

TRENDS AND ISSUES OF E-LEARNING IN LIS-EDUCATION IN INDIA: A PRAGMATIC PERSPECTIVE

Sheikh Mohd Imran
Aligarh Muslim University
India

ABSTRACT

E-Learning is as an approach to instruction and learning that utilize Information and communication technologies to communicate and collaborate in an educational milieu. This includes technological expertise that supplements traditional classroom training with web-based components and learning environments where the educational process is experienced online. This paper reflects the importance of e-learning in higher education with its extent and growth in Indian LIS education. Some of the major Indian initiatives and the target segments covered by the online education have also been detailed in this article. Emphasizes the importance of perception in relation of information technologies and communication, so that futures leaders will be better prepared regarding these technologies. The paper presents future perspective in relation to e-learning in India, where demand within higher education is no different from that seen in developed countries. The e-learning was being considered useful only for distance learning programs. But no one can deny the fact that e-learning is the most innovative application of the Internet and it has done wonders globally and currently is achieving education classroom as well.

Keywords: E-Learning; Web-Based Components; Indian Initiatives; Distance Learning Programs; Internet; Pedagogy.

1 INTRODUCTION

In a society, the student generation must be positively influenced by the imparters of education who have a higher moral, ethical and social responsibility. They have to realize the importance of technology and have to be well aware how to teach the future leaders, they need to be technology better equipped. Annually, the demand for higher education is growing globally and India is no exception to it. In fact, in India, the number of applicants is three to five times as against the number of seats in any institution of higher education.

Therefore, need arises for such a system, which will help to reach to the maximum number of learners and 'e-learning' is the solution for it. E-Learning is the experience that is delivered or enabled by electronic technology. The delivery of learning or content can be over the intranet, extranet or over the Internet, via CD-ROM, interactive TV, or satellite broadcast (WAGNER, 2008). With the passage of time, student's number is exploding on university campuses.

The universities have been averse to change their programs, both in content and delivery. A challenge is faced from alternative providers of education and training, with more focus on employability; the university professors represent a breed of career academics that remain isolated from the changes in the real world around them.

2 E-LEARNING IN INDIA

The e-learning, though reached India late of course, but it is being fast accepted in a big way. The India perhaps has watched the success of west in adopting e-learning and is trying hard to implement it. Over the past few years, the Ministry of Human Resource Development has been trying to achieve the target of making education accessible to every corner of the country. Still there are many parts of the country, which are in darkness about e-learning (MALIK, 2009).

Due to the growing Indian economy, India has a chance to become heart of e-learning programs. There are many e-learning classes which are coming to India to build and develop e-learning infrastructure.

The e-learning does not seem to replace the conventional classrooms with black boards but it seems to coexist with the already existing system. This system rather promises to reach too far off rural areas in India where education is still a looming darkness. This objective can be achieved by providing PCs at low cost with broadband connection. The chances of e-learning to strengthen the educational system in India are very high.

Furthermore the Government has also come forward undertaking the programs of upgrading the technical quality of the fresh graduates inciting them to go

into research and teaching professions. The e-learning is fast growing and seems to take control of the world because of its educational advantages (SAHA, 2010).

The scope of e-learning is much wider in India with many e-learning companies stepping forward in providing the service. Though nothing can actually outrun the popularity of traditional classroom teaching, e-learning only gives more value to the process, independent of the distance factor. In India, e-learning scenario is still growing and at an experimental stage. The traditional mindsets are changing, with the corporate and business sector leading the way in embracing technology-based learning networks.

Many institutions have started augmenting teacher-led programmes with content-rich e-learning modules. Government initiatives are not far behind either. The projection for further development of distance e-Learning in India is positive. Several efforts are currently progressing towards providing quality distance learning to more people in urban and rural areas, through the utilization of more effective web resources and practices. The major hindrance to the acceptance of e-learning can be attributed to the Indian mindset that is more inclined to traditional classroom teaching (HANSEN, 2008). The visibility of e-learning is currently limited to IT and educational CDs, but With PC penetration and overall online accessibility increasing in the country, the future of e-learning looks promising, provided the organization of content and delivery is well-structured.

