E-Learning Initiatives in India

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ABSTRACT

Technology today no longer passive and end oriented. It is considered as 'alive' as the people it serves. In the field of education the influence of technology can visibly be noticed by means of emerging e-learning technology. The e-learning technology can provide better scope to the learners to listen, to converse, to think and to act and thus e-learning technologies have great potential to create a better learning environment particularly to rural masses in India. Though there is digital divide between urban and rural Indian people, emerging technologies such as natural language interface, and broadband internet will enable several innovative applications in e-learning and enable parallel learning by helping to break the cycle of literacy followed by computer literacy among urban and rural people in India. Further, linear expansion of distance education can also be better supplemented by systematic e-learning management in India. The current paper critically analyses the initiatives taken by Governments, and also private sector initiatives to implement, sustain and manage the e-learning environment in India.

1.0 INTRODUCTION

The present day educational system in India has undergone a metamorphosis from Gurukul system of education to Online. Massive higher education cluster which covers the large segment of student population through many streams of education such as formal higher education, evening colleges, correspondence program and distance learning and so on. The linear expansion of higher education in India can better understand by means of its increase in size. For example higher education in India the number of Universities has increased from 25 in 1950 to in 221 in 1999-2000 and the number of colleges from about 700 to more than 13150 during the same period. The Indian educational system again observed a paradigm shift in the late 90's when the Government of India sanctioned the licenses to Private Internet Service providers again expanded its scope by means of introduction of online learning.

Distance education has made remarkable progress over the last two decades and has now gained widespread acceptance as a viable alternative delivery system to the conventional system. Further the use of information technology is giving this system an edge over conventional system. The rapid expansion of information technology, computer literacy and access to Internet offers immense opportunities for on line delivery of distance education and training. In the normal system of learning the learner finds the education and training of no use in the practical life or in the employment market because educational training is based on standardization, conformity, and compliance. The focus has now shifted from the traditional chalk and blackboard environment to the interactive online environment. The online or web-based courses on the other hand are designed to make learner an active learner. Thus, the alternative system of teaching knows as e-Learning is conceptualized as 'learning that is designed, delivered, enabled or mediated by electronic technology for the explicit purpose of training and development in educational institutions or in the organisations.'

One has to be moved from technophobic to technophilic, because technology today can no longer passive and end oriented. It has to be as "alive" as the people it serves. That is why learning technology solutions are not just frozen metal or moulded plastic. It provides the scope to listen, converse, network, interact and think. Hence, the interactive e-learning mechanism is considered as powerful medium of knowledge creation, knowledge transfer and knowledge management.

Web based learning has several advantages, which also accounts for the current excitement in this field.
o   Learning over the Net is more interesting because of its flexibility and interactivity as compared to other media.
o   The learner is not restricted by his geographical location or time constraints.
o   Learning can be paced and controlled by the learner, as opposed to the teacher in a traditional setup. A person who can quickly grasp the subject matter need not wait for others to understand too, which is not possible in a typical classroom environment. At the same time a person who is a little slow may take the course at a slower pace.
o   Courses developed for the web may prove cheaper to run because of less dependence on highly qualified teachers every time the course is administered.

Such structuring has the following disadvantages:

1.   Students doing the course in a self-paced manner may not be able to devote adequate time at a stretch to complete one unit. Text and lectures are difficult to resume directly from the point where one has left.
2.   Testing for understanding can be done only at unit boundaries and cannot be related to concepts of the domain easily. This makes it difficult to build a model of student understanding.
3.   Holding the student's attention for such a length of time is normally difficult

In India, there is a separate TV channel to air educational programmes exclusively for the distance

learning programme and it was developed and managed by the University Grants Commission (UGC). But due to invasion of internet technology, the UGC programmes through TV was suffered due to the nature of the medium. It was too linear and only one kind of content could be aired at a time. The radio is also far too passive a medium to have much impact. The Net, on the other hand, with its emphasis on interactivity, was considered as the best medium to attract and sustain the students' interest

2.0 E-LEARNING INITIATIVE BY THE GOVERNMENT OF INDIA

The Beginning: The 'on-click' education was initiated with the constitution of National Task Force on Information Technology and Software Development in May 1998 by then Prime Minister. The purpose of this taskforce was to formulate a long term Indian National IT Policy with IT HRD companies to achieve 100% IT literacy at Senior Secondary Level (10+2). This one was considered as the beginning of e-learning initiative of the government.

