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## E- Learning: Concept and Initiatives in India

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### Abstract

Today's young generation have been raised in a world of science and technology with instant access to knowledge and information just at the click of the mouse button. India is a land of great diversity with students coming from different socio-economic backgrounds. In the presence of social diversity in India, it is difficult to change the social background of students, parents and their economic conditions. Therefore the only option left for us is to provide uniform teaching learning resources or methods throughout the country. For high quality education throughout India there must be some nation wide network, which provides quality education to all students, including the student from the rural areas and villages. The solution to this problem is Web-Based Learning. India is well placed at the dawn of information and technology era. For India to become a knowledge society, it has to be a learning society first. For life long learning, it is not only the settings of formal education that are important, but also the settings of home, the work place, the community and the society at large are important. The research has shown that web 2.0 technologies have enabled universities to implement distance education to reach more diverse populations and increase the availability of web-based learning environments. The Web holds several advantages over traditional learning. The Web allows interactive delivery with multimedia content that helps overcome the limitations of traditional resources.

**Keywords:** E-learning, Web based technologies.

### 1. Introduction

E-Learning stands for electronic learning which means learning through electronic media. It refers to a form of learning in which the teacher and students are not closely confined to the four walls of the classroom but are at a distance apart and this gap is filled by the use of technology. E-Learning is as an approach to teaching and learning that utilizes web 2.0 technologies for information and communication in the present educational scenario. This includes technological expertise that supplements traditional classroom training with web-based components and learning environments where the educational process is experienced online. Successful e-learning programs provide structure in the form of timelines and goals for potential learners. The main and vital component of E-learning that makes self-study so convenient for learners is the flexibility. (Desai, Mayur S.; Hart, Jeff; Richards, Thomas C 2008) [2]. the student can learn at home without going for traditional classroom instruction. It permits the learner freedom of learning at will and according to the time available. A variety of learning approaches should be made available to enhance the design for e-learning and these approaches are likely to be successful when the aims and objectives are clearly defined. (Sangita Rawal, Dr U.S. Pandey. 2013) [9]. Like other countries, the trend of e-learning is also spreading at a fast pace in India. Young generation of India is very eager to set their career and make money sideways.

It is an excellent way to pursue or upgrade studies along with work as physical attendance in classes is not mandatory but in India the process of e-learning is still at a nascent stage but with passage of time e learning is slowly becoming popular in India because of increasing emphasis on honing individual skills. Web 2.0 or social networking encompasses a number of tools that can be used to develop content and communication in an interrelated relationship.

### Emerging web technologies for shaping education

The teaching community have now started exploring the social networking sites and other social software - which, although not designed specifically for e-learning, can be used to

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create new and exciting new learning opportunities for the students. Virtual Learning Environment (VLE), software was used in the traditional approach to e-learning but that is often cumbersome and expensive and that approach is too often driven by the needs of the institution rather than the individual learner. In contrast, e learning- 2.0 is a loosely joined approach that combines the use of discrete but complementary tools and web services.

### **Blogging**

Blogging is increasingly finding a home in education (both in school and university), as not only does the software remove the technical barriers to writing and publishing online - but the 'journal' format encourages students to keep a record of their thinking over time. Blogs of course facilitate critical feedback, by letting readers add comments - which could be from teachers, peers or a wider audience. Students' use of blogs are far ranging. Teachers who are subject specialists are also using blogs to provide up-to-date information and commentary on their subject areas. They are also using the blogs for posting questions and assignments and linking to relevant news stories and websites.

### **Podcasting**

Podcasting has become a popular technology in education. Swap 'user-generated content' for 'learner- generated content' and you soon get the picture. The learning potential of student podcasting has been recognised by Apple, with its strong presence in the education market.

### **Gaming Environment**

With 3D virtual environments coming online at a steady pace, and augmented reality beginning to take hold, learning can be made very effective by using the potential of 3D. The potential for improved learning transfer from virtual environments to the real world can no longer be ignored although it increases development time.

### **Cloud Computing**

Cloud computing refers to delivering capabilities as an online service accessed from a web browser. There has been a tremendous increase in the number of applications and services that utilise cloud computing creating a remarkable impact on the development of online learning courses.

### **Social Media**

The use of Social media technologies is occurring at a very fast pace consequently resulting in a number of offerings for learning online. The opportunity for real-time search and discussion, and positive feedback increases the opportunities for informal learning and can enhance structured learning strategies as well. Organizations though have not shown a keen interest to adopt and promote social media technologies for learning but gradually the interest in these approaches is on the rise. Instead of organisations individuals, have started using social media technologies for self-directed and collaborative learning for quite some time.

### **E-learning Initiatives in India**

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 D Space 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).

In an another initiative by government of India, a project undertaken by 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).

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 main purpose of creating Ekalavya portal is to provide an interactive platform which will be used for the purpose of creating awareness and disseminating information among the general public for the well-being of the individual and the society. This project can play a very significant role in bringing together students, teachers, and working professionals closely to each other so as to enhance the productivity of the group and spread knowledge among the closely knit people. The main objective of Ekalavya portal is to serve as a platform for the exchange of knowledge and ideas, by providing all the relevant learning material online so that the people can use them effectively according to their requirements.

It is envisaged that the Ekalavya project in due course of time will become an all encompassing activity over the years spreading the message of ICT to all and one. Its e-outreach 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). 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 educational goals set by the MHRD are:

1. 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.
2. 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.
3. To create a website for NPTEL activity.
4. To make e-learning material available in the web for the video lectures to supplement class room teaching.
5. To advise target institutions with regard to the software/hardware requirements for benefiting from the national project.

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.

### Challenges to E-Learning

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

1. 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.
2. 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.
3. Since, the e-learning method is self-paced and self-learned, the attention length of the student may not be enough for him/her to learn a concept.
4. Generally the duration of the course also matters in this mode of lecture delivery.
5. 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.

### Conclusion

E-education is not entirely new concepts but has grown as the WWW has developed in each country. Education is taking roots for Indian students as well. But first, it is important to understand exactly what we mean by e-education and quite simply it is education and training delivered and accessed via the Internet. One of the major

advantages of e-education is that one can access the best education in the world direct from the persons who wrote the courses for online study. The courses may range from technical, medical, academic to general interest subjects and the levels can be from beginner to higher advances. With over 800 courses to choose from, the individual should find the right course and level without difficulty. In the 21st Century, students may stay at home and take distance education (synchronous and asynchronous) in their homes across the world.

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