3 ONLINE EDUCATION SCOPE AND GROWTH IN INDIA

The scope of open distance education in India is actually much wider. Apart from proper course works, some E-learning portals in India are also conducting ridicule mock tests for various competitive examinations like engineering, medical, management etc. There are many E-learning portals in India which are providing tutorials for school students also. Thus, the reach of E-learning in India has expanded from adults to youth.

The future of E-learning industry in India seems to be vibrant as number of Internet users is growing in the country, at quite a reasonable rate and more, and

more reputed players are showing their interest in the e-learning business. The global revenue of world stands about US\$36 billion by 2010 and e-learning market in India stands at US\$11 million in 2010. The e-learning market in India is in an infant stage and in 2002 it was approximately US\$ 4-5 million with an expected four year annual growth rate of 20-25 per cent. Companies such as McGraw-Hill, Digital Think, SkillSoft, and Mentergy are setting up operations in India which is a positive sign for the e-learning segment. In the recently published report 'E-Learning Outsourcing 2009: Advantage India', the estimated growth in the e-learning offshoring industry at a Compound Annual Growth Rate (CAGR) of 15% through 2012 is reaching USD \$603 million (it is now US\$ 341 million) (BANDUNI, 2008). While the economic recession will impact growth for the next few quarters, the market will recover and grow faster until 2012.

3.1 Challenges to E-Learning

Some of the challenges that e-learning initiatives from the Institutions of Higher Education Management could face are:

- For those Institutions offering online e-learning course, awarding a Recognized Degree for students might become imperative. Most students and their potential employers are happy only when a certifying endorsement is given.
- A fall out of the above could be escalating a number of Online Institutions offering courses with spurious certificates, which may not have any value.
- Since, the e-learning method is self-paced and self-learnt, the attention length of the student may not be enough for him/her to learn a concept.
- Generally the duration of the course also matters in this mode of lecture delivery.
- Lastly, the Legal implications of e-learning come into play. Once again, we should not forget that e-learning over internet is across geographical boundaries. This makes it all the more, tougher for the enforcing authorities to have a global legal framework for the net offender.

- Measuring the level of success and the Return on Investment would be difficult.

a) Cost

While delivery costs of e-learning are significantly reduced compared to costs associated with classroom learning delivery, especially when large numbers of learners are involved (RUMBLE, 2001). The initial development and purchase of e-learning products represents a major barrier to the adoption of e-learning training within organizations. This claim is substantiated by evidence from a survey conducted for the Office of Learning Technologies (OLT) in Canada, which found that cost was the single most important factor preventing employers from investing in e-learning (DUGAS; GREEN; LECKIE, 1999). In any case, organization must weigh the initial costs of developing e-learning against savings accrued from economics of scale at delivery time.

b) Lack of time

The lack of time as an obstructing factor comes second, after the cost barrier. Long development cycles prohibit many institutions from engaging in production of custom e-learning training. Lengthy time-to-promote is especially true for small institutions who have limited capacities to produce complex, media-rich, highly interactive and customized solutions. As a result, an increasing number of institutions are starting to outsource their e-learning activities to an application service provider (HAMBRECHT *et al.*, 2000). The trend toward the ASP model is still very slow mainly because institutions have proprietary content, highly confidential in nature, which they want to protect.

c) Content Incompatibility and Penury

Locating appropriate off-the-shelf e-learning material or converting custom e-learning (i.e., classroom-based) material for use on an e-learning platform proves a major challenge for institutions. The difficulty resides primarily in the lack of interoperability between content materials purchased outside the company on the one hand, and both proprietary content and in-house applications. Additionally, content interoperability is also an issue when converting custom, in-house training products into online products due to technical incompatibilities. In consequence, the

shortage of high-quality content, especially for the soft skills area, is hindering the adoption of e-learning by institutions that still rely on e-learning as a short-term solution.

d) Human Resistance

The enthusiasm for e-learning technologies is limited for those who do not have the skills to use the technology, think it is more cumbersome than traditional tools or simply prefer the human interaction provided in instructor-led training. Considerable evidence of the prevalence of e-learning in the workplace was gathered in surveys by Industrial Design Centre (IDC) who found that 70% of respondents preferred instructor-led seminars and training.