Many factors contributing the success of e-learning in India, Mr.S.Ramakrishnan, Senior director, in the Ministry of Information technology in his keynote address on "online education : Nascent Stage or at the Cross roads" rightly pointed out that opportunities of e-learning in India are good and strengths of India were rightly portrayed under three categories namely 1. Technology strength 2. Educational Strength 3. Lower cost of production vis-à-vis global markets. In other words there is a booming software and services Industry in India supported by availability of quality IT manpower in abundance and further globally there is a promising markets for e-learning given this he cautioned the government and software industry to make use of this opportunity and to initiate better environment to promote e-learning environment in India.

In Addition the following are some of the projects funded by Department of Information Technology, Ministry of Communications and Information Technology for the promotion and development of e-learning environment in India.

Multimodal Digital Distance Education for IT and Other Critical Technologies. School of Education Technology, Jadvpur University, Kolkata
The University has set up the School of Education Technology in 1988 for an updated environment of teaching and learning process. The school has developed a number of Computer Aided Instructional Packages and Multimedia Packages for the Under-graduate and Post-graduate level student of Arts, Science and Engineering & Technology. .The University has started selling Instructional Materials in the form of CAI (Computer Aided Instruction), Multimedia and Book. The University is extending

Material Development Programme in the form of Multimedia, CAI & Web-based courseware for business use also

Design and Development of Component Based Functionality in E-learning tools, CDAC, Hyderabad
The Centre for Development of Advanced Computing (C-DAC), is primarily an R & D institution involved in the design, development and deployment of advanced Information Technology (IT) based solutions. C-DAC, as a result of its pioneering developments, evolved the Graphics and Intelligence based Script Technology (GIST) with a view to extend the benefits of Information Technology to the vast and diversified multilingual population of India. Use of the GIST range of software and hardware products has led to the proliferation of the use of computers and their applications in all major Indian languages, with hundreds of thousand of users countrywide.

Developing Web Based Intelligent Interactive Tutoring (WebIIT), IIT Delhi
This website offers online engineering courses. The courses are designed to be interactive user friendly. The users will be able to learn at their own pace and level of understanding. The web - based courses are aimed to supplement class room teaching. Four engineering courses are currently under development.

A virtual University, Birla Institute of Technology and Science, Pilani
The Birla Institute of Technology and Science (BITS), Pilani is an All-India Institute for higher education. BITS Pilani is a technological university currently offering Master's degree and Doctoral programmes in various areas of Science, Humanities, and Management. Initially these programs were offered to only on-campus students. With a view to learning scalable, reachable to wider audience and leverage the benefits of emerging technologies, BITS conceived and designed the BITS Virtual University (VU).

This VU project conceives the design and development of multimedia courses that is web-enabled that goes towards the curriculum of a full-fledged degree program. The advantage of this concept of VU is that students can get a degree from BITS, while being off-campus. Since these courses are web-enabled, the student can work in his own comfortable environment and is not restricted to the classroom. Moreover he can work at a pace with which he finds convenient.

Multimedia based Soft-Teachers are employed for explaining concepts. Some innovative methods of using Java based "concept applets" for educational resource development are also been used. An attempt has been made to simulate classroom teaching so that it is easier for the student to understand the course.

To give the student a feel of lab environment, an introductive virtual lab framework also been designed, which can be reused for certain categories of practical oriented courses.

Desktop IP based Video-Conferencing, Scheduled Video over IP and Video-on-demand over IP facilities are available as integral components of this learning support system.

