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## WEB-BASED EDUCATION IN SCHOOLS: A CHANGING SCENARIO OF EDUCATIONAL TECHNOLOGY IN INDIA

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### ABSTRACT

Technological change permits new activities and makes new activities superior in many important ways over the previous method of operation and creates long lasting innovations in society. Web-based teaching and learning is rapidly emerging as a predominant paradigm in the delivery of education in society. Internet is the ocean of knowledge. This ocean can be made available to all students as early as possible in their life. So Information Technology & related tools can be introduced in school education by using World Wide Web as education delivery medium. The WWW is used to provide information with great prospect and extend learning outside space and time boundaries. The remarkable developments in IT and networking have opened the doors of education. In the era of IT e-learning can be efficiently used for different types of education. Most of the population of India is in the rural areas where literacy rate is poor due to the lack of educational facilities. This paper discusses the present scenario of education in India, the key related to Web based education / learning has potential to meet the perceived need for flexible pace, place & face.

**Keywords:** Education Technology, Internet, WWW, web-based education (WBE), online education, E-tutoring, Web Based Technology (WBT)

### INTRODUCTION

*“Education is an important indicator of social development”*

#### 1. Education Scenario in India:

The Indian Constitution resolves to provide quality education to all and in an effort to fulfill the educational needs of the country specifically for the diverse societies and cultures of the country the government has chalked out different educational categories: Elementary education, Secondary education, Higher education, Adult education, and Technical and Vocational education is nothing but the development of the whole individual and nurturing the potentials inherent traits. The lowest level of education that was necessary to attain this goal was basic or

primary and secondary. But now in this super fast era, when borders have lost their existence, education needs to meet the additional demands of present time. Due to globalization, the whole world has become a global village. So now education must be used as a useful tool raise awareness of environment, peace, culture, social diversity, increased competitiveness and the concept of a global village. After independence, the scenario changed and education became more than a tool. In the present world, education is being used as a means of becoming a global citizen. Today, the world is full of information flowing freely. Now anyone can get any information on just about any subject under the sun with the help of the World Wide. The internet has enabled us to know different cultures and to have an insight into the world happenings. To work in this more competitive world, we have to be potent enough to survive. Education gives us that powerful tool by which we can leave a life of

worthiness it is only through improving the educational condition of a society that the multi-faceted progress of its people can be guaranteed. The scenario of the schools has also been changed. Now the schools are well equipped with all modern technically sound devices that facilitate the learning environment. The use of projectors, DVDs, smart boards, and other modernized devices is an indication that India is also developing in an equal pace with the whole world. Apart from this, different international schools are also making their appearance in India. India is now being placed among the best education provides country of the world. But the impact of education can be seen more in the urban life than in rural India. Impact of globalization can be seen in case of online technique of learning. Now children residing in distant parts of the country can take the benefit of lectures that are being delivered in some other parts of the country exclusively through the online mode. This has become possible because of the Internet and the World Wide Web. Parents can now apply for their child's admission online. This is beneficial to many parents because it saves their time and is economical as well.

#### **Basic Structure of Education in India**

The basic structure of education India follows creating a sturdy base for the students. There are basically four stages of schooling in India which are primary, upper primary, secondary and higher secondary/high school. In an average, the schooling in India goes through duration of 12 years, starting from Class 1 to Class 12<sup>th</sup> (10+2). The Indian Government is dedicated to provide the elementary education for everyone i.e Primary and Secondary for the ones aging between 6-14 years. Then the upper primary and secondary school student's ages between 11 to 15 years, which is planned between classes 6 to 10 and the higher secondary school ages ranges from 16-17 i.e for classes eleven and twelve. However in some parts of the country there is a concept of middle/upper primary schools for class six to eight. Higher Education in India sometimes offer focus in particular field which includes technical

schools like Indian Institute of Technology etc. also including related colleges and universities.

#### **Categories of schooling in India**

The main categories of schooling offered in India are:

- The state government controlled schools under which a large chunk of students are enrolled.
- The Central Board of Secondary Education (CBSE), New Delhi
- The Council for Indian School Certificate Examinations (ICSE), New Delhi
- National Open School
- International Schools

#### **2. Need for Web Based Technologies**

In the presence of social diversity in India, it is difficult to change the social background of students, parents and their economical conditions. Therefore the only option left for us is to provide uniform or standardize teaching learning resources or methods. For high quality education throughout India there must be some nationwide network, which provides equal quality education to all students, including the student from the rural areas and villages. The solution to this is Web-Based Learning. Three features are vital to the future of web-based education: *interactivity* between users (students, instructors, and administrators), *speed* of delivery, *flexibility* in relation to time and location of use.