Consistent with these results, 88% of learners and 91% of managers expressed the desire to have a trainer assigned to an e-learning experience (MASIE, 2000). These statistics seem to indicate that e-learning solutions are blending with traditional delivery methods rather than supplanting them, a trend reflected in the growth of “surrounds” or online meeting places offering supplemental materials and communication space for learners as a way of extending the instructor-led classroom. Blended learning, a mix of e-learning may serve as a transition step to allay fears and build learner acceptance of e-learning.

e) Technological Barriers

Severe limitations of technology infrastructure also serve to hamper enthusiasm and the widespread use of e-learning technologies. These restrictions range from inadequate network speed and bandwidth capacity to incompatibility across different platforms and between different content materials. The bandwidth refers to the capacity of a communication channel to carry information (e.g., text, graphics, audio and videos). The insufficient bandwidth was rated as the most significant barrier in a survey where 65% of those surveyed indicated that increased transfer speed would result in increased usage for them. On a positive note, software, hardware incompatibility and low bandwidth are poised to improve rapidly as standards for interoperability are being developed.

4 E-LEARNING IN INDIAN LIS-EDUCATION

The scope of LIS education in India has undergone sea changes with the rapid expansion of research and development activities, particularly in the area of Information and Communication Technology (ICT). For qualitative improvement of LIS education in India, there is a need to introduce new courses based on ICTs in different LIS schools to face new challenges. In fact, technology has not only affected operations of library services but also LIS education itself. There is a need to integrate qualitative changes in LIS education to:

- Increase excellence of LIS students to meet the growing demands in e-environment.
- Face challenges due to the growing influence of ICT and its impact on LIS education.
- Suit ever-increasing demands for trained LIS professionals.
- Amplify career opportunities for LIS professionals.
- Use internet-based e-learning courses which are growing day-by-day.
- Adopt and promote e-publishing which is being fast accepted by the users.
- Transform traditional and habitual mode of LIS education in India.

The appropriate utilization of technology for imparting LIS courses can produce better results. It has now become indispensable to consider the utilization of online learning environment in LIS education. The main objectives for providing LIS education in online environment must be:

- To cover broad perspectives of the core principles of Library and Information Science and its applicability in the new milieu.
- To understand the managerial activities of Library and Information systems in present context.
- To comprehend the principles of knowledge organization, management, retrieval and delivery.
- To develop practical skills in new online virtual environment to countenance the challenges.

- To meet the demands of new digital era.
- To educate learners in the tune of market demands.
- To offer online information skills.

The education and training in LIS in the digital environment shall contribute to accomplish the following:

- Extensive theoretical and practical knowledge of information management and Business.
- Behavioral attitudes and understanding and information needs of individuals and institutions
- Financial and quantitative methods of analyzing organizational information
- Problem solving methodology
- Analytical abilities and critical thinking expertise
- Research theories and practices
- Human resource management and quantitative practices and management
- Competence in information handling
- Online information skills
- Expertise in the use of electronic information
- In depth understanding of information organization, marketing and using information retrieval systems
- Analytical abilities to access information and to understand the principles of the organization of knowledge
- Practical experience in information retrieval, indexing, cataloguing and classification of information resources
- Information management in various professional contexts.

5 SOME MAJOR INDIAN INITIATIVES

In February 2009, India launched a National Mission on Education through Information and Communication Technology (ICT), which is a billion dollar enterprise.

It will provide internet connection to about 20 thousand colleges and other educational institutions. The United Nations Educational, Scientific and Cultural Organization (UNESCO) is intended to play a significant role as a global clearing house of ideas and to foster the growth of knowledge based societies. They wish to offer sharing the e-learning materials prepared by India under this national mission by 3 the Indian Institutes of Technologies (IITs) so that all those around who wish to access quality knowledge can do so freely (ASVINA, 2009).

