

Effective Use of E-learning in Indian: A Step toward Enhancing Higher Education

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ABSTRACT

E-learning covers a wide set of application and processes. It involves delivery of content of resources for learning via different communication protocols. It is a continuous process where the learner deprived to attend formal mode of education. Moreover, E-learning is that form of learning which uses a network for delivery, interaction or facilitation. E-learning is comprised of the following elements. 1) Content delivery methods which have three methods i.e. live broadcasting, video on demand and interactive communications. 2) Authoring tools which are software products to create content and 3) Learning management systems which allows learner to check and assess individual progress and performance. Thus, the use of modern technology such as satellite communication, internet and electronics is the only alternative available to enhance and improve the quality of higher education.

In this paper I have traced the development and its effective use made by alternative available to enhance and improve the quality of higher education.

Keyword: E-learning, Content Delivery Method, authoring Tools, E-learning Management System.

INTRODUCTION

Advances in information technology, coupled with changes in society, have had a tremendous impact on educational systems. This provides an opportunity to develop new flexible learning environments which have not been possible before. (Alexander, S. 1995)

However, the application of technology does not change how people learn; it changes the way in which they can be taught (Horton, 2000). In fact, technology should facilitate the learning process by providing more efficient ways to teaching. (Cohen & Lippert, 1999) in this regard, e-learning can be considered as one of the most significant method of teaching by using modern technology. E-Learning is a catch-all term that covers a wide range of instructional material that can be delivered on a CD-ROM or DVD, over a local area network (LAN), or on the Internet. It includes Computer-Based Training (CBT), Web-Based Training (WBT), Electronic Performance Support Systems (EPSS), distance or online learning and online tutorials.

WHAT IS E-LEARNING?

e-learning can be described as using all electronic media and technologies, including the internet, intranet, extranet, satellite broadcasts, audio/video tape, interactive television, CD-Rom and video-conferencing, to delivery instructional content and to create, foster and facilitate learning experiences. E-learning is commonly referred to the intentional use of networked information and communications technology in teaching and learning. Several phrases have been used to describe e-learning. They include Technology Based Teaching (TBT), Computer

Aided Learning (CAL), Computer Based Learning (CBL) and Technology Enhanced Learning (TEL).

Fundamentally, they all refer to educational processes that utilize information and communications technology to mediate asynchronous as well as synchronous learning and teaching activities. E-learning is comprised of the following elements. 1) Content delivery methods which have three methods i.e. live broadcasting, video on demand and interactive communications. 2) Authoring tools which are software products to create content and 3) Learning management systems which allows learner to check and assess individual progress and performance.

E-LEARNING CONTENT DELIVERY METHOD

There are a variety of ways to deliver e-learning content. The new formats of teaching and learning include classroom training, self-paced e-learning and live e-learning.

Classroom training

This is the traditional training where the students and teacher meet in a classroom. This face-to-face training is effective in giving a personal touch, but it requires everyone to be in the same place at the same time. Classroom training is good for workshops, job training, and coaching. Exercises, feedback on activities and paper-based tests are used in the classroom.

Self-paced e-learning

Self-paced e-learning is that done at the learner's convenience with a CD-ROM or via the Internet. The CD-ROM allows for more multimedia effects, but neither includes much interaction. Sometimes a chat room or email correspondence is included in this type of learning. Self-paced e-learning is good for simulations, online case studies and interactive learning modules. E-mail, bulletin boards and online assessments can be used in self-paced e-learning when presented as a WBT. If the material is a CBT, the learning is purely individual.

Live e-learning

New technologies allow sessions to be delivered live, with students accessing the class through their own Internet connection. This allows for interaction between the students and the instructor, as well as among themselves. Typically the class includes audio, video, and text chat. Live e-learning is good for application exercises, online coaching and interaction between students. Online feedback, assessment, chats and instant messaging are advantages in this type of learning.

