

IMPORTANCE OF DIGITAL TEACHING LEARNING PROCESS

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ABSTRACT

Educational institutions (schools, colleges, and universities) in India are currently based only on traditional methods of learning, that is, they follow the traditional set up of face-to-face lectures in a classroom. Although many academic units have also started blended learning, still a lot of them are stuck with old procedures. The sudden outbreak of a