The E-Gyankosh, a National Digital Repository of learning resources, project was started by Indira Gandhi National Open University, in 2006. The repository was developed using DSpace open source software, which ideates to store, index, preserve, distribute and share the digital learning resources of open and distance learning (ODL) institutions of the country. A support to a large aggregation and integration of learning resources in different formats such as self-instructional study materials, audio-video programmes, and archives of radio and television-based live interactive sessions is supported by it.

The Library and Documentation Division of Indira Gandhi National Open University (IGNOU) has started making efforts to take higher education to the doorsteps of the hitherto un-reached through its diverse modes of Information and Document Delivery Services. NODLINET (National Open and Distance Learners' Library and Information Network) is one such recent initiative taken up by IGNOU to provide a podium for libraries and information centers of the open and distance learning system of the country that will provide access to all electronic and digital resources from the leading publishers and vendors across the globe to its stockholders from anywhere at any time using sophisticated technologies to enhance the quality of education at par with the conventional education system (ARORA, 2007).

Inter University Consortium for Technology-Enabled Flexible Education and Development (IUC-TEFED) is the latest initiative of IGNOU which works as a nodal point to undertake all types of collaborative activities involving Open and Distance Learning, new knowledge creation, e-learning, appropriate technology, etc. The structure of Inter University Consortium is on the lines of Pan-African e-Network and

the existing consortia of University Grants Commission (UGC), Association of *Indian* Universities (AIU), etc. All the open universities in the country can be its founding members while conventional universities as its associate members. The Non-Governmental Organizations (NGO) and organizations involved in the development of Education and Training, Industry, etc. can also be invited for alliance and partnership. The consortium is expected to facilitate convergence and sharing of knowledge through judicious mix of media and technology (IGNOU IUC Report, 2008).

The UGC had established the Consortium for Educational Communication (CEC), in 1993, which is an inter-university center for electronic media with the following laid down objectives:

- Close coordination, facilitation, overall guidance and direction to the activities of the Media Centers set up by the UGC in various universities.
- Dissemination of educational programmes, through both the broadcast and non-broadcast modes.
- Production of educational programmes (especially video and audio) and related support material and setting up of appropriate facilities for this.
- Research related to optimizing the effectiveness of the programmes.
- Providing a forum for the active involvement of academic and other scholars in the creation of appropriate educational programme.
- Studying, promoting and experimenting with new techniques/technology that will increase the reach and/or effectiveness of educational communication.

An initiative was launched by CEC known as Learning Object Repository (LOR) which is an Open Courseware initiative having educational resources in different subjects like Archeology, Biology, Botany, Chemistry, Commerce, Computer Science, Economics, Education, English, Fine Arts, etc. The users have the facility to browse the LOR by using various options such as topic, subject, learning object, keywords, etc. The system has grown to 17 (seventeenth) Educational Media Research Centers and Audio Visual Research Centre (EMMRC).

The number of educational programmes has increased to 1,000 (one thousand) programmes per year from 25 (twenty-five) in the beginning. The CEC runs a 24hr higher education channel known as Vyas Channel on Gyan Darshan Bouquet which is now also available on Direct-To-Home (DTH). National channel also telecasts these programmes for 1/2 hour daily. The first mission of this channel is to find out knowledge need of the people through research and address the same by developing 'knowledge resources' with the help and support of research facilities available in the universities and colleges of the country. The second mission is to bridge this gap making quality knowledge packages delivered by the best teacher available to those who desire to get benefit from it. The third mission of the channel is to make knowledge free and seamlessly available to all those who need it. The CEC is also having a Media Tape Library with a total collection of about 16.000 (sixteen thousand) educational video programmes on *betacam* cassettes consisting of the categories of collections mentioned below and is available both in English and Hindi and adds about 1.000 (one thousand) video programmes on various subjects and topics to its collection every year from the Multimedia Research Centers spread throughout the country.