AUTHORING TOOLS

The term authoring tool is misleading. In fact, when people hear the term for the first time, they often assume it refers to a specialized form of word-processing software for professional writers. In fact, authoring tools go far beyond writing and word processing. E-learning authoring tools enable trainers to integrate an array of media to create professional, engaging, interactive training content, and some make it possible to

repurpose digitized elements or learning objects from an existing course for reuse in a new one. Indeed, e-learning course creation tools is probably a more accurate term for this category of software, but authoring tool is the term of choice--for now.

E-learning authoring tools are software applications that allow instructors to present the course material, sometimes along with animations, audio or video. These tools also include the capability to provide interactive tests or exams and to save the grades for the instructor. The authoring tools are divided into those for Internet delivery and those for CD-ROM or DVD delivery.

At the basic level, Microsoft PowerPoint and Macromedia Dreamweaver and Flash are used to author e-learning applications. Macromedia Authorware and Director and SumTotal Toolbook II fill in the next level and are especially used in Computer-Based Training (CBT) applications, where the material is distributed on a CD-ROM. There are also numerous other proprietary authoring tools available, many including course management capabilities. At the academic level, Blackboard seems to be the major player.

Although Authorware and Toolbook were once major players in the development of CBT titles, they have now been delegated to a minor role. Microsoft PowerPoint and Macromedia Dreamweaver and Flash are the primary basic e-learning development tools.

- ✓ *PowerPoint:* At the simplest level, Microsoft PowerPoint or a similar presentation application can be used to author e-learning. Although a PowerPoint slideshow is usually linear, hyperlinks to jump to other sections can be included. This allows the user to get more detail on a subject of interest. Audio and video clips can also be included in a PowerPoint presentation. Testing and scoring is not easy in PowerPoint. A PowerPoint presentation can be distributed as a CBT or WBT. Delivery on the Web can be viewed either graphically or as text-only.
- ✓ *HTML and JavaScript:* Standard HTML pages that include quizzes written in the JavaScript language are a simple way of developing e-learning material for Internet delivery.
- ✓ *Dreamweaver and Flash:* Dreamweaver offers the Course builder extension that allows the addition of testing to Web pages in an eLearning application. Animations can be done in Flash, making for a very flexible and usable product that can be delivered via the Internet or on a CD-ROM. Sometimes Director is used instead of Flash, because of its program language capabilities.

Choosing the Best Authoring Tool

Although selecting the best authoring tool requires close attention to detail, the process should be painless. Currently available tools offer a variety of features. For example, some tools are designed to develop extensive assessments, software simulations, or content for hand-held computers.

However, most tools are designed to create basic e-learning courses for desktop or laptop computers. The software programs support a variety of media and file types, such as text, graphics, video, and audio. Most include assessment and test creation features.

LEARNING MANAGEMENT SYSTEM

A Learning Management System (LMS) is a term used to describe software tools designed to manage user learning interventions. LMSs go far beyond conventional training records management and reporting. The value-add for LMSs is the extensive range of complementary functionality they offer. Learner self-service (e.g. self-registration on instructor-led training), training workflow (e.g. user notification, manager approval, waitlist management), the provision of on-line learning (e.g. Computer-Based Training, read & understand), on-line assessment, management of Continuous Professional Education (CPE) collaborative learning, (e.g. application sharing, discussion threads), and training resource management (e.g. instructors, facilities, equipment), are some of the additional dimensions to leading Learning Management Systems.

Most LMSs are web-based to facilitate "anytime, any place, any pace" access to learning content and administration. LMSs are favored by regulated industries (e.g. financial services) where compliance training is essential.

Leading LMS providers seek to include integrated "performance management systems," which encompass such functionality as performance management (i.e. period-based appraisals), competency management, skills-gap analysis, succession planning, and multi-rater assessments (360 degree reviews).

