DIGITAL ERUDITION IN HIGHER EDUCATION – A CRITICAL STUDY

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ABSTRACT

This paper explores the importance of digital learning environment in Higher Education. Digital education is the use of digital tools and technologies in teaching-learning, and is referred as Technology Enhanced Learning (TEL) or e-Learning. To promote equity, provide access to quality education, enhance learning opportunities to accelerate outreach and to facilitate access to the quality educational resources for learners of all age group; Government of India has launched various digital initiatives. This has brought about a concern in Higher Education with regard to helping students, develop a profession-based digital competence relevant to teaching. Equipping educational centers and students with the newest technology helps save a ration of time. Digital learning is being quite beneficial to students with learning disabilities. Technology is merely an augmentation to a teacher. It can help the process of learning, but it certainly cannot replace the role of the teacher. Students need to equip with ICT skills to operate online sessions, which of course are taught by teachers. The concept of knowledge is changed due to the rapid digitalization of information. As the process of learning involves the use of digital resources the representation and knowledge practices are also changed. This chapter explored the possible efforts to be taken in Higher Education, to implement the digital teaching-learning. Higher Education should become as a technology based learning system and prepare the student teachers to equip with digital teaching-learning technologies to enhance the teaching- learning approaches in digitalized forms.

KEY WORDS

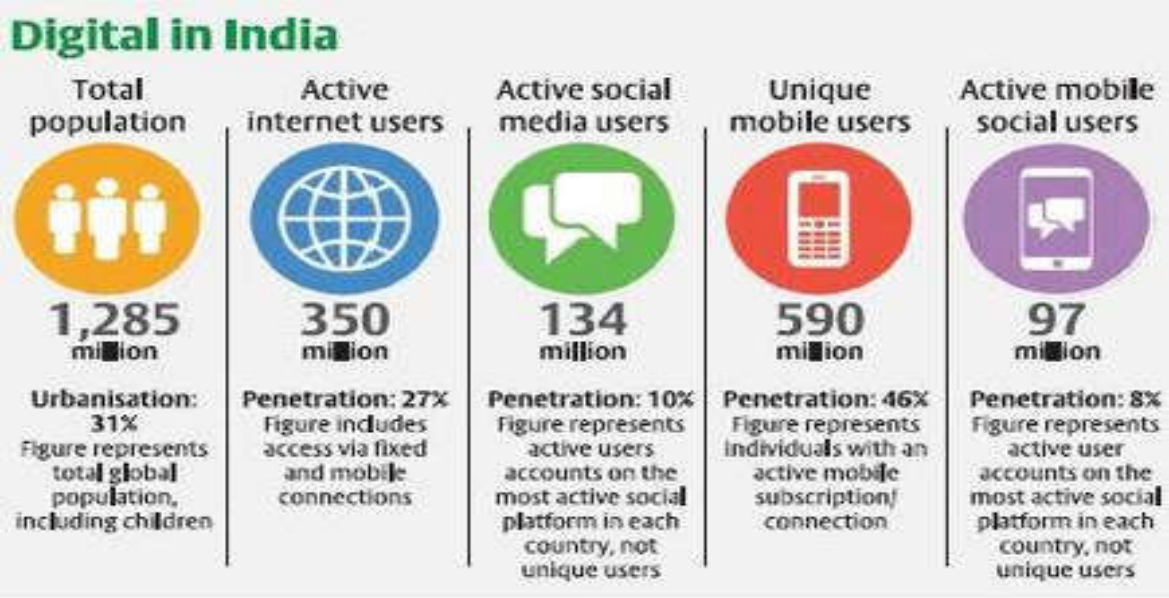
Digital Learning Environment, Digital Tools, Technology, Teaching and Learning

INTRODUCTION

Digital competence is a multi-dimensional concept which not only consist of a complex integration of technical, cognitive and digital skills but also entails the meta-cognitive processes along with the social, emotional and ethical awareness related to the use and understanding of

digital technologies. It refers to the confident, critical and creative use of the complete range of digital technologies to access, store, retrieve, create, share and evaluate information, for effective communication, for problem solving, critical thinking and creative thinking in all spheres of life. Digital competence is a non-linear concept; it integrates skills and abilities which are cognitive, contextual and social in nature making it multidimensional or multimodal. It is interconnected and interdependent on basic as well as advance competences and skills such as reading skills, numeracy, logical, inferential, problem solving, collaboration, decision making and met cognitive skills.