In an another initiative by government of India, a project undertaken by the The National Council of Educational Research and Training (NCERT) in the form of online textbooks showed that e-learning can reach to maximum. The NCERT publishes school textbooks and it has initiated a step towards making school textbooks freely available on the internet for students and teachers through its website. This portal provides easy navigation to textbook chapters by title/subject of the book for a particular class. The textbooks available there are written in English, Hindi and a few in Urdu (SARMA; MAJUMDER, 2008).

An E-Learning Portal for Awareness Raising on Information Literacy was launched by the Indian Society for the Advancement of Library and Information Science (SALIS), in collaboration with UNESCO in 2006. This project has its genesis in recommendations of a UNESCO supported Workshop on Information Literacy Competency Development for Information Professionals and Special Educators organized in November 2006 by SALIS in Chennai, India, and subsequent

Information Literacy sensitization workshops held in Delhi and Nagpur in December 2006. The e-learning portal will cover a number of self-learning modules, such as:

- 1) Information communication technologies (ICT).
- 2) Information literacy.
- 3) Information literacy models and standards.
- 4) Lifelong learning and development of life skills.
- 5) Information literacy assessment.
- 6) Information services for disabled people.
- 7) Freedom of information/Right to information.
- 8) Sample Information Literacy Programmes for School library:
 - a) University library/Academic library.
 - b) Special library.
 - c) Public library.
 - d) Communication information centers.

The Portal aims to raise awareness, sensitize and enhance information literacy competency skills of common information users as well as information professionals and educators in the South Asian sub-region. Its objectives are fully in line with UNESCO's mandate to bridge the digital divide and UNESCO's vision of knowledge societies. The portal will be developed using Moodle Open Source software, an internationally renowned Courseware Management System (CMS) or Virtual Learning Environment (VLE) (UNESCO).

Another collaborative project of Documentation Research and Training Centre (DRTC), Bangalore and Goethe-Institut in New Delhi, in 2007, came in the form of Indo-German e-Gurukul on digital libraries to facilitate self-paced learning on digital libraries. Presently this e-learning portal has various modules covering different aspects of digital libraries and has been designed using Moodle open source software. The Indian digital library experts, in collaboration with their German counterparts, have developed the content of these modules.

Another open education initiative is Ekalavya, launched by Indian Institute of Technology, Bombay in 2004. In this project, content developed in various Indian languages is distributed over the Internet. The Ekalavya project has developed an

Open Source Educational Resources Animation Repository (OSCAR) that provides web-based interactive animations for teaching. The OSCAR provides a platform for student developers to create animations based on ideas and guidance from instructors. The funding for the Ekalavya and OSCAR project comes mainly from private industry. The Ekalavya portal is an attempt to generate an interactive platform for the creation, absorption, dissemination and usage of knowledge for the well-being of the individual and the society. It is a significant step forward to bring together students, teachers, and working professionals to meaningfully enhance the productivity of the group and spread knowledge. The Ekalavya portal aims at a free exchange of knowledge and ideas, by placing all the relevant academic material in the Open Source, thus making considerable contribution to society. It is envisaged that the Ekalavya project will become an all-encompassing activity over the years, using IT effectively for education. It aspires to build large collaborative communities where seekers are matched by the givers. Its eOUTREACH programme creates high quality digital text, audio, video and HTML contents of educational value for knowledge dissemination. This initiative of the Project Ekalavya has been funded and supported by the Technology Information, Forecasting & Assessment Council (EKALAVYA, 2004).

The Tamil Nadu government announced an IT policy as early as 1997, to put smile to prosperity on the face of every citizen of Tamil Nadu by leveraging information technology (IT) to create value and wealth for a knowledge-based society. The objectives for their IT policy are:

- To establish Tamil Nadu as the destination of choice for IT investments.
- To upgrade the quality of life for the citizens through e-governance and IT applications in government.
- To empower people in rural areas so as to bridge the digital divide.
- To develop Research and Development initiatives.
- To promote use of information technology in Tamil Nadu.