A Demonstration Project on Internet Based Online Interactive Courseware, IIT Delhi
The portal site, sponsored by the Ministry of Information of Technology, Govt. of India, provides an organized and structured access to the interactive courseware available on the Internet. The site facilitates a virtual forum for distant and continuing education in information technology. It provides links to more than 4000 courseware in IT with regular and frequent updates.

Virtual Campus initiative of Indira Gandhi National Open University (IGNOU)
In India, external education is fast gaining prominence. IGNOU is considered as the premier institute in the field of distance education. With a view to introduce e-learning through distance education a virtual Campus was started, which means that there are no actual classrooms, teachers or textbooks, but it gives the impression of studying in a university. Through this virtual campus they are running an Advanced Diploma In Information Technology. The experience of learning virtually through the emerging technologies is something new particularly to the open university students.

This virtual campus attempts to create learning environment within the control of the learner. Therefore, it also entails additional responsibilities on the learners. One has to be much more pro-active in terms of seeking information, setting the targets and goals and managing the time to work towards achievement of their goals. In this virtual campus, in addition to that it is technology driven, the instructional design is also somewhat at variance from the traditional teaching and examination style. Throughout their learning experience, one must become more conscious and be able to demonstrate the learning outcome expected.

Project MEIDS – School of Management studies, IGNOU, New Delhi
MEIDS is an initiative of IGNOU to use the Internet as alternate means for delivery of management education. Various management institutions spread across the country are brought together as partners by the MEIDS online program. These partners called Partners in Advanced Learning (PALS) enable students to use their network, infrastructure and intellectual resources and thus greatly enrich students' learning experience.

Vidyakash Project
National Resource Centre For Online Learning, NCST Mumbai was sponsored by: Ministry of Information Technology, Govt. of India started with an aim of Use of the Internet and Web as tool leading to significant changes in educational models. These include the move from sage on the stage to guide on the side, teacher-centric to learner-centric. To anytime, self-paced learning. Effective exploitation of these changes requires adequate attention to understanding the technology, the educational processes and issues, learner characteristics, etc. The national resource centre will develop expertise and technology relevant to online learning, and make it available to interested institutions in India. With a specific mission to create appropriate technological and human resources that can be available for use at the international level for online learning.

The following software projects are part of the Vidyakash project

1. Veda – Online testing system
2. Vyasa – A Generative question authoring system
3. Vasistha – An Instruction Delivery framework for online learning
4. Sandesh – Automatic email reply system
5. content design tools
6. Chaatra – Student Monitoring and Learner modelling system
7. Vishwas – A Plagiarism detection system
8. Acharya – Intelligent Tutoring system for SQL
9. Parikshak – Automatic Program testing environment
10. Result processing system

As part of the project, the institute also set up a comprehensive portal on online learning The portal provides access to various resources such as articles, papers, books, journals, organisations, people, standardisation efforts, online courses, faculty development material, etc

Maharastra Industrial and Technical Consultancy Services (MITCON)
The Maharastra Industrial and Technical Consultancy Services (MITCON) initiated computer courses through e-learning with 530 centres bridging the digital divide in rural areas and smaller townships in the interior locales of Maharastra state in India. Learners can register themselves at any of their e-schools and access the course content either at these e-schools, a cybercafe of their convenience or at home. Another MITCON experiment in e-learning is launching of e-vidya in the marathi vernacular language of maharastra state targeted to benefit more than 7500 students.

Virtual Learning Campus at Indian Institute of Information Technology and Management at Kerala

Indian Institute of Information Technology and Management - Kerala (IIITM-K) has proposed the setting up a School of Advanced Information Systems (SAIS) as a prelude to building the country's first Virtual Learning Campus (VLC) in Kerala. SAIS proposed to set up as a networked institute of institutions dedicated to coordinate and launch the VLC specifically in Kerala state of India. The following steps are involved in building a Virtual Learning Campus (VLC): (1) Connecting institutions of higher education, research, colleges and universities in all fields in a given geographic region over a terrestrial broadband network. (2) Setting up a gateway centre for each VLC that will be the root mode for the terrestrial network and which hosts an Edusat ground station. The gateway centres will be autonomous postgraduate research and `server' institutions attached to a premier host institution for managing the VLC. It will have content development facilities, data centres and portals hosting different institutions and supporting knowledge intensive products and services (KIPS) for the region and outside. Gateway centres will support research scholars, teacher training and servicing of e-learning, digital libraries and e-publications services for all the member institutions in the VLC.

