
Virtual Education in the Indian Scenario

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Abstract:

Virtual learning is a flexible mode of learning with learner at the centre. It provides resources top the learner in digital format, 24×7, enabling him/her to study at his/her convenience. Virtual learning takes place owing to developments in ICT. Virtual learning takes learning outside the four walls of the classroom aiming at universal learning. It is live, two-way, interactive mode supported by multimedia lessons providing links to the knowledge repositories across the globe. It removes all barriers in knowledge transfer and dissemination. Virtual learning enables a society to move towards knowledge society by making knowledge freely available to all.

Key words: Technology, Internet, Mooc, Inflibnet, Ernet, Brihspati, Eklavya, Askash, Face book, Virtual, Education.

Introduction

The destiny of a nation is shaped in its classrooms (Gol., 1966). This has implications for the quality of curriculum, value added to content in transaction and quality of individuals involved in

delivery of education directly and indirectly. (Chaudhary, Sohanvir et al. 2012, 18-25)

This is an era of everyday changes in every field including education due to rapid advancements in science and technology. Simultaneously, knowledge is expanding at lightning speed. To keep track of the advancements, the learners need to learn more, better and faster. This can be made possible today with the help of information and communication Technology. The rapid evolution of Information and Communication Technology and the emergence of the Information Society create numerous new opportunities for the improvement of the quality of education. Technology changes rapidly and in the next few years this could look very different. Education in the twentieth century has had remarkable changes in terms of the methods of imparting and receiving. India has the capacity to become the hub of technology-enabled teaching and learning with its IT artistry and strong education system.

Technology based learning can be viewed as an innovative approach for delivering well-designed, learner centred, interactive and facilitated learning environment to anyone at anyplace, anytime by utilising the attributes and resources of various digital technologies along with other forms of learning materials suited for open and distributed learning environment.

Virtual Learning

It can be defined as learning opportunities delivered and facilitated by electronic technology. It differs from the traditional system only in the way the contents are delivered; virtual learning imparts all the three main components of learning, namely contents, learning methodologies and teaching methodologies. (P. Rangarajan, 2012, 21-32)

E-Learning strategy task Force (2002) U. K. Has defined e-learning as:- E-learning is a relatively new tool with the

potential to radically improve participation and achievement rates in education. Benefits include; the ability to customise learning to the needs of an individual and the flexibility to allow the individual to learn at their own pace, in their own time and from a physical location that suits them best. (Vijay Jaiswal, 2012, 14-24)

Virtual learning covers a wide set of applications of Computer-Assisted Instruction, Computer Based Learning, Web Based Learning, E-learning and Web Based Learning. Virtual learning is an interactive learning experience with access to online tutors which can be made available from any computer, once the user has the access through web browsers.

It permits the delivery of knowledge and information to learners at an accelerated pace, opening up new vistas of knowledge transfer. The biggest advantages of Virtual learning lie in its ability to cover distances. It is self paced, and learning is done at the learners' pace.



It also includes delivery of content and resources for teaching and learning via different communication protocols. Virtual learning mechanism involves a variety of professionals such as Instructional Designers, course Writer/Content Creators, Reviewers, Graphic Designers and Knowledge Organisers/Library and Information Professionals. Simply, Virtual learning is the mixture of technology and education. (P. Rengarajan, S. Senthilnathan, 2012)

Virtual Education in Indian Scenario

In India, the education processes are primarily classroom lectures, presentations and laboratory experiments. These are

supplemented with audio-visual aids like the use of projectors, stereo systems and the projection of films. The students are required to listen to understand. Today globalisation has generated a good vibration and life for higher education. The new era of technology enabled education or 'e-learning' is displacing the outdated traditional methods of learning. E-learning is also a broader term than 'on-line', 'virtual learning' or 'online education' which generally refers to purely web based learning. (J. Augustus Richard et al. 2012, p.5)