LMSs are based on a variety of development platforms, from Java EE based architectures to Microsoft.NET, and usually employ the use of a robust database back-end. While most systems are commercially developed and frequently have non-free software licenses or restrict access to their source code, free and open-source models do exist. Other than the most simple, basic functionality, LMSs cater to, and focus on, different educational, administrative, and deployment requirements. Open source and Web-based LMS software solutions are quickly growing in the education and business world.

THE DEVELOPMENT OF E-LEARNING

The growth of e-learning is directly related to the increasing access to information and communications technology, as well its decreasing cost. The capacity of information and communications technology to support multimedia resource-based learning and teaching is also relevant to the growing interest in e-learning. Growing numbers of teachers are increasingly using information and communications technology to support their teaching.

Despite this level of interest in e-learning, it is not without constraints and limitations. The fundamental obstacle to the growth of e-learning is lack of access to the necessary technology infrastructure, for without it there can be no e-learning. Poor or insufficient technology infrastructure is just as bad, as it can lead to unsavory experiences that can cause more damage than good to teachers, students and the learning experience. While the costs of the hardware and software are falling, often there are other costs that have often not been factored into the deployment of e-learning ventures. The most important of these include the costs of infrastructure support and its maintenance, and appropriate training of staff to enable them to make the most of the technology.

EMERGENCE OF E-LEARNING IN UNIVERSITIES

Why do universities engage in e-learning? Academics were prominent among the early users of email and the World Wide

Web, initially to support their research, access information, or communicate with colleagues, and later to supplement their teaching. As a consequence, many of the diverse strategies now in place in traditional universities can be traced to early, often modest, pilot projects and initiatives by individual teachers. While many of these early applications involved little more than making lecture notes, or other instructional materials, available online, some teachers went further, using online technology to communicate with their students, provide access to external resources and – where interest and opportunity coalesced – to develop and teach Web-based courses.

Many of these early programs were developed by staff in departments of Computer Science or Informatics, where the synergy between research and teaching was strongest, and the essential infrastructure for course development and delivery most accessible; similar synergistic opportunities (in research, marketing, or program development) stimulated involvement by schools of education, and by departments of continuing education and extension studies. As access to the required facilities became increasingly ubiquitous, and experience of using the technologies grew, online-learning inevitably expanded to embrace a wider range of programs and institutional staff.

E-LEARNING IN INDIA

The revolutionary change which is taking place in Information and Communication Technologies (ICTs) has dramatic effects on the way universities carry out their functions of teaching, learning and research, particularly on the creation, dissemination and application of knowledge. These developments pose unprecedented challenges to higher education institutions in developing countries particular in India as India is viewed as the leading country on the continent. In other word, increasingly, a number of universities worldwide including some in India are making positive attempts to implement e-learning strategies in order to enhance equity, quality, share instruction technology resources, compete in global environment of higher education and meet the rising demand for tertiary education.

The e-learning landscape in India is transforming in a rapid pace and it is driven by diverse economic, technological and social trends. Probably the most important of all these trends is the enormous demand for access to quality higher education.

However, e-learning can be considered as a part of a broader concept, distance education. Historically, open and distance learning in India dates back to the 1960s. By the 1980s there were 34 universities offering correspondence education through departments designed for that purpose. The first single mode Open University was established in Andhra Pradesh in 1982, followed by the Indira Gandhi National Open University (IGNOU), and subsequently in Bihar, Rajasthan, and Maharashtra, Madhya Pradesh, Gujarat, Karnataka, West Bengal, and Utter Pradesh (established throughout 1980s and 1990s). The establishment of these single mode distance education universities was stimulated by the government's intention to democratize education and make it lifelong. Most open and distance learning universities in India follow the model of the UK Open University. They co-ordinate communication and collaborate through the Distance Education Council (DEC), founded in 1992. DEC is responsible for the promotion, co-ordination and the maintenance of quality and standards.

A range of factors including emerging ICTs, liberalization, privatization and globalization have amplified the demand for

open and distance learning and led to expansion of e-learning programs. Anyway, technology is not a key item in India; how to use technology is the biggest challenge. In response to this challenge, the Government has partnered with private organizations, such as IBM to expand the e-learning programs.

