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Digital Learning–Future of Education System

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Abstract

The education system all over the world has gone through a dramatic change. The traditional education system no longer fulfills the modern day complex needs where everything is dynamic and evolving at a very fast pace. There is a huge amount of transformation that takes place in the present world. Therefore, a new and modern way of education is required to handle such transformation arising as a result of creation of large amount of information in a systematic manner. Thus, to resolve the shortcomings of the traditional learning system, the world is moving towards digital learning which addresses all the issues and challenges of traditional education. In this paper it has been presented that how technology has changed learning process, enabling technologies behind this. Through this article, an attempt has been made to discuss the upcoming trends in digital education system that will shape the future of our coming generations for the better. This study is motivated to improve the processes of learning while implementing any technology based system.

1. Introduction

India has one of the largest Higher Education Systems in the World, primarily dominated by private sectors. India has a multi-layered formal education system with 26 Cr. students enrolled in more than 15 lakhs schools and 39000 colleges catering to 2.8 Cr. under graduates and 40 lakhs post graduates.

Technology is touching every aspect of society and changing it dramatically. There is one very important and indispensable part of the society that has also been tapped by new innovations and discoveries and that is education with the concept of e-learning.

Digital Education can be defined as the use of a combination of technology, digital content and instruction in the education system to make it more effective and efficient than the traditional education system. A digital classroom is basically an ICT-based classroom solution, helping to convert traditional classrooms into interactive sessions with the help of best hardware with syllabus-compliant, multimedia content. Digitization of classrooms includes curriculum on digital content management and infrastructure to support technology.

2. Objectives

The objective of this article is to understand education in digital era and the trending technologies enabling digital learning. As per the researches done earlier Indian schools are focusing more on K-12 learning and creating a collaborative knowledge creation culture of learning. With internet facility being enjoyed in each sector, education industry is no behind. E-learning plays an important role in handling the issues and problem of teaching today. With hi-tech network and multimedia, the education sector has emerged to be one of the fast emerging fields. Technological advancement has enabled our Indian classroom to be tech savvy. With the use of technology in education sector, there is a major change in the teaching and learning methods, styles, and content across many schools in India. With the inclusion of Technology in a digital learning environment, the classroom becomes much more comfortable and welcoming to students. The Y-Generation of today is much smart in using all the technological gadgets like computers, laptops, iPads and mobiles, so by adopting these same technology into the classrooms makes them feel easy and conversant.

3. Why E-Learning

Internet has started reshaping education. Education will not be the same in the next decade. There is no going back. The traditional classroom has to be transformed. Many universities/colleges may not survive by the end of this decade unless they try to cope up with the growing technological system.

There are two great equalizers in life - the internet and education. By combining the two, e-learning will be the great equalizer in the next century. By eliminating barriers of time, distance, and socio-economic status, individuals can now take charge of their own lifelong learning.

A. **Types of E-Learning**

Synchronous training: means "at the same time," involves interaction of participants with an instructor via the Web in real time like Virtual classroom. Virtual classroom duplicates the features of a real classroom online. Participants interact with each other and Instructors online, instant messaging, chat, audio and video conferencing etc.

B. **Asynchronous training:** which means "not at the same time," allows the participant to complete the web-based training at his own pace, without live interaction with the instructor like embedded learning. Embedded learning is information that is accessible on a self-help basis, 24/7. It can be delivered to the place of work, or to mobile learners. The clear advantage of a self-paced course is convenience. Participants can get the training they need at any time.

C. **Discussion groups:** A discussion group is a gathering of conversations that occur over time. They are also called message boards, bulletin boards and discussion forums. Discussion groups can be used to support a group of participants taking the same class or can be used to support participants performing related tasks. A discussion group is a very competent way to supply expert answers to a large group people.

D. **Blended learning:** It is a mix of both synchronous and asynchronous e-learning methods according to their requirement.

4. Emerging Technologies for Learning

E-Learning or technology in learning has become a buzz in the education industry and today it caters to the needs of modern-day learners. Infusing technologies in classroom learning have added to stimulus and enhanced learner's interaction within the classroom. E-Learning has a vast presence in almost every field. A diverse range of technological tools that can be used by capable teachers to enhance learning and teaching situations. These tools make learning more interesting, interactive, meaningful and stimulating for the students. These tools are powerful as they are capable of bringing a change and reform traditional forms of learning. Web, Online forums, Video conferencing, Learning management system, Chat, Internet, YouTube, Skype, Twitter, Smart-boards, Blogs and Podcasting are tools that have changed the way of learning.

5. Traditional & E-Learning Approach

Traditional and E-learning approaches		
	Traditional Classroom	**E-Learning**
Classroom	Physical – limited size Synchronous	Unlimited Anytime, anywhere
Content	PowerPoint /transparency Textbooks/ library Video Collaboration	Multimedia / simulation Digital library On demand Synchronous & Asynchronous Communication
Personalisation	One learning path	Learning path and pace determined by learner

A. Digitalized classroom/Flipped Class rooms

A digital classroom is basically an ICT-based classroom solution, helping to convert traditional classrooms into interactive sessions with the help of best hardware with syllabus-compliant, multimedia content. Digitization of classrooms includes curriculum on digital content management and infrastructure to support technology.