The UGC initiated a scheme called "ICT for Teaching and Learning Process" for achieving quality and excellence in higher education. Network facilities with the help of ERNET, Ministry of Information and Technology, Government of India were installed at UGC office to promote a healthy work culture. Along with this, UGC launched a mega program namely, 'UGC INFONET', a network of Indian Universities and colleges, by integrating Information and Communication Technology (ICT) in the process of teaching, learning and education management. The network is managed by RENET India and almost all the universities are its members. Information and Library Network (INFLIBNET), an autonomous Inter University Centre of UGC is the nodal agency for coordination and facilitation of the linkage between ERNET and Universities. In addition, UGC is encouraging creation of e-content/learning material for teaching learning process and management of education in colleges and universities. (N. Sundararajan et. Al., 2014, 3-11)

India is making use of powerful combination of ICT such as *open source software, satellite technology, local language interface, easy to use human-computer interface, digital libraries etc.* with a long term plan to reach the remotest of the villages. Community service centres have been started to promote e-learning throughout the country. Notable initiatives of use of ICT in education in India include:

1. Indira Gandhi National Open University (IGNOU) uses radio, television and internet technologies.

2. IIT-Kanpur has developed 'Brihspati', an open source e-learning platform (Virtual Class Room).
3. Eklavya initiative: Uses internet and television to promote distance learning.
4. National Programme on Technology Enhanced Learning: a concept similar to the open courseware initiative of MIT. It uses internet and television technologies.

Premier institutions in Kolkata have entered into a strategic alliance with NIIT for providing programs through virtual classrooms. Jadavpur University is using a mobile learning centre. IIT-Bombay has started the program of CDEEP (Centre for Distance Engineering Education Program) as emulated classroom interaction through the use of real time interactive satellite technology. (N. Sundararajan et al., 2014, p.7)

Recent trends

The National Knowledge Commission (NKC) was appointed by the Prime Minister in 2005 recommended the creation of OERs to alleviate many of the problems being faced by the Indian Higher Education System namely that of paucity of high quality teachers, inadequate infrastructure of the universities and more specifically their libraries and poor quality of educational resources utilised at various schools and colleges. The NKC states:

Our success in the knowledge economy hinges to a large extent on upgrading the quality of, and enhancing the access to, education. One of the most effective ways of achieving this would be to stimulate the development and dissemination of quality Open Access (OA) materials and Open Educational Resources (OER) through broadband Internet connectivity. (Srivastava, Manjulika, 2012, 8-13).

NPTEL: The first major initiative for creating OERs has been in the area of basic sciences and engineering sciences, namely the National Program on Technology Enhanced Learning

(NPTEL) project launched in 2003. It is a joint venture of seven Indian Institutes of Technologies (IITs), the Indian Institute of Science and other premier institutions around the country and being funded by the Ministry of Human Resource Development (MHRD). The objective of NPTEL is to enhance the quality of engineering education by developing curriculum based video and we courses for the learners. The NPTEL also provides an opportunity for teachers and students from rural areas to learn from these high quality lectures and improve the quality of teaching in these rural colleges (www.nptel.iitm.ac.in) (Srivastava, Manjulika et al, 2012, 8-13)

AAKASH: In India under National Mission on Education through Information and Communication Technology (NME-ICT), Ministry of Human Resource Development (HRD) has launched the ost awaited ultra low cost tablet, “AAKASH” on 5th October, 2011. Aakash was developed to leverage the potential of ICT in providing high quality, personalised and interactive knowledge modules over the internet in a anytime, anywhere mode. The effective use of devices like interactive whiteboard and Aakash in the classroom by teachers and students in the blended environment will produce a drastic change not only in the conceptualisation, but also in teacher’s attitude towards education. (J. Augustus Richard et. Al. 2012, p.5)