#### **Web Revolution**

The objective of web delivered education is to provide tele-education for the place or time constrained students and also to maximize the utilization of instructional technology in an effort to enhance the absorption of knowledge. The growing role of the Internet as the main communication and information delivery channel in society at large will make web-based learning environments an important vehicle for delivering educational programmes to more students at a lower cost. The early 1990's witnessed the web revolution, and its impact on computerized learning environments was dramatic. By the mid-1990's the first World Wide Web (WWW) based learning environment appeared and facilitated Internet use in academic learning environments. Considering the impact of Internet tele-education,

it can be said that it is bringing the issue of off-campus/off-classroom course-work to the foreground and into an unavoidable recognition emphasizing more education to more people in more places. Courses offered over the Internet can be full courses, with sole Internet interaction or may be supplementary to an in campus course, in which case the student, faculty interaction remains on a face-to-face basis. Properly designed, structured and offered Internet courses may result in significant competitive advantage for an educational institution. The Internet as a learning medium lies both in integrating relevant visual, oral and textual materials and in providing access to these materials.

#### **Web Based Education in India:**

Increased Internet access has transformed computers from mere computing machines to drivers of the Information age. India has rightly recognized the access to Internet. Government of India, has Visualized the role of Information Technology in the contemporary world setup as a high power .Online education is the most existing segment in the Indian IT application programmes. University Grants Commission's Country Wide Classroom popularity and the programmes of AVRC and EMRC have created a sensation amongst the student's community. A host of e-education sites continue to enter the market with focused offerings linking up student and teachers almost on a daily basis. The emerging new medium is acting as a effective supplement to the traditional teaching learning programmes. The country with it IT super strength is in the midst of a 'dotcom' wave. Multimedia packages prepared for learners incorporate a range of technologies print, audiotapes, video tapes, interactive radio counseling, one way video/two way audio teleconferencing, television lessons, CD-ROMs and web-based content delivery and so forth Sharma( 2001). These days' major changes are taking place in the educational system. This is because society itself is changing into one in which knowledge work becomes ever more important along with information and communication technologies affecting the economies. The trends and technological

developments have envisioned 'global learning infrastructure' in which educational institutions have changed drastically paving the way for radical transformation of the educational system. Benefits of Web based education is clear: **classroom independence and platform independence**

The main trends envisaged may be listed as follows;

- Increasing growth of students
- Different types of students
- Flexible learning arrangements in which campus, building is no longer central to the educational process.
- Inclination towards life long learning.
- Learning to learn-fast, obsolescence of knowledge emphasizes the need to refresh on regular basis.
- The monopoly of educational institutions forced the organizations to offer external market to education.
- Changing behaviors of students in their choices about how and where to be educated.
- The developments in the communication technologies have become handy to solve very critical problems of education;
- Through Internet where the course material can be offered independently of time and place. Modularization makes it to offer different and flexible learning routes.
- Ever increasing number of students has access to Internet, either at home or at the institution.
- Costs of Internet is slowly coming down
- More and more information is made available through the WEB.

So, it can be envisaged that the future learning environment would be:

- student – centered
- interactive and dynamic
- enabling group work on real world problems
- enabling students to determine their own learning routes

- Emphasizing competencies like information literacy to support life long learning.

Therefore learning through Internet is a active learning, which implies that students don't limit themselves to resources supplied by their instructors, but also that the students search for new materials themselves in order to solve problems at hand and to develop their competencies continuously. Web-based learning is being developed rapidly in recently years. It is getting more and more popular because Internet gives us the best hope for the less expensive, more accessible, higher quality education (Jones, 1999). Web education denotes the processes where network technologies such as the Internet are used to make connections among students, teachers, and educational materials (Muirhead, 2000). Schools are providing on-line content and services by way of the web, and they are trying to adopt information architecture that can support interactivity, speed, and flexibility (Sharma). Web based models support services and applications that include conferencing system, chat rooms, bulletin boards, e-mail, virtual conference areas, online exams, etc. These models would also enhance course communication and collaboration while concurrently improving the quality of learning materials. The online web-based educational delivery method moves courses from a "talking-head," instructor-centered, passive student model to an independent learning, student-centered, empowering model (Rack and Cantu, 2000).

The driving forces for web-based education are:

- an increase in population,
- changing student demographics,
- demand for learner-centric programs,
- the increasing pressure on reducing costs on education

### 3. E-Tutoring

Students in India and the education system is growing in a multiple manner as the internet penetration, option of learning while sitting at home and saving money is led to increase popularity of e-tutorials. "An increasing number of school and college going students are now getting enrolled for online classes which provides

them practical insights and individual attention in the comforts of their home at a time convenient to them," said the survey. E-tutoring does not require any significant investments but a basic software and hardware set up to support multimedia and internet connection to facilitate interactive study sessions via e-mails and engaging in live discussions and video conferencing. There are several websites which offer e-tutoring and the student can pay with his credit or debit card. E-tutorial is a niche sector that provides limitless world of knowledge as there are various online learning programs that complement every student's unique learning needs.