Digital classroom includes-

a. Use of projector with tablet.
b. Use of digital resources and digital tools.
c. Development of digital ethics and honor online, and respect for fair use for education.
d. Teacher-collected or teacher-created resources.
e. Digital Literacy and Multimedia.

B. Video based learning

Video-based learning is quickly becoming a basic training need. Human being prefer watching a video over reading documents, emails or online articles. The primary reason people learn well via video is because the human brain processes videos 60,000 times faster than it does text.

The reasons for opting into video-based learning include:

a. Video is more persuasive compared to other content types.

b. The increased usage of smartphones provides on-the-go training.

c. Video supports on-demand, bite-sized micro learning, teaching at the moment of need.

d. Video is a cost-effective solution as part of professional education and training.

C. Massive open online course (MOOCS) & Other distant learning programs

A massive open online course (MOOC) is an online course aimed at unlimited participation and open access via the web. India is considered to be the biggest market for MOOCs in the world after the USA. Since the population of India is huge, massive open online course (MOOC) are said to gateways for a lot of Indians in terms of bringing an educational revolution. Online distant learning programs give a great opportunity to avail high quality learning with the help of internet connectivity.

D. Game based learning

Game-based learning relates to the use of games to enhance the learning experience.

Educators have been using games in the classroom for years. Today the world is of Y-generation people who are acquainted with the technological developments taking around them, and they are also surrounded with the required skills and abilities. K-12 creates the game based learning environment, which enables the learner to easily get the word of education in India and give us a better self-trained Y generation.

6. Metamorphosis of the Role of Teachers

The role of teachers today is changing from simply distributing knowledge, to heeding the comprehensive feedback and high-quality assessment of the students. Rather than being teachers literally, they are becoming schools in themselves, imparting both knowledge, skills and attributes to one and all. Of all the facts, one is absolutely true, "No Technology Can Replace Teachers". However, it is also the responsibility of the teachers to a great extent to incorporate modern education technologies like online assignment and video lecture in the

classrooms to help make the study material engaging, interactive and refreshing. Apart from getting involved in studying through such innovative measures, students will understand the relevance and importance of the entire content, thereby showing more interest in studies and learning. With the help of web tools like message boards, forums and online lectures, students can be empowered by the teachers in classrooms.

Metamorphosis of the role of teachers	
The role of instructors in the XX century	Father, scholar, monopolist of knowledge.
The role of instructors in the XXI century	colleague, manager in handling information, chief coordinator controlling the "Jungle" of information.

7. Current Status of E-Learning in India

Although the foundation of education is still reading, writing and arithmetic, today's students need broader education. Hence Contemporary classroom needs to deliver live instruction, video content delivery, student to-student interactions via videoconferencing, remote test administration, up-to-date materials, self-learning etc. Digital India campaign is likely to benefit education by bringing many of these and other important elements together.

Various corporate sector such as Intel, Qualcomm and Tata are making strides in this direction. Intel launched 'Digital Skills for India' initiative under which it introduced Digital Skills Training Application that is comprised of modules on Digital Literacy, Financial Inclusion, Healthcare and Cleanliness in five Indian languages. Qualcomm has launched Play 'n' Learn program for school children ages 5-8. It is providing 3G tablets under the Qualcomm wireless Reach initiative. Similarly, Samsung started on a Smart Learning initiative to provide interactive study materials to students.

Likewise, Tata, Reliance and BSNL are among the prominent Indian names that are going big on this sector. While Tata is expanding its school education solution, 'Classedg', Reliance

has picked up stake in digital education company, Extra marks Education Private Limited, through its subsidiary, Infotel Broadband Services Limited. Government owned enterprise BSNL has tied up with Grey cell 18 Media Private Limited, to launch its online education service 'Topper Education'. Other noteworthy names in this segment include Data Wind, Merit nation, and Class teacher. Needless to say, if the e-learning/education market takes root in the country, it will definitely improve the education scenario which desperately needs a shakeup.

Even the Government is in strong supporter of e-learning and the Ministry of Electronics and Information Technology has been actively developing tools and technologies to promote it. While the Government's aggressive National Optical Fibre Network (NOFN) is all set to be spine of the Digital India drive, spreading out of broadband connectivity is going to aid growth of e-learning.

8. Conclusions

The efforts of teachers and technology combined to improve the quality of education and learning attempts to emphasize a number of advantages. Advancement in e-learning extends further possibilities of learning going beyond traditional way of teaching. Easy access to materials, flexible space, time and pace of study and immediate feedback are some of the advantages that make learning a fun thing to go. Also, introduction to online teaching adds to the enrichment of learning a foreign language. Overall the advantages are numerous. But talking about the other side, there are some drawbacks that can keep the traditional method at an edge. The creation, preparation and uploading of the material is time-consuming and requires the teachers to put in a little extra efforts.

Development of any society depends on its access to information and the same is applicable to India too. E-learning can work wonders in this direction and help the socially marginalized community to attain their entitlements. Launch of Digital India program is a welcome step in this direction. It is anticipated that with dedicated leadership, willpower and control and an integrated framework comprising of the government, technology industry and society, E-learning interventions will undoubtedly pave way towards sustainable growth. On the whole, e-learning offers opportunity to raise educational standards in education institutions and society.

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