Digital technologies come across an educational tradition. Digital learning is resistant and also established effective pedagogical practices (Hauge & Lund, 2012). Digital learning pedagogies bring about a concern in Higher Education with regard to helping students develop a profession-based digital competence relevant to teaching. A concern for a stronger focus on professional digital competence shows that the newly qualified teachers are not able to meet the digital challenges, which reflects the mismatch between the digital challenges and the teacher preparation programmes (Gudmundsdottir, Loftsgarden, & Ottestad, 2014).



ADVANCING PROFESSIONAL DEVELOPMENT

Digital learning and technology in the classroom, the training and professional development of teachers must transition to fully realize the potential of these resources to foster

student learning. This incorporates using technology, to guide instruction and to measure, evaluate and understand student learning through data-driven instructional methods. In addition to this shift in role, many teachers lack proficiency with technology. These gaps—the teacher role in digital learning environments and teacher technology skills—foil digital learning and technologies from being used effectively. To make the transition from the traditional role of disseminating content knowledge to that of instructional design in guiding students' discovery and application of information, teachers require a significant investment in time and learning. Teachers have cited professional development as an important component of preparing them to use technology effectively in instruction.

DIGITAL EDUCATION INITIATIVES TAKEN BY GOVERNMENT OF INDIA

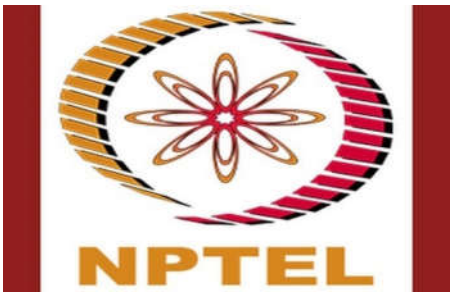
To promote equity, provide access to quality education, enhance learning opportunities to accelerate outreach and to facilitate access to the quality educational resources for learners of all age group; Government of India has launched various digital initiatives; some of the recent initiatives are briefly described here under-

SWAYAM (Study Webs of Active–Learning for Young Aspiring Minds) is an indigenously designed massive open online course (MOOC), launched in 9th July 2017 with an aim to "bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy." It hosts online courses free of cost for the Indian nationals to provide "best teaching learning resources to all". All courses that are taught in universities, colleges and schools from class 9th to the post-graduation level are virtually available here; there are online courses registered at SWAYAM portal at present. During its initial phase faculties from institutes of national importance such as IITs, IIMs and central universities along with the faculty of foreign universities offer courses in engineering, social sciences, energy, management, basic sciences etc

SWAYAM Prabha, is another digital education initiative launched along with SWAYAM in2017, aims to provide high quality educational contents to learners by using satellite technology to reach the unreached. Here, experts develop the educational content, which covers diverse disciplines in different languages and levels of education. It is disseminated through 32 SWAYAM Prabha DTH (direct to home) Television Channels with an aim to bring uniformity in standards of education especially in rural and remote areas of country, which are devoid of penetration of digital and information technology infrastructure. National Academic Depository is a digital depository, a 24X7 online storehouse of all academic awards i.e. certificates,

diplomas, degrees, mark-sheets etc. issued by universities, higher education institutions and school boards. It ensures easy access and retrieval of academic awards as well as their validation and authentication along with secure storage.