### 4. CREATING AN ONLINE LEARNING ENVIRONMENT

The obvious advantages to online training have tempted many instructors to jump too soon to exploit WBT. To create an effective online learning environment, it is important to pause and consider a few practical and pedagogical issues, including the online roles of instructor and student, the best type of technology tools to use, and the process of collaboration. It is also important to consider how materials will be distributed, how students will be assessed, and how specialized software will be incorporated into the learning environment.

#### Roles

The instructor must accept the role of facilitator (as opposed to leader) in the learning process. This change requires moving from the "chalk-and-talk" role to a "guide-on-the-side" role. It is also important that instructors realize that self-directed learning requires high motivation on the part of the students.

#### Technology

Students must have access to a standard Web browser and Internet connection. Instructors must of course be familiar with HTML tools and the process of converting a traditional course for use on the Web.

#### Collaboration tools

Effective collaboration between the instructor and students is crucial. Instructors must be familiar with the many Internet technologies that support

effective communication and collaboration, including e-mail, group discussion lists, text-based chat facilities, and even desktop videoconferencing.

**Material distribution**

The Web provides a platform for delivering not only the text materials that a class might need, but also the multimedia requirements as well, including audio and video streams of instructor lectures. Instructors must be familiar with the strengths and weaknesses of current technologies even if other people will be converting classroom

lectures into digital video for the Web because understanding what the Web is capable of doing will help determine the Web site’s content.

**Student assessment**

Computer-based testing, sometimes called computer-managed instruction (CMI), can provide instant feedback on student comprehension of course materials. But this type of managed testing can’t work unless instructors accept assignments and provide feedback to students electronically.

**5. Implications of New Technologies**

**Table 1: Implications of New Technologies**

‘Traditional’ Model of Teaching	New Model of Teaching	Technology Implications
Classroom Lectures	Individual Exploration	Availability of networked Computers with guided access to online information and learning Materials.
Teacher as Deliverer of Information	Teacher as a Guide	Teaching via programme websites and online learning environments; access to external experts over the Internet
Individual Work	Collaborative Learning	Access to email and online ‘conferencing’ tools
Face-to-face Teaching	Flexible and Distance Learning	Student access to networked computers for materials delivery and support
Consistent Content	Fast-changing Content	Availability of networks, web space and web publishing tools; sharing of computer-based learning materials with other institutions

**CONCLUSION**

With introduction of Web Based Education at school level our children and youngsters will grow as “Computer kids”. Use of Internet for education has a potential to change many aspects of our lives. Thus WBE is Platform independent, convenient in access, cost saving, easily updated contents and with emerging technologies it can be made more effective. Web-Based Learning adds human support through on-line tutor, extending the scope of what can be effectively taught into many new subject areas. More supporting material can be made available through web site links to other documents and systems. With all

these important features incorporated in Web Based Learning system it will enhance the quality of education in our country at all levels i.e. Primary, Secondary and Higher Education. Problems with web based education in India needs strong support. The Internet has been in existence for almost two and a half decades and began to extend into schools about 15 years ago. First it entered universities and then moved to schools. Internet has not made any miracle as such, but it did provide an opportunity to expand learning options for teachers and students who were fortunate enough to have Internet access, a few computers, and appropriate guidance on

usage. In the Indian context this is seen only in few cases which may be either in the school or in the college. There are many factors affecting this slow implementation of computing and communication technology in schools, including administrations with no knowledge of its value or no willingness to realign school budgets to include computational technology, insufficient in-service professional development programs for teachers, lack of specific curriculum benefits or of resources for teachers to use in their courses and deficient pre service preparation of teachers in technologies or computation. The Internet is now available in almost all territories of the world, and it not only offers a medium for academia to communicate and collaborate on research matter but has also become the backbone for many commercial and legal ventures. The birth of Commerce over Internet has spawned a new type of Multinational Corporation whose business is ecommerce centric. This 'new business focus' need for electronic connectivity across geographical boundaries is so intense, it is pushing governments, ISP's and telecommunication companies into reshaping the conduct of international business. There fore a society whose workforce has been schooled in the use of this 'new business' is better able to survive in the emerging Global Information Society. Today information seeking is directly identified with Internet tomorrow, education seeking will similarly identify with the Internet. As a network coupled with streamed audio technology it provides the needed infrastructure for global educational delivery. With time, via Internet, education will shine at the global level as solar energy shines everyday, which indicates that no one should be deprived of education because of location or time inconvenience.

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