Indira Gandhi National Open University (IGNOU, 2009) is offering six online study programmes namely Masters in Library and Information Science (MLIS), Post Graduate Certificate in Cyber Law (PGCCL), Post Graduate Certificate in Agricultural Policy (PGCAP), Post Graduate Diploma in Good Safety and Quality Management (PGDFSQM), Post Graduate Diploma in Acupuncture (PGDACP) and Appreciation Programme in Sustainability Science (APSS). (Manjulika, 2012, 8-13)

eGyan Kosh: is an initiative of IGNOU to provide open access to Self-Learning Materials (SLMs) developed for different academic programmes of IGNOU. These SLMs are in text and video formats. These are being widely used by curricula designers and course writers of state open universities and other distance learning providers. The materials are also highly used by lifelong learner communities for various purposes such as preparation of competitive examinations, preparation of examination. eGyan Kosh is accessible to registered users only, however, registration is free of charge. Education Broadcast is a webcasting facility available in eGyan Kosh providing a link to IGNOU channels-Gyan Darshan, Gyan Vani and EDUSAT. Virtual class provides links to all the online programmes of the University. (<http://www.egyankosh.ac.in>) (Manjulika, 2012, 8-13)

Eklavaya: The Eklavaya project has been launched by IIT, Bombay in collaboration with National Mission for Education through ICT (MHRD, 2009), a venture of MHRD. Under this project, content has been developed in various Indian Languages which is distributed through the Internet. The Eklavaya project has also developed an Open Source Educational Resources Animation Repository (OSCAR) and provides web based interactive animation for teaching various concepts and technologies. It has already achieved the goal of developing some reusable animations for secondary and senior secondary level education and is now continuing to develop animation for tertiary level education. (eklavaya.it.iitb.ac.in)

Forty-two percent of rural India's internet users prefer using the internet in local languages. The high prevalence of content in English is a hurdle for much of rural India. College-goers remain the largest users of the internet in India, followed by young men. While the IMAI report paints an optimistic picture of internet use in the country, another report by the Broadband Commission for Digital Development, ranked India 145 of around 200 countries for the percentage of individuals

using the internet. Chakravarti, however, insists that India's performance when it comes to internet penetration is an achievement, given the country's current infrastructure. (<http://timesofindia.indiatimes.com>)

The MOOCA Massive Open Online Course (MOOC) is a model for delivering learning content online to any person who wants to take a course, with no limit on attendance. A Massive Open Online Course is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as videos, readings and problem sets, MOOCs provide interactive user that help build a community for Students, Professors and Teaching Assistants.

The MOOCs do not suggest that computers will make classrooms obsolete. On the other hand, they say that online instruction will change the nature of teaching on campus, making it more engaging and efficient. The traditional model of instruction, where students go to class to listen to lectures and then head off on their own to complete assignments, will be inverted. Students will listen to lectures and review other explanatory material alone on their computers and then they will gather in classrooms to explore the subject matter more deeply-through discussions with professors, say, or through lab exercises. In theory, this 'flipped classroom' will allocate teaching time more rationally, enriching the experience of both professor and student. (N. Sundararajan et al, 2014)

Benefits of MOOCs

1. Low barriers to student entry.
2. Easier to cross disciplines and institutional barriers.
3. Multiple languages.
4. Produce and deliver in short timeframe.
5. Informal setting
6. Enhance personal learning environment and network by participating.

7. Improve lifelong learning skills. (N. Sundararajan et al, 2014, 3-11)

Virtues of Virtual Learning

Virtual learning has changed the way we work, be it may professional, trade, crafts, business or education. It plays a vital role in the modern system of education. Virtual learning has a deep impact on education. The virtues of virtual learning are:

- It gives every learner a free and friendly access to the resources media at anytime, anywhere.
- It keeps the learner engaged with the text.
- It promotes the new culture of learning new skills.
- It supports schools in sharing experiences and information with others.
- It provides instant and random access.
- It also gives opportunities for learners to develop their own ideas.
- Learning with virtual brings students valuable connections with others and gives a sense of real world relevance and broadens the educational community.
- It stimulates the student's senses and learning becomes productive.
- It provides opportunity for students to experience the thrill of chasing knowledge they really want.
- Today students and teachers can fulfil their thirst for knowledge by means of the internet. (Priyaj Murtuj Patil, 2012).
- Wide reach
- Low per unit cost
- Eliminate geographical barriers.
- It promotes paperless learning process and thus is environment friendly.
- Provides learning resources in multimedia format for better understanding.