NPTEL (National Programme on Technology Enhanced Learning, India, 2007) is aplatform, which offers e-learning through online Web based and Video courses in Engineering, Science and Humanities. It is an initiative of seven Indian Institutes of Technology (IITs) namely Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee and Indian Institute of Science (IISc). NPTEL intends to enhance the quality of Engineering education in the country by providing free online courseware; it includes contents for 100 courses as web-based supplements and 100 complete video courses, each course is of forty hours duration. Contents provided in the above courses are based on the curriculum suggested by All India Council for Technical Education (AICTE) and major affiliating Universities of India.



The video courses are broadcast through Eklavya channel, a 24/7 television channel provided by Doordarshan, exclusively for educational broadcasts as well as could be stream with the help of Google and YouTube.

Consortium for Educational Communication (CEC) has been established by UGCin1993, as an autonomous body, in order to harness the potential of information and communication technology for educational purpose and to monitor and coordinate the functioning of media centres. CEC is one of the Inter University Centres which has been established with the aim of tackle the needs of higher education by using the powerful medium of Television along with the appropriate use of emerging Information and Communication Technology (ICT).Other than, the above discussed digital education initiatives there are many more programs launched by the government of India to make out the maximum benefit from the use of technology in the field of education. Some of these projects are Virtual labs, Talk to Teacher, Spoken Tutorial, E-Yantra, Indian Sign Language Education and Recognition Platform(ISLERS), Open Source Courseware

Animations Repository (OSCAR), Fossee, Creating Digital-learning Environment for Design (e-Kalpa), Pedagogy Project, Virtual Learning Environment etc. (MHRD, 2018)

DIGITALIZATION OF EDUCATION SYSTEM

Digital revolution seems to be highly necessary in developing countries like India where students are abundant and teachers are relatively threatened. Being of rapid technological change, the Indian education system is also facing many new challenges and providing various new educational opportunities. New millennium experiences the phenomena of liberalization, privatization, globalization and easy access expediting the emergence of digitalization of education, which is very important for Indian education system and there is a swift in setting the preferential goals of education. This advancement of technology has brought us to an information society with no boundaries, which could be significantly marked by knowledge explosion and easily accessible information. These digital technologies have changed the style of functioning of the educational system and its governance with the help of digital data, its storage, retrieval, manipulation and transmission. It has emerged as a cost-effective and time saving tool. To accomplish growing educational demands, we must adopt the best possible methods to include digital technology in our education system to transform our educational institutions into potential learning centres to cater the growing needs of global learners.

DIGITAL COMPETENCE

In the today's knowledge society, digital technologies are key force of innovation, growth and bring opportunities for individuals in a global economy. It is transforming ways and means of communication, study, work culture, access to information and spending leisure time. Individuals use internet and related digital technologies for various purposes; online resources facilitate them to access, create and share resources, interact and follow people globally. However, not everyone has the knowledge, skills and attitudes that enable them to use digital technologies in a critical, collaborative and creative way. In recent years, various terminologies are being used to describe the skills and competence required for the use of digital technologies, some of them are 21st century skills, ICT skills, technology skills, information technology skills, media literacy, digital literacy, and digital skills. To cover the entity of digital competence it is imperative to explain the synonyms and the related concepts because the technologies are changing rapidly.

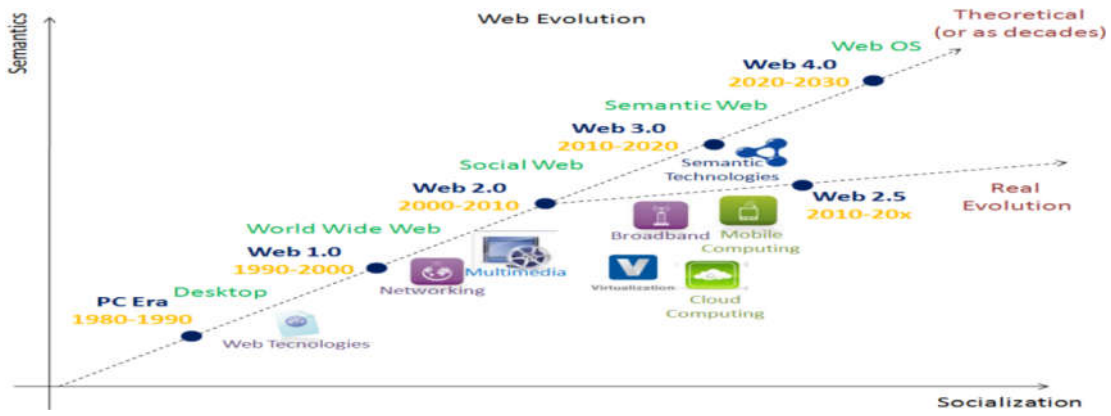
- Computer literacy/ ICT literacy
- Internet skills

