

Role of E-Learning in Higher Education in India, Benefits and Challenges: A Review

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Abstract

This paper describes e-learning, its benefits and challenges at higher educational institutes in India. The purpose of this paper is to present an intuition about e-learning and its use in the higher institutions. Further, it elaborates the reasons for slower progress of e-learning. It also discusses the role, which librarians can play for providing effective e-learning environment in higher education.

Keywords: E-learning, higher education, ICT, educational institutions

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INTRODUCTION

Current advancement in ICT has manipulated education and learning strategies and has created a new system of education which is called E-Learning [1]. In simple way, e-learning is a use of any electronic media in learning and teaching, which covers a wide set of applications and process. E-learning is being implemented more and more frequently in higher education, creating new opportunities for both educational institutions and students [2].

E-learning can also prove beneficial for professionals who cannot devote full time to the conventional methods of learning. The students can learn all by themselves and independently anytime from anywhere with the assistance of helpful sources like: videos, graphics, documents, quizzes, reports, as guidance to their coursework that enables a complete in-depth understanding of concepts [3]. Bhattacharya Sharma argued that ICT also allows for the creation of digital resources like digital libraries where students, teachers and professionals can access research material and course material from any place any time [4]. The web and the internet is the core of ICT to spread education through e-learning. E-learning allows higher participation and greater interaction. It challenges the concept that face to face traditional education is superior to it.

Education in India is provided by the public sector as well as private sector, with control and funding coming from three levels: Central Govt., State Govt. and private organizations. Under Indian constitution, free and compulsory education is provided as a fundamental right to children between the ages of 6 and 14. The Indian department of education has categorized formal education in three levels, primary education, secondary education and higher education. India's higher education system is the third largest in the world, next to the United States and China. The main governing body at the tertiary level is the University Grants Commission (UGC), which enforces its standards, advises the government, and helps coordinate between the center and the state [5]. Fee argues that the modern concept of e-learning, and even the term itself, is not much more than a decade old [6]. According to the etymology in Webster's American English Dictionary, the term first appeared in the year 1997. It started at a time when people were adding 'e' as a prefix to many common words, including e-mail, e-business and e-commerce etc. Since then, the term is very rapidly adopted, and became common currency all over the world by the turn of the century. Nonetheless, it was not in general use in education until 2002; other terms were used as being synonymous with e-learning. A search in the literature throws up networked learning, online learning, Computer-Assisted Learning (CAL),

Computer-Based Learning (CBL), Web-Based Instruction (WBI), and computer-mediated learning to name a few. However, e-learning is increasingly becoming an umbrella term used to describe them all [6].

E-learning is considered an approach to traditional learning that embraces new thinking associated with new technologies. Thus, as stated by Fee, the 'e' in e-learning stands for many meanings [6]. It stands for electronic (adding technology to a process), experience (changing the character of the experience of learning by time-shifting, place-shifting, simulation, and community support, to mention a few), and expansion (the opportunity to expand learning offerings beyond the limitations of the classroom).

Terms and Definitions

E-learning is a broad term that includes use of electronic device/media to support learning, whether online or offline. There are many definitions of e-learning:

Fee defined e-learning as an "approach to learning and development; a collection of learning methods using digital technologies which enable, distribute and enhance learning" [7].

"E-learning refers to the use of internet technologies to deliver abroad array of solutions that enhance knowledge and performance" according to Rosenberg [8].

As per The ATD Learning Circuits': E-Learning Glossary

"E-learning covers a wide set of applications and processes, such as web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via internet, intranet/extranet (LAN/WAN), audio- and videotapes, satellite broadcast, interactive TV, CD-ROM and more".

Types of E-Learning

E-learning has the following types: Sloman [9].

Web-Based Training

It incorporates training; technology is used primarily through web based learning to

deliver content to the end user without significant interaction with (or support from) training professionals, peers or managers. A significant industry has grown up around this web based training of e-learning: content authoring, content asset management, instructional design and learning management.

Supported Online Learning

This type of e-learning is used mostly in higher education. It is because the majority of the content of the course may be delivered through lectures or through distance-education textual material. The course is categorized as e-learning because the interaction with the instructor, the dialogue with other learners, the searching for resource materials, the conduct of collaborative activities, the access to course outlines and supporting material are all conducted online.