In India, 65% of the population are illiterate. 70% of the population live in rural areas. There is a great digital divide between urban and rural India; thus, India needs to take IT to the masses in order to increase the literacy and provide access to education via e-learning programs. For this purpose, the government with cooperation of private sector is trying to provide computer literacy to the masses.

The Government of India acts as a policy enabler to nurture ICT in education. It approved a national e-governance action plan for implementation during 2003–2007 that seeks to lay the foundation and provide impetus for long-term growth of e-governance within the country. The Government's partnering with the United Nations Development Program initiated the project ERNET as part of its commitment to enhance e-learning. ERNET is an autonomous scientific society of the Ministry of IT. It is the largest nationwide terrestrial and satellite network with points of presence in the premiere educational and research institutions in major cities in the country. ERNET's focus is not limited to providing connectivity; it meets the entire needs of the educational and research institutions by hosting and providing relevant information to their users.

The need for e-learning in India is a great challenge. One of the biggest, if not the greatest, problem is to overcome the digital divide, an endeavor in which the government needs to take the lead role. The public needs to be exposed to computers and join the information revolution. People need to expose their children to computers as an enabler to learn and integrate learning. However, most of the children live in rural areas. Thus, the government has established computer literacy programs in order to take the IT to the masses particularly rural people.

ONLINE EDUCATION

What exactly is online education? As per definition on the web, it is basically credit-granting courses or education training delivered primarily via the Internet to students at remote locations, including their homes. The Online courses may or may not be delivered synchronously. An online course may need that students and teachers meet once or periodically in a physical setting for lectures, labs, or exams, so long as the time spent in the physical setting does not exceed 25 percent of the total course time.

Online education encompasses various degrees and courses. Through online education, one can opt for many online degrees or online courses from various online universities that provide this facility.

Though online education in India is still on its way in gaining popularity, we have listed those few online degree courses and online Universities in India that provide online education.

While online education in India is still in its infancy, online education abroad is quite a hit among the people. The main attraction of online education is the flexibility through which education is imparted – through the Net. And more appealing is the fact that a person can pursue an online course within the comfort of his home or any other place that he chooses. (Mohan, P. 2004).

Institutions providing e-learning facility in the curriculum of the courses are as follow:

CONSORTIUM FOR EDUCATIONAL COMMUNICATION (CEC)

Consortium of Educational Communication, New Delhi, employs media communication to cater to the needs of higher education in the country. Educational programmes are produced by Educational Media Research Centers (EMRCs) and Audio Visual Research Centers (AVRCs) located at various higher educational institutes in the country. These programmes are telecast on Doordarshan and Gyandarshan Channels.

History of CEC

One of the innovations in higher education carried out by the UGC in early eighties was using powerful medium of films for knowledge communication. As early as in 1984 UGC launched countrywide classroom (CWCR) and Production facilities at 6 universities. Initially the coordination with these centers was done from UGC office with the support of a consultant.

CEC was set up in 1993 to coordinate the development of Educational programmes in these centers and communication of the same through Television. Since then it has been working for development of educational communication in higher education.

Today, CEC have Electronic content in video form in 49 subjects and full courseware in eleven subjects. Total Video programmes are nearly 15,000 i.e., 7000 Hrs of content. Presently CEC are adding 1000 programmes annually as compared 500 programme per annum in the past. Nearly 400Hrs of content is developed annually during the last two years as compared to 150Hrs of content per year during the last one decade. The Educational programmes are telecast on Vyas-24Hrs Higher Channel and for 1½ Hrs on DD1, DD Bharti pertaining to health line & culture and for 4Hrs on GyanDarshan.

Quality

Several measures are adopted for quality assurance, namely preview, feedback, technical quality check at the time of telecasting and post telecast feedback and viewers survey. It also encourages quality improvement through competition and awards.