INTEGRATED CONCEPTUALIZATION

The concept of knowledge is changed due to the rapid digitalization of information. As the process of learning involves the use of digital resources the representation and knowledge practices are also changed (Saljo, 2010). Therefore teachers must be familiar with research-based knowledge about this development and must themselves be given the opportunity to develop teaching practices through technology-rich learning environment makes the teaching in some points;

- Defining a learning object and how learners approach such an object.
- Employing cultural resources (material as well as human) conducive to working toward the learning object and producing results.
- Addressing the conditions under which the activities unfold: institutional rules and regulations; the total learning community (individual, class, and beyond)
- Sharing experiences that show designs related to enacted designs.

EVOLUTION OF DIGITAL TECHNOLOGY



SMART CLASSROOM

Smart Classrooms are classrooms enriched with technology which foster opportunities for teaching and learning by integrating verity of Information and communication technology, such as computers, specialized software, audience response technology, assistive listening devices, networking, and audio/visual capabilities. A classroom has students with varied abilities of understanding and learning style, and studying in traditional way by notes and other materials

may become difficult for some students. It is also monotonous, prescriptive and autocratic situation. But use of smart classes and modern technology make the learning process easier and interesting for all students.

Components/ equipment used in Smart Class Room

Smart classrooms basically comprises of many essential gadgets and tools. Listed below are common classroom tools that are suitably used for producing an improved learning experience.

Session in smart classroom

Teachers can choose from a variety of technologies, typically smart classes are conducted by a teacher using a presentation and interact with students. Smart classroom can be used to conduct regular sessions by teacher where the teacher and student are in direct face to face contact mode. The smart classroom equipped with versatile interactive online software can also be used to deliver content from a distance by an expert to a large group of student in remotely situated at different geographical locations. The expert lecture can be heard and content displayed on a large screen that is attached to the projector. Students assimilate the audio-visual information that is projected on the screen and learn about the topic. Students can point out when they want to interact with the teacher and teachers in class can let students speak through audio addressing system. Teachers and students can discuss using any application sharing or shared whiteboard pen required. Teachers can ask questions to students. Students can work together in groups when required.

Advantages of Smart classroom

1. Anytime access to online information
2. Allow for connectivity in different location
3. Enhanced understanding
4. Enhanced teaching/learning experience
5. Provide rapid assessment
6. Teachers can do more experiment in pedagogy
7. Making learning enjoyable

Disadvantages of Smart classroom Technology

Though there are numerous benefits from the smart classroom, there are certain drawback as well as discussed below:

1. Concern of cost
2. The risk of Technology Based Learning

3. A Disconnected audience, Human Values may take pounding
4. Can encourage immoral activities in class and on assignments
5. The quality of data sources may not be appropriate

CONCLUSION

The inclusive purpose of the modern critique has been to give to the conceptualization of digital competence as professional skill in the teaching profession, and the practices adopted to develop the professional digital competence among student teachers through various practices in Higher Education programme. The study identified some trends that should be added up to teachers which will meet their current and future practices. This calls for a systematic view of technologies which have transformational potential skills-based competence, and theoretical as well as practical approaches in the form of designs. This chapter explored the possible efforts to be taken in Higher Education, to implement the digital teaching-learning. Higher Education should become as a technology based learning system and prepare the student teachers to equip with digital teaching-learning technologies to enhance the teaching- learning approaches in digitalized forms.

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