** "Education is the reconstruction or reorganization of experience which adds to the meaning of experience and which increases the ability to direct the course of subsequent experiences. "Education is a lifelong process which proceeds from birth to death. The educational agencies are the place where education is imparted to mankind.

Teacher Education

"Teacher Education is, of course, at the base of all educational systems. The quality and nature of teacher training determines the nature and success of educational systems" (Mohan Radha, 2013) Teacher education is a continuous process and its pre-service and in-service components are interconnected to each other's. Teaching is both a skill and art. Mass literacy

goals as well as the emergence of technology transferred the character of teacher training and its philosophy. The National Policy on Education, 1966 reflects precisely this change in the concept and practice. The term 'teacher education' implies the lifelong development of pedagogical and disciplinary knowledge in relation to an understanding on theories of learning and development, the historical and philosophical contexts of education and the ability to adapt instruction to a variety of learning situations.

As per the NCTE Act 1993, the term Teacher Education means the programmes of education, research and training of persons equipping them to teach at pre-primary, primary, secondary and senior secondary stages in schools and includes non - formal education, adult education and distance education. Today's education for teachers and teaching is involved with numerous other complex patterns directly or indirectly associated and the strategies for teaching and learning that necessitate newer approaches and continual orientations to suit the changing patterns and priorities in education.

"For over a century, education has continued largely unchanged. Classrooms full of students accepting to the wisdom of an all-knowing teacher has been in the accepted mode of instruction. Despite many technological advances and the introduction of new pedagogical concepts, the majority of today's classrooms continue to follow the traditional mode of teaching and learning. Educators have flourished in the advancements in technology, but the increasing rate on change of these advances now look to be threatening this situation. The world is changing. It is getting both smaller and bigger at the same time. Our world shrinks as technologies now allow us to communicate both synchronously and asynchronously with peers across the world. Equally, the explosion of information now available to us expands our view of the world. As a result of the ability to communicate globally and the information explosion, education should change." (Sinha Lalitha, 2012)

Collaborative learning: ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. Apart from modelling real-world interactions, ICT-supported learning provides learners the opportunity to work with people from different cultures, thereby helping to enhance learners' team spirit and communicative skills as well as their global awareness. It models learning done throughout. The learner's lifetime by expanding the learning space to include not just peers but also mentors and experts from different fields.

Creative learning: ICT-supported learning encourages the manipulation of existing information and the creation of real-world products rather than the presenting received information.

Integrative learning: ICT-enhanced learning promotes a thematic, integrative approach to teaching and learning. This approach eliminates the artificial separation between the different disciplines and between theory and practice that characterises the traditional classroom approach.

Evaluative learning: ICT-enhanced learning is student-directed and diagnostic. Unlike static, text or print-based educational technologies, ICT-enhanced learning identifies that there are many different learning pathways and many different articulations of knowledge. ICT allow learners to explore and discover rather than merely listen and remember.

Education technology – its impact

Educational technology aims to improve the teaching – learning process. It may be defined as "the development, application and evaluation of systems, techniques and instructional aids to improve the process of human learning". (Sivarajan. K, 2018).

In 1994 Software Publishers Association (SPA) study, research found that;

i) Educational technology has a significant positive impact on achievement of subject areas, across all levels of school, and in regular classrooms as well as those for special needs students.

ii) Educational technology has positive effects on student attitudes.

iii) The degree of effectiveness is influenced by the student Population, the instructional design, the teacher's role, how students are grouped, and the levels of student access to technology.

iv) Technology makes instruction more student-centered, encourages cooperative learning, and stimulate increased teacher/student interaction.

v) Positive changes in the learning environment evolve over time and do not occur quickly.

Emerging trends in educational technology

Educational technology can be regarded, as the application of systematic knowledge about learning and instruction to teach and train with the aim of improving their quality and efficiency. For this reason, a wide range of presentation, control and feedback devices may be employed such as teaching machines, stimulators and computers which later on had intertwined into the fabric of educational technology. The point is that it is not merely a system of presentation, a particular technique or a set of principles; it is a methodology for discovering an efficient means of organizing learning situations to attain specified objectives. The two major styles that have developed in the process of educational technology are: technology for mass instruction and technology for individual instruction.

Included in the first type are instructional broadcasting, television filmed lectures, CCTV, motion pictures, power point presentations, projectors etc. Under the second one, there are equipment's and materials designed for individual operation such as teaching machines, programmed instruction, auto-tutorial system, computer-assisted instruction, language laboratories, MOOC courses, m-learning, e-learning and e-content learning modules.