CONCLUSION

Historically, e-learning has been regarded as an unimportant and marginal activity by comparison with face-to-face, on-campus forms of teaching and learning. This state of affairs is changing rapidly, the change driven by enthusiasm among educators and trainers in the application of Internet-based information and communications technologies. This new technology has been taken up with equal enthusiasm by higher education systems, universities and established “dual-mode” institutions. Traditional providers of higher education—if they look ahead— can see previously unimaginable challenges posed by new “e-learning” system of education drawing on globally distributed resources, outsourcing many functions to low-cost third-party suppliers, paying only a minimum of full-time teachers and having no bricks and mortar facilities to drain their resources.

However, there are many challenges facing Indian education. Many students in the country find it difficult to achieve self-directed learning skill and a creative mind. Most students are used to memory-oriented tutoring. Extracurricular private

lessons also have adverse effects on the development of the mind and body of students.

It is obvious that e-learning could have potentially major effects on the way higher education is designed, implemented and delivered. Until now, universities have been static in their structure and delivery of higher education courses. However, demand for learning has never been so high, and this in conjunction with the need to geographically broaden learning may prompt universities to introduce e-Learning initiatives.

The same demands for learning and the increased revenue of independent educational providers, has produced a real threat to the very existence of the traditional university. E-Learning may provide universities with a means of exceeding the newly formed competition, by taking full advantage of their traditional, already established reputations.

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Although higher education institutions were quick to replace face-to-face lectures with online learning, these closures affected learning and examinations as well as the safety and legal status of international students in their host country. Perhaps most importantly, the crisis raises questions about the value offered by a university education which includes networking and social opportunities as well as educational content. Throughout this crisis, education systems are increasingly looking towards international policy experiences, data and analyses as they develop their policy responses. In recent years, higher education institutions have shown a persistent concern with enhancing students' academic performance through the use of innovative technologies that offer new ways of delivering and producing university education (Deng & Tavares, 2013; Orton-Johnson, 2009). To achieve a high rate of student academic success, e-learning in higher education encompasses the use of digital technologies to build educational materials for teaching and learning, to teach learners, and to regulate courses (Fry, 2001; Parkes et al., 2015). The Indian higher education system is facing an unprecedented transformation in the coming decade. This transformation is being driven by economic and demographic change: by 2020, India will be the world's third largest economy, with a correspondingly rapid growth in the size of its middle classes. The low quality of teaching and learning: The system is beset by issues of quality in many of its institutions: a chronic shortage of faculty, poor quality teaching, outdated and rigid curricula and pedagogy, lack of accountability and quality assurance and separation of research and teaching. Higher education in India is undergoing considerable change. With over 600 million people in India under 25 years old, the system is under tremendous pressure to expand. With a view to improve the quality of education using the ICT and to translate the power of IT into expanded learning opportunities, the National Mission on Education through ICT (NMEICT) was launched. Over the last 5 years, the NMEICT has made significant gains by developing IT interventions that have potential to change the higher education scenario. Below is the list of Digital Initiative in Higher Education launched & dedicated to the Nation in the field of Higher education. Top 16 Digital Initiative in Higher Education. SWAYAM is an indigenous (Made in India) IT Massive Open Online Courses (MOOCs) Platform for providing best quality education that can be accessed by anyone, anytime and anywhere using the IT system. E-Learning in higher education has reached many unique populations. Students who have accessed higher education through E-Learning include (a) students with disabilities [2-7], (b) rural students who find it difficult to relocate [8-13], (c) parents with children [6, 14, 15], (d) military personnel [16-18], (e) students working full time [6, 19], and (f) urban students who find it. The number of students with disabilities desiring higher education is on the rise and addressing their needs could increase the number of students participating in E-learning courses [30, 33]. An accessible course makes it possible for students or instructors with disabilities to interact with others in the class regardless of impaired mobility, speech, or vision [32, p. 314]. 3. Rural students.