Blended Learning

A new form of learning known as blended learning is emerging. Blended learning combines e-learning tools with traditional classroom training to ensure maximum effectiveness. Students can prepare for, consolidate and recall classroom experiences online, while gaining the benefits of interaction with teachers and students via an actual or virtual classroom. With blended learning, more than one teaching or learning method complement each other and learners benefit in getting information from both methods [10].

E-LEARNING IN INDIA

Government of India also came with the idea of promontory use of ICTs in education and set up a national mission on education through ICT (NME-ICT). To promote technology driven education, the country launched a dedicated satellite EDUSAT on September 20, 2004 with the expectation to bring both quantitative and qualitative revolution in education and help in e-learning or self-education. There are plenty of e-learning projects launched in India which help and motivate learners to learn through computer. Currently, there are several projects to promote education learning environment. Some of the major projects are e-GyanKosh, Flexilearn, The National Programme on

Technology Enhanced Learning (NPTEL), Consortium for Educational Communication (CEC), Institute of Lifelong Learning (ILL), e-PG Pathshala, Sakshat, Media Lab Asia etc. [3, 11, 12].

The ICT initiatives launched from time to time show that India is prepared to reap the benefits of internet. However, meeting the requirement of the e-content in different Indian languages is a challenge in India.

Benefits of e-Learning in Higher Education

There are many benefits that can be derived from e-learning. A number of researchers such as: Mobbs [13]; Taklani [9]; Uhomobhi [14] have explained benefits of e-learning. Some of the benefits of e-learning are listed below:

The 4 As of E-Learning: Anytime, Any Place, Any Pace, Any Subject

E-learning materials can be accessed at the most convenient time for the learning. If the course material is well constructed, then learning can take place in short segments and can be customized to suit the learner's needs.

Empowerment

Students are in charge of their own learning.

Flexibility

E-learning material can be accessed in a non-sequential way, enabling students to navigate content in different ways, or obtain a global view before tackling the details of individual units.

Cost Effective

Large numbers of learners can have access to the same materials but can be supported by peer-to-peer or student-to-tutor support services thus reducing the cost of delivery.

Up-to-Date Content

Course content is located in one place, so it can be easily updated and can provide direct links to supporting materials such as internet and library resources.

Tailored Learning

The time needed to learn a particular topic or skill is reduced or "compressed" as learning can be modified to suit the users' needs and requirements. E-learning can provide a variety of learning experiences including interactive elements.

Socio-inclusive

Students can learn in a relatively anonymous environment without the embarrassment of

failure and socio-cultural bias from personal contact.

Consistent

All students get the same standardized set of materials from e-learning.

Interactive

Well-constructed materials have elements of interactivity through simulations etc. which underpin and enforce the learning.

Collaborative

The use of groups and teams working together in collaborative learning and learner-learner interaction enforces employability skills.

Used To Track Student Performance

Students usage of the materials can be monitored and early potential drop-out can be detected and given remedial support.

Used to Facilitate Understanding

Understanding of concepts by offering alternative ways of visualizing materials and alternative explanations to those given in a single delivery mode such as a lecture, seminar or tutorial (for example, multimedia and hypermedia).

Used to Give Instant Feedback

Feedback can be obtained from online self-assessment or formative assessment particularly through multiple choice question formats.

Used for Self-Assessment

Students can be offered automatically-marked self-assessment exercises to identify skill/knowledge levels and learning needs before engaging with course content.

ISSUES AND CHALLENGES OF E-LEARNING IN HIGHER EDUCATION

Majority of the population in India is staying in rural areas and making them aware about the concept of e-learning is a major challenge. Some of the other issues are lack of infrastructure in terms of connectivity, availability of internet, lack of awareness, etc. The government is taking various measures to improve the communication systems and new technologies like 3G in the telecom space have already started to be implemented to make things better [10]. Based on a literature, several e-learning challenges related to the context of Indian higher education system have been identified and explained below:

Lack of Finance

The major challenge in improving e-learning in higher education is the lack of finance. It is

not possible to make any resource available without appropriate financial support. Financial problems push institutions to find adequate resources to develop and maintain proper equipment, provide static technical support, fund training courses and hire support staff.