ICT in education

ICT refers to technologies that provide access to information through telecommunication. It is similar to information technology. This includes the interest, wireless networks, mobile phones and other communication mediums. "The new digital ICTs are not single technologies, but combinations of hardware, software, media and delivery systems". (Krishnamurthy R.C., et.al, 2003) According to UNESCO "ICT is a scientific technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters". Information Communication Technologies **(ICT)** at present are influencing every aspect of human life. ICT is playing major roles in places, business, education, and entertainment. ICT is a catalyst for change; change in working conditions, handling and exchanging information, teaching methods, learning approaches, scientific research and in accessing information communication technologies. In this digital era, ICT use in the classroom is significant for giving students opportunities to learn and apply the required 21st century skills. ICT improves teaching and learning and its importance for teachers in performing their role of creators of pedagogical environments. ICT helps a teacher to present teaching effectively and helps the learner to understand the concepts easily. Teachers are the main part of the educational field in our society. Teachers can play a friendly role with the learner. The rapid development in technology has made creatively great changes in society. Its' making dynamic changes in society. Because ICT provide both students and teachers with more opportunities in adapting learning and teaching to satisfy the individual needs, society is forcing schools aptly to respond to this technical innovation.

Need and importance of ICT

The rapidly growing usage of technology in today's world is stressing the teachers to consider the integration of ICT into classroom. ICT can be used as a tool for motivating students to learn in a different way. It can be effective and sufficient. It gives learners immediate access to source materials and it can be dynamic and integrative. ICT in schools can be used as a school communication tool to enhance student learning and better teaching techniques. It helps in educating the teaching skill, and helps in improving professional development and educational management. ICT helps teacher to pass information to students within a very little time and to design educational environment. It helps to identify creative children in educational institute.

ICT has to support new pedagogical methods, accessing remote resources, enabling collaboration, extending educational programmers and developing skills. ICT in education means teaching and learning with the help of ICT. Education policy makers and planners must first of all be clear about what educational outcomes are being targeted. These broad goals should guide the choice of technologies to be used and their modalities of use. The potential or each technology varies according to how it is used. *According to Talaea (2011)*, ICT is just a piece of a large puzzle under the heading of ways of securing and facilitating high quality educational life at school and home for students. ICT plays an effective role via creating motive depending and expanding learning and sustaining learning as well as removing boredom and creating subjective skills.(Shariatmadari, 2013). Through increasing critical thinking among learners and cooperation and participation in learning, ICT leads to an expansion of students and instructors thinking skills, bring about conditions where in the instructor shares his own information with others through school social communication. E.g. emails, Bluetooth, viper, what's app SIMs, and modern social networks and thus reinforces social communication anytime and anywhere based on the learner's responsibilities.

Educational software packages

Many educational software packages or course ware is available in today's market, and the number is growing quickly. Many packages created are found to be of poor quality in terms of instructional and/or technical design. As a microcomputer in the classroom is effective as the software used with it, it is pivotal to study the pros and cons of the courseware thoroughly before purchasing it.

"Once the need for educational software has been clarified a list of potential software packages should be compiled. There are a variety of resources that will help educators examine through the great number of available titles. These include education journals, producer catalogues, indexes, databases, and guidebooks which make titles accessible by subject matter, grade level, hardware requirements, reviewers' score, and other criteria. In addition, software can often be seen in use at conference exhibits and at educators' resource centers. Word-of-mouth information supplied by colleagues having experience with specific courseware titles can also be valuable.

Instructional characteristics

- Purpose of package is well-defined

- Package achieves its defined purpose

- Presentation of content is clear and logical

- Level of difficulty is appropriate for target audience

- Graphics/color/sound are used for appropriate instructional reasons

- Use of the package is motivational

- Package effectively stimulates student creativity

- Feedback on student responses is effectively employed

- Learner controls the rate and sequence of presentation and review

- Instruction is integrated with previous student experience

- Learning is generalizable to an appropriate range of situations

Using language for communication

- Communication and language are very closely related but they are not the same phenomenon. On one hand, language does not only enable us to communicate with other people. It also has important mental functions and affects how we understand and reflect on the world around us. Our experience of language in social settings leads us to categorize the world in similar ways to people around us and to manipulate these categories in our thinking. The importance of this cognitive aspect for foreign-language learners, whose encounter with a new language requires them to cope with new categories of experience and new ways of manipulating them.

- Nor, on the other hand, is language the only means by which a person communicate. In a noisy situation, for example, we often resort to gestures to convey simply messages;

amongst people who know each other well, an ironical facial expression can be so powerful that it can completely reverse the superficial meaning of the words it accompanies, and in everyday conversation, non-verbal signals such as posture and eye-contact play an important part in regulating turn-taking between speakers.

E-Learning

The term e-learning is often used to designate an educational programme that uses computer or internet. The term covers a wide set of applications and processes, such as web-based learning, computer-based learning, virtual classrooms, and digital collaboration. Increased motivation, reduced learning time are other benefits to students. E-learning is the name of electronic technology used in teaching and learning processes. Since the beginning of 20th century, information and communication technologies like cinema films, gramophone, sound tracks, radio, television, magnetic sound bands by which information based on sound and image are stored and transferred have been frequently used in class teaching and distance learning. Early developments in e-learning focused on computer assisted learning, where part or all of the learning content is delivered digitally. These types of e-learning activities can be classified according to its objective whether the activity serves as a replacement for face-to-face instruction.