3.0 PRIVATE SECTOR INITIATIVES TO E-LEARNING

The e-learning education sector in India was initially realized mostly by the private sector IT training institutions, They realised that technology today offers the power not just to enhance the educational experience but also to distribute it widely at low cost. A number of private institutions in India have begun work in incorporating new technologies into the existing moribund system of education. Some are involved in creating digital content for the internet, some are into creating hi-tech multimedia content while others are into training of teachers in various technologies. Some of the institutions doing work in this area are Classontheweb.com, Schoolnet, Eduempire.com, classteacher.com, egurucool.com, connectschool.com and intellistudent.com. Companies such as NIIT and Aptech have developed their own e-learning solutions, NetVarsity and OnlineVarsity respectively, and are offering online courses.

Besides training at the school or college level a huge market for corporate training has also evolved. Already, NIIT, Zee Interactive, Saba India, Satyam Education Services, Feedback Reach and Bizook have lined up a range of products and services for the corporate training market.

In this same direction, Direcway Global Education, a training and education service by Hughes Escorts Communications Limited has tie-up with more than 15 different top-of-the-line programmes with different world acclaimed institutes such as Narsee

Monjee Institute of Management Studies (NMIMS), the Indian Institutes of Management at Kozhikode and Kolkata, the Manipal Academy of Higher Education (MAHE), the Indian Institute of Foreign Trade (IIFT), New Delhi, and the Xavier Labour Relations Institute (XLRI), Jamshedpur. The courses are conducted through virtual classroom situated in 25 different places spread over India, where the students can sit in any of the study centres and can interact with the well qualified faculty members through video conferencing and can clarify the doubts. The courses offered include : XLRI's Post-Graduate Certificate in Business Management (PGCBM) and PGC in Human Resource Management; MAHE's Executive MBA (eMBA) and others; IIFT's Executive Masters in International Business; IIM, Kozhikode's PGC in Sales and Marketing and PGC in Management (eMEP); IIM, Kolkata's programme for Business Management and for Development of Strategic Skills among others and NMIMS' PG Diploma in General Management, to name a few.

4.0 SPECIAL PROBLEMS AND ITS SOLUTIONS

Compared to the West, of course, eLearning is still lagging behind in India. It needs to pick up, A very unique problem in India which hinders growth of eEducation is the fact that eEducation is mainly in English, whereas most of the population in the country is conversant with vernacular languages. This has made the penetration of eEducation problematic in the country. The digitalized text has to come in vernacular languages. to make it successful. In order to avoid this basic problem the Ministry of Information Technology is already involved in several projects such as Bharat Bhasha Kosh, Web based learning system in Indian languages, Speech Synthesis system at CEERI Pilani and Multilingual dictionaries. IIT Madras have developed an Indian Language word processor which has been tested at an NGO in Madras. Similarly NCST'S MATRA project 's focus is on man-machine synergy. Natural Language interfaces can be used as front ends to databases as well as with Speech based systems. Both these technologies have great potential for Rural India

Further, as a move towards bridging the gap to the physically challenged group the first e-learning centre for the blind was started on 22 November 2002 at the National Council of Education Research and Training in New Delhi. This centre is the first in a series of institution, which will ultimately bring distance learning to more than 2 million blind children. Ten Braille terminals have been installed in the centre and connected to ten work stations on the Local Area Network. UNESCO New Delhi has contributed US $ 115,000 as project cost to the Indian Government.

5.0 CONCLUSION

New developments and initiatives clearly indicate that e-learning mode of imparting education will give a new face to the educational system in India. The government and non-governmental agencies are making considerable efforts to establish and promote online education, this is clearly reflected through the fact that many schools, colleges and universities have gone online and the Indian students have got a new platform to obtain education through the net.

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