Language Barrier

The extensive use of English in e-learning contents is also one of the factors that have hindered the success of e-learning, especially in non-English speaking countries like India. Ali and Magalhaes studied 'barrier to implementing e-learning: a Kuwaiti case study' [15]. The findings showed that language barrier came in second position having been mentioned by 5 out of the 11 respondents. Qureshi *et al.* concluded that 46.5% of respondents felt that understanding English was a challenge in e-learning [16].

Inadequate Infrastructure

Qureshi *et al.* concluded that 41.3% of the respondents disagree and 19.6% strongly disagree with the availability of sufficient computers in the university [16]. Islam *et al.* conducted a study on 'LIS education in e-learning environment: problems and proposal for Bangladesh' [17]. The study concluded that the universities, institutions were conducting LIS education in Bangladesh, which were not adequately, established with well-furnished computer laboratory and library facilities, because the administration did not feel any need to provide computer lab facilities, library facilities, communication equipment, other information science components and necessary infrastructures required for departments. E-learning required a certain investment in hardware, software and support staff.

Lack of Awareness about ICT

Students and teachers may not have good knowledge about the information communication technology. They may love to follow the traditional system of learning, so awareness of e-learning in India is a big challenge. Islam *et al.* suggested that students did not know how to use the particular information technology [17]. Much more attention will be required in the future on web

based training that will be delivered over the internet using the non-propriety www server and client technology. Despite the increase in number of institutions offering distance programs, little is known about the teaching practices that contribute to effective online course design and delivery.

Lack of High Quality Teaching Staff

Kamba conducted a study 'Problem, Challenges and Benefits of Implementing in Nigerian Universities' [18]. The research finding of the study exhibited that Nigerian universities face a serious shortage of experienced ICT professionals that could support the real e-learning implementation. Most of the staff did not have the adequate knowledge on how to use the e-learning programme.

Lack of Evaluation

There is no mechanism of assessing teaching effectiveness and quality of study materials of distance learning programs. Students' evaluations of teaching will help to provide instructors and course designers with feedback about the quality of their efforts [17].

Technical Difficulties

Qureshi *et al.* asserted that technical difficulties were significant aspects of implementation and integration of e-learning technologies in education system [16]. They include installation, availability of latest technology, slow internet connection, and uninterrupted supply of electricity, maintenance, administration, security and absence of technical support. Nudme *et al.* observed in their study conducted at Tanzania, in which 34% of respondents agreed that they faced the problem of access to the internet and 52% agreed with slow internet connection in the university [19].

Need for Face to Face Interaction

In the educational system, teacher and students interaction is imperative for both. Because students indulge in the class work and perk up their capability of learning. However, e-learning often lacks this kind of interaction, which students can have in traditional education systems.

Information Technology Update

Computer literacy has posed a major concern to many individuals owing to the fact that most of the things done today are computer aided. In recent years, the ICT is updated day by day and basic goal of ICT is to transfer the information at national level and global level in private and public fields.

Resistance to Change

Andersson and Gronlund suggested that student resistance shows the degree of negative attitudes towards the use of technology [16, 17]. Students studying in a system where they are used to being “spoon fed” are likely to show negative attitudes or even reject e-learning. This dependency on the teachers’ presence is likely to induce frustration and dissatisfaction with e-learning. In such cases, students perceive the classroom as the most appropriate place for teaching and learning. Thus, a shift to the asynchronous approach that is generally used in e-learning is likely to make the students uncomfortable.

Privacy and Security

The growth in web applications, like learning management system, Wikis, Portals and Blogs, require more efficient ways of providing security for identity management [16]. Furthermore, it is important that the computers have the latest operating systems and software to counter virus attacks. Students are not likely to use infected computers as they will have a trust issue in using applications that require user authentication among other reasons.

Copyright

Jones argues that copyright protection is one of the challenges of e-learning; the major drawback is that copyrighted material should be made available in digital form to the learners [9]. But then again without the copyright, the institution can be in trouble with the law and that may lead to endless battles in and between organizations over ownership rights of learning materials.

CONCLUSION

The focus of the present work is to introduce the concept, benefits and drawbacks of e-learning. The aim of the study as indicated is to identify challenges of e-learning in higher

education in Indian institutions. ICT with its huge potential to improve learning and education at a lower cost imposes a number of support requirements which must be addressed by institutions introducing e-learning. The benefits of e-learning are believed to be great enough to allow the governments of developing countries to meet the growing needs of education effectively.

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