"E-learning is defined as the systematic process of design, development and delivery of learning interventions, using various information and communication technologies (ICT)". (Dubey Madhuri, 2011)

 "Although most commonly associated with higher education and corporate training, e-learning encompasses learning at all levels, both formal and non – formal, that uses an information network – the Internet, an intranet (LAN) or extranet (WAN) – whether wholly or in part, for course delivery, interaction and/ or facilitation. Others prefer the term online learning. Web based learning is a sub-set of e-learning and refers to learning using an Internet browser (such as Netscape or Internet Explorer)" (Shastry Vipin, 2009)

Importance of e-learning module in teaching

E-learning module promotes the problem-solving and critical thinking that are integral to students' success in the global economy. The importance of e- learning module in teaching are listed as follows:

- E- learning module resources help students acquire necessary ICT skills for personal and professional fulfillment as adults.

- E- learning module is useful for the efficient access and retrieval of reference material.

- E- learning module reduces learning time and increases knowledge retention rates.

- E- learning module effectively integrates information access into routine education processes.

- E- learning module reduces resource requirements necessary to maintain reference material.

- E- learning module is flexible that is useful for all type of learners.

- E- learning module is a self-paced learning material.

Standards of e-learning module

- E- learning module standards are rules that the module developers should follow. Standards are engineering or technical specifications that help e- learning module developers to establish uniformity. The different kinds of standards are mandatory, voluntary and defacto. Mandatory means one should comply, voluntary as one may or may not follow and defacto which are well established common practices but may not be formally published. Ensuring the high quality of the e- learning module is concerned with creating, communicating, and maintaining consistent development standards. Writing and textual, graphical and page design, questions and test, interactivity and audio/video standards and guidelines are to be ensured before finalizing. With respect to the quality of the e- learning module it should be correct, adaptive, communicative, interactive, reflexive, explorative, standardized, etc.

- E-learning industry follows certain standards for integration of course ware. There are several standards available today for content integration and interoperability. International bodies generally design and publish the standards. According to International Organization for Standardization (ISO) standards can be defined as "documented agreements containing technical specialization or other precise criteria to

be used consistently as rules, guidelines or definitions of characteristics to ensure that materials, products, processes and services are fit for their purpose."

E-learning module-Guidelines

E-Learning module is the electronic learning content which is the integration of certain multimedia component such as text, image, animation, video audio. The UGC-CEC's e-learning module scheme aims at developing high quality e-learning module as well as expertise for generating such module over the long term. The scheme provides financial assistance and technical support to the teachers and other experts based in colleges and universities for the development of e-learning module. The e-learning module development does not seek to replace traditional teaching and learning, but is expected to supplement them. The inclusion of e-learning module in learning is now evitable and the UGC-CEC initiative is designed to meet the new challenges and to help India make the lead in this newly emerging field.

- The module, once developed will be maintained at the mirror sites the UGC information networks (UGC-Infonet) will also be available at CEC website. The module will be accessible to all teachers and students to the Indian University system throughout the length and breadth of the country. The goal of the UGC-CEC's e-learning modules scheme is to encourage individual teachers, group of teachers in colleges and universities and experts in the IT industry in visualization and multimedia production to develop educational content in electronic format suitable for use in various teaching and learning programs. Moreover UGC-CEC has formulated some guidelines for developing e-learning modules.

Conclusion

For many, the typical classroom experience is a teacher imparting his wisdom through lecture and presentation. This one-way communication tradition has resulted in transmission of knowledge since the dawn of time. Yet, increasingly, it is being challenged. Educational technologies have the ability to go beyond audio. Not only can they present multiple media, but they can also prompt the learner to contemplate information, perform tasks, refine thinking, and demonstrate understanding. Multiple modalities (audio, visual) and active learning make this possible. When a child is asked to picture "learning," the attributes naturally come to his mind are nothing but classrooms, teachers, desks, paper, and pencil which are all part of the traditional learning environment. Today, opportunities abound for learning through multiple

media from pictures, overhead projectors, and filmstrips to moving pictures, videos, and computers.

These opportunities not only involve the learners but also hold teachers accountable for student learning which places considerable pressure on teachers to ensure increase in each student's knowledge and abilities. In conventional teaching, different teachers teach in different ways. Even though all the teachers use standardized methods and content to teach, the learning outcomes are different for different learners with unique abilities. No single method of teaching through a single medium can make students with unique abilities compete in future. Every student today needs self-paced learning in par with their abilities where a multimedia content will be useful to address these issues and it will enhance their learning process too.

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