INTERNATIONAL CONFERENCE IAMTSD- 2019 ON INNOVATIONS & ADVANCE MANAGEMENT TECHNIQUES FOR SUSTAINABLE DEVELOPMENT

THEME: DIGITAL LEARNING

Dr. Madhuri Chansarkar
Assistant Professor
L.A.D. & Smt. R.P.College for Women, Nagpur

Key words

Digitization, VR/AR, micro-learning, Digital India, education 4.0

Objective

To understand the impact of digital learning in India

Introduction

Digital learning is virtual learning, online learning, e-learning, distance learning and is continuing education learnt through digital devices such as computers, tablets, or smart phones over the Internet. It is a flexible and an affordable way of learning anytime, anywhere and at any location where Internet connection and computers are accessible.

Digitization and technological advancements have impacted every aspect of our lives. From the way we communicate to how businesses are run, to how education is imparted and consumed, exhibits an imprint of digitization. Learning by rote and book based learning which relied on printed material is now becoming a characteristic of the past.

Education in India from traditional to digital

Education system in India has been traditional, with emphasis on classroom-based learning, where students had little opportunity to participate in interactive sessions. The relationship between students and teachers and the learning underwent a significant change due to technological advancements. This was because students got access to a variety of sources for information, as opposed to simply learning what was being taught in institutions. The methodology of teaching was evolving and becoming more and more interactive and engaging, due to digital means and this was aided by the growth and proliferation of communication technology, deeper penetration of internet connectivity and smart devices.

Facets of Digital education

Digital education is today the new revolutionary method of imparting knowledge and it is popular since it provides a level the playing field for all students. In a country vast and diverse as India, it is difficult to have good teachers evenly spread out, and it is also incorrect to restrict the best teachers to specific institutes. However due to digital learning it is possible for one teacher to deliver information remotely across several locations. Issues such as archaic teaching methods, shortage of teachers, disproportionate student-teacher ratio, and inadequate teaching materials are also mitigated by digitization of education.

Digital learning provides multimedia teaching tools to teachers and engages students through digital tools. It has radically altered both how we learn and what we learn. It has engaged students in novel ways and encouraged educational institutions to use technology embracing virtual reality and augmented reality (VR/AR). This resulted in the development of collaborative online learning. The Virtual collaborative learning environments in turn enabled learners to work together as a group in technology-based learning systems and benefit from shared knowledge. VR allows students using e-learning platforms on mobile devices to directly interact with study material. This keeps their engagement levels high and motivates them to learn more and better. On the other hand, AR facilitates teachers and trainers in performing tasks, in an efficient manner.

With the advent of video game designing came the concept of gamification, or game-based learning. Its use as an educational tool motivated students to learn new skills as an engaging and a fun activity. Gamification, is powered by artificial intelligence and machine learning. Gamified learning holds the interest of students and has become more engaging than classroom learning.

Education through specific teaching devices or instruments began to meet the specific learning needs of individuals. In other words, it became adaptive learning and it progressed because programmes were customized as per the needs and capabilities of specific learners. Classrooms at every level are filled with students with diverse learning and knowledge background, with divergent interests and goals. With this in mind, newer and more innovative teaching and learning methods were devised, and adaptive learning met these challenges very well.

Video-based learning however is the most effective tool because of our changing cognitive abilities. "According to an article published by Psychology Today, the human brain processes videos 60,000 times faster than text", says Mr Kamal Dutta MD of skillsoft, in his article of Dec 2018, 'The Learning Landscape for 2019'. The method of explaining and demonstrating a topic through videos boosts retention as it appeals to more than just the sense of sight.

The rise in video-based learning lead to a newer concept called microlearning wherein bite-sized videos with succinct information are shown to learners. The underlying principle is when learners are exposed to information in short bursts repeatedly; they grasp concepts quicker, leading to better learning outcomes. Micro learning, is conceived in the form of short quizzes, info-graphics, or audio clips, and is expected to transform the education sector further.