It has also laid emphasis on IT services being provided in local languages. State government has also organized an international conference on the standardization of Tamil code and keyboard. The government has already given

rights to 3 (three) companies to establish broadband network infrastructure. Tamil Nadu's vision is to consolidate its leadership position and firmly establish its preeminent position in IT. The large base of engineering institutions in the state is a significant asset. They will be encouraged to interact with industry, centers of excellence so as to have the best match of Industry-Academia. Sufficient mechanism will be created to implement cyber laws. Software piracy, intellectual property rights (IPR) issues and violation of cyber laws will be curbed. In short, the policy will make Tamil Nadu as the 'Destination of Choice' for IT investments globally (ELCOT, 2002).

In 2002, deliberations of various committees were held that led to the setting up of the UGC-INFONET towards the end of 2004. The UGC also joined this crusade of introducing e-learning. Wholly funded by UGC, UGC-INFONET provides electronic access to scholarly literature available over the Internet in all areas of learning to the university sector in India. The UGC plans to link all Indian universities and Research and development institutes together with a strong intranet network, which will ensure smooth and quick dissemination of information and will be a big step towards Educational Development in the country (UGC).

The Uttar Pradesh government planned to achieve 100% IT literacy among government employees by 2002. It decided to introduce computer education in 100 (one hundred) intermediate schools. As for IT infrastructure, 70 (seventy) out of 83 (eighty-three) districts have optical fiber connectivity. In the hill districts, Very Small Aperture Terminal (VSAT) will be used in the future.

In July, 2005, the agreement signed between the US and India, 6 (six) leading American Universities representing the US and the Indian Space Research Organization (ISRO), the Department of Science and Technology (DST) along with Amrita Vishwa Vidyapeetham representing India, will participate in a project designed to enhance higher education and research in India through a satellite e-learning network. The beneficiary institutions are IITs, NITs IIIT, BIT Ranchi, and a few other prestigious Institutions across the country.

Another project to provide web based training is the National Programme on Technology Enhanced Learning (NPTEL), which is being funded by the Ministry of Human Resource Development (MHRD). This was first conceived in 1999, to pave

the way for introducing multimedia and web technology to enhance learning of basic science and engineering concepts, was launched in September 2006. The 6 (six) major engineering disciplines have been covered in this project so far at the undergraduate (B.E./B.Tech) level. The educational goals set by the MHRD are:

- To make video lectures in a format appropriate for broadcasting that would provide quality content through the Technology channel named the Eklavya channel by the previous Honorable Minister for Human Resource Development in recognition of the first student of distance education named in the great Indian epic Mahabharata thousands of years ago.
- To create web-based (e-learning) material and make it available in the form of a Portal/DVD that would be tailored to meet the needs of engineering students across the country.
- To create a website for NPTEL activity.
- To make e-learning material available in the web for the video lectures to supplement class room teaching.
- To advise target institutions with regard to the software/hardware requirements for benefiting from the national project.

The NPTEL has developed curriculum based video courses (110 new courses, 109 existing courses encapsulated in digital video format, and 129 e-courses web-based). This has been undertaken by 7 (seven) IITs, IISc Bangalore as Partner Institutions (PI) and other selected premier institutions as Associate Partner Institutions (API) through a collaborative effort.

In addition to this, a number of core curriculum courses common to all engineering programmes such as mathematics, physics, chemistry, management, electronics, language etc. have also been included. The broad aim of the project NPTEL is to facilitate the competitiveness of Indian industry in the global markets through improving the quality and reach of engineering education. The operational objective of NPTEL is to make high quality learning material available to students of engineering institutions across the country by exploiting the advances in information and communication technology. The target group for this project consists of students and faculty of institutions offering undergraduate engineering programmes in India. A

formal Memorandum of Understanding (MoU) between 5 (five) IITs, 4 (four) IIMs and CMU established a Virtual Centre for Technology Enhanced Learning (VCTEL). It was the first initiative in which all IITs and IIMs shared a common vision and proposed to work together to improve the quality of science, engineering and management education all across the country by offering courses through VCTEL. This proposal was submitted to MHRD in 1999 and revised several times (EGP-AICTE-NPTEL).