- Virtual learning provides convenience of anytime, anywhere learning.
- Ability to serve diverse population.

Internet usage in India

By October, the nation had crossed the 200 million mark, says a report released by the Internet and Mobile Association of India (IMAI) and IMRB. The report estimates 243 million internet users in the country by June 2014, overtaking the US as the world's second largest internet base after China.

While Indians primarily use the internet for communication, largely in the form of email, social media is also an important driver of internet use in India. This facet of the IMAI report can be corroborated with data from other sources such as Facebook, according to which India had 82 million monthly active users by June 30, 2013, the second largest geographical region for Facebook after the US and Canada. Facebook does not operate in China.

Internet penetration in India is driven largely by mobile phones, with some of the cheapest and most basic hand-sets today offering access to the internet. India has 110 million mobile internet users of which 25 million are in rural India. The growth of internet penetration in rural India is driven largely by the mobile phone; 70% of rural India's active internet population access the web via mobile phones. This may have to do with the difficulty in accessing PCs.

INDIA - INTERNET BY NUMBERS

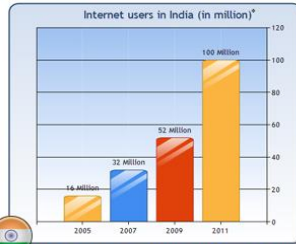
INCREASING NUMBER OF PC USERS IN INDIA[#]

2007 - 65 MILLION USERS

2011 - 100 MILLION USERS



Internet becoming a part of our daily lives -
16 hours per week on the net, 2 hrs more than tv viewing*



INTERNET USERS IN SEGMENTS[#]

SEC C - 25%

SEC D&E - 10%



SEC B - 32%

SEC A - 33%



100 Million unique Internet users*



25 Million Facebook users



10 million Twitter users



20 million YouTube users

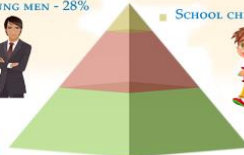


9 million LinkedIn users

YOUTH DRIVING INTERNET USAGE[#]

YOUNG MEN - 28%

SCHOOL CHILDREN - 14%



INTERNET ACCESS POINT[#]

OFFICE - 40%

CYBER CAFES - 30%



Ecommerce Market Size (fig. in crore's)



India

2nd Largest* - In terms of mobile Internet users

3rd Largest* - In terms of Internet users

5th Largest* - In terms of video users

1000 Crore* - India's Internet advertising industry

Share of the overall Indian ecommerce market*

Online travel industry : 37,890 Crores

Online non-travel industry : 8,630 Crores

e-Tailing : 2,700 Crores

Digital downloads or paid content subscripion : 1,100 Crores

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Source: # Icube 2010

* Keynote given by Rajan Anandan (Google MD) at both Adtech & www.economicstimes.indiatimes.com (<http://bit.ly/dU7FSi>)

^ http://www.iamai.in/Upload/Research/ecomm21_47.pdf



Source: <http://www.reportingindia.com/page/2> assessed on 13th June, 2014.

In a nutshell

Virtual learning has revolutionised the education system. Virtual learning is the gateway of knowledge and also acts as superhighway in information transaction. The main attribute of virtual learning is the flexibility of accessing information and resources. It refers to the access for the use of information and resources at anytime, place or pace according to one's convenience. Finally, India is a land of opportunity with a high internet usage among the youth of the country. India promises to be the perfect platform for virtual education.

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