Looking ahead

The learning landscape is now also dominated by artificial intelligence wherein AI-driven chatbots; which are programs designed to interact with humans through conversation; perform tasks like guiding learners, while they move forward on their skilling journey. This method of aiding learners through chatbots was successfully implemented when the Georgia Institute of Technology used IBM's Watson AI to facilitate student support. For online learning platforms, chatbots become teachers' assistants and answer routine queries put up by learners. Cloud-based platforms which help classroom go paperless are also becoming popular.

New age technology platforms have contributed tremendously in assessing the performance of students, teachers and institutions as a whole and are increasingly being adopted by educational institutions in India. In fact, the significance of e-learning, together with the vision of a trained workforce prompted the Ministry of Human Resources and Development to upload lectures online so that they can be easily accessed by students anytime and anywhere.

Education 4.0

India is on the threshold of the fourth industrial revolution and its population needs education 4.0. Fourth industrial revolution is a name given to the current trend of automation and data exchange in manufacturing technologies, and is referred to as industry 4.0. To keep it going we need education 4.0 which includes cyber-physical systems, the Internet of things, cloud computing and cognitive computing. Its goal is to create students who can become valuable members of the workforce and independent problem solvers.

In order to meet this challenge, we need to revisit the educational models and focus on the areas that need rethinking. In today's new world of fast changing technology and information overload, students need to be trained and not taught. Information needs to be made accessible and students need to learn how to find it rather than the teacher offering it to them in a rigid structure.

It is now accepted that students are not alike, do not have the same starting point, can learn and absorb different areas of focus differently and need to be guided to develop their skills rather than taught a set of predefined data points. The challenge of developing curriculum and delivery systems that are relevant to the region, economic area and level of economic development, maturity of markets and aspiration of the society is being addressed with the three new R's 'Relevance' 'Rigor' 'Relearning' so that Education 4.0 can quickly align with Industry 4.0 and prepare students for the next industrial revolution which will happen in the next few decades.

Impact of digital India

The 2030 Agenda for Sustainable Development adopted by the United Nations in September 2015 acknowledged that there is great scope in accelerating the human progress by eliminating digital gaps, which is only possible by educating the society by the spread of information and communications technology. The government's push for e-learning reinforces the efforts of online education. The launch of the second phase of the Digital India campaign has renewed focus on faster development of the education sector. Online education has also received due importance in the New Education Policy drafted by the Kasturirangan Committee. Massive Open Online Courses (MOOCs) under the government's SWAYAM initiative have made higher education accessible to India's youth, who form a sizeable portion of our population. Many startups have also figured in the online education market. Their scope can be gauged by the investments they have attracted from overseas investors. C Zukerman has invested in Byju's, Bertelsmann has funded Eruditus, Neev Knowledge Management P Ltd has raised finance from Kaizen Management advisors. Tata Trust also has partnered with Khan Academy to provide free education to everyone.

Conclusion

Going forward, the e-learning space is poised to witness new developments with respect to unconventional methods of learning. Gamification will ensure that the learning process is more interactive and fulfilling. Students will be able to set goals, measure their progress and celebrate their learning achievements. Live online interaction between the students and educators will offer personalized learning that will benefit students in remote areas as well as overcrowded schools. The role of Artificial Intelligence and technology in all of this will be immeasurable. AI Bots (automated programs that crawl the internet in search of specific information) will act as study assistants that will accompany the students along their learning journey. It will know their strengths and weakness inside out and will even recommend what they should read on a given day to maximise their learning outcomes.

The Government and its policies play seminal role in transforming and improving the education sector of any country. In India too, policies incorporating the latest and best practices of education sector are being formulated to encourage institutes to adopt methods, from latest technology to the best teaching-learning pedagogies, to help students to develop holistically. Location, language, financial resources and policies are no longer a barrier to education, therefore the future of e-learning in India is promising.

References

www.indiaeducation,net/indiaedudestination/policy/education-policy.aspx

https://www.franchiseindia.com/education/

https://mhrd.gov.in/nep-new

https://www.timeshighereducation.com/hub/jisc/p/preparing-education-40