In a small town called Lohari in Maharashtra, a student of a technical college told the UGC Chairman that he was not worried if his Professor taught him or not as they downloaded materials from the Internet. This incident reflected the UGC's thinking in reaching out to rural areas. Each university will be encouraged to establish a local area network (LAN) to enable connectivity within the campus and to establish a larger network for connecting all colleges under its jurisdiction. The sites will serve three main purposes: enabling universities to share library resources and research journals, providing teachers and students with access to information available on the internet and other multimedia educational material; and helping teachers develop their own multimedia courseware. The UGC plans to invest Rs 150 crore (approximately US\$ 1.500.000.00) over the next 5 (five) years in this.

The recent visit of Microsoft Chairman Mr. Bill Gates to India focused, among many things, on bridging the digital divide and kick-starting e-learning initiatives in the country. After detailed discussions, Microsoft agreed to give US\$ 20 million for training the trainers in the e-learning programme, also known as 'Shiksha'. Under this 80,000 teachers and 3.5 million students would be trained between a period of 3 (three) and 5 (five) years. The collaboration would be done in partnership with the Department of Information Technology (NIKAM; GANESH; TAMIZHCHELVAN, 2004).

The 24x7 learning (2009) inform that the Indian Talent Lifecycle Management Company announced that it is enabling Thapar University, Patiala, and Punjab - one of the oldest and established engineering institutions of India – to provide B.Tech courses through e-Learning mode. Though B.Tech programs for diploma holder working professionals were available through distance learning in India, this is the

first time that it is being offered online. The entire program will have around 300 hours of online classroom sessions to facilitate the learning process. The practical sessions will be conducted with the support of local engineering colleges in major cities across India or at Thapar University, Patiala.

Other State governments like Delhi, Gujarat, Assam, Uttar Pradesh, Arunachal Pradesh, Goa, Jammu & Kashmir, among others, are also in the process of spelling out their IT policies.

6 FUTURE OF E-LEARNING IN INDIA

Compared to an almost 80% literacy rate in urban India, that in rural areas is only 56%. Further, the average teacher: student ratio at primary level is 1:58 in rural regions (CHOUBEY, 2009). The perfection and improvement of connectivity is another area of concern. India needs to increase penetration in terms of PCs and communication lines for any e-learning project to be successful. The soaring cost of ownership, which proves to be a hurdle, needs to be lowered. Following steps could help in arresting the above problems:

- The Service providers, including the Government need to cut the tariff levels. As the field becomes more and more competitive, this is bound to happen.
- The government needs to stimulate a learning culture and e-learning must become a policy issue. Government must distinguish the e-learning industry as a separate forum and not treat it as part of the IT enabled services (ITeS) or a sub sector of the IT industry.
- Use of open source software will not only be cost effective but can also meet the localized demands for the vast linguistic diversity of India. Further, open source software can also be used on old hardware.

7 CONCLUSION

The e-learning is emerging as the future trend of learning in India would be dominant in the times ahead. E-Learning has created new dimensions in education, both within and beyond the curriculum and is still looking at further opportunities of becoming more practical. A word of concern at this juncture would serve good, though, the e-learning seems to be a solution for an absent teacher, deploying such an atmosphere would be requiring much thought. Both the instructor and the learner need to shift their methods of teaching and learning. Educational Institutions need to have suitable strategies in place for successful deployment of the e-learning process. But, call it Web-based Training (WBT) or Border-less Education; e-learning is here to stay. I strongly believe that e-learning will soon substitute classroom learning in India.

REFERENCES

- ARORA, S. K. **Concept note NODLINET**. 2007. Available: <<http://www.ignou.ac.in/divisions/library/N-About.htm>>. Access: June 13, 2010.
- ASVINA. **Press Information Bureau Government of India**. 2009. Available: <http://www.ugc.ac.in/new_initiatives/mouintel.pdf>. Access: Apr. 26, 2010.
- BANDUNI, M. The future of e-learning in India: Weekly insights for technology professionals. **Weekly Insights for Technology Professionals**, Mumbai, 2005. Available: <<http://www.expresscomputeronline.com/20051114/market03.shtml>>. Access: Apr. 21, 2010.
- CEC-UGC. **Consortium for Educational Communication: An Inter-University Centre of UGC on Electronic Media**. Available: <http://www.scholarshipsinindia.com/consortium_for_educational_communication.html>. Access: Apr. 26, 2010.
- CHOUBEY, P. **E-Learning: The future of learning in India**. 2009. Available: <<http://blog.chillifreeze.com/rate-other-indian-writers/e-learning-the-future-of-learning-in-india/>>. Access: Apr. 26, 2010.
- EGC-AICTE-NPTEL. **National Programme on Technology Enhanced Learning (NPTEL)**. 2007. Available: <<http://npTEL.iitm.ac.in/pdf/NPTELFAQ.pdf>>. Access: Apr. 29, 2010.

- EKALAVYA. **Introduction**. Bombay, 2004. Available: <<http://ekalavya.it.iitb.ac.in/introduction.do>>. Access: May 1, 2010.
- ELCOT. **IT policy of Tamil Nadu**. 2002. Available: <http://www.elcot.in/ict_policy.php>. Access: Apr. 29, 2010.
- HANSEN, H. B. **India: E-Learning has potential to manage teacher shortage**. OWL Institute, 2008. Available: <<http://owli.org/oer/node/2469>>. Access: Apr. 24, 2010.
- IGNOU IUC Report. 2008. Available: <<http://www.ignou.ac.in/>>. Access: Nov. 29, 2008.
- MALIK, S. E-learning in India: A wave. **Articlesbase**, Aug. 14, 2009. Available: <<http://www.articlesbase.com/e-learning-articles/elearning-in-india-a-wave-1126516.html>>. Access: Apr. 21, 2010.
- MALIK, S. E-learning in India: The electronic way of learning. **Merinews**, Apr. 2, 2009. Available: <<http://www.merinews.com/article/e-learning-in-india-the-electronic-way-to-learning/15764276.shtml>>. Access: Apr. 21, 2010.
- NIKAM, K.; GANESH, A. C.; TAMIZHCHELVAN, M. The changing face of India. Part I: bridging the digital divide. **Library Review**, v.53, n.4, p.213-219, 2004. Available: <<http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/0350530403.html>>. Access: Apr. 24, 2010.
- SAHA, S. E-learning in India. **GoArticles**, 2010. Available: <<http://www.goarticles.com/cgi-bin/showa.cgi?C=2741690>>. Access: Apr. 24, 2010.
- SARMA, G. K.; MAJUMDER, A. J. Open courseware initiatives for e-learners in India. 2009. 8p. Available: <<http://www.apurba.110mb.com/Open%20Courseware%20initiatives.pdf>>. Access: Apr. 26, 2010.
- UGC-InfoNet. 2002. Available: <<http://www.ugc.ac.in>>. Access: Apr. 26, 2010.
- UNESCO. 2006. Available: <http://unesco.org/ci/en/ev.php-URL_ID=25721&URL_DO=DO_TOPIC&URL_SECTION=201.html>. Access: Apr. 29, 2010.
- WAGNER, N.; HASSANEIN, K.; HEAD, M. Who is responsible for e-learning success in higher education?: A stakeholders' analysis. **Educational Technology & Society**, v.11, n.3, p.26-36, 2008. Available: <http://www.ifets.info/journals/11_3/3.pdf>. Access: Apr. 24, 2010.
- 24x7 Learning. 2009. Available: <<http://www.avagmah.com/about-avagmah/about-24x7-learning/>>. Access: Apr. 24, 2010.



**Brazilian Journal of
Information Science**

**Sheikh Mohd Imran
Aligarh Muslim University
E-Mail: bilalgreen1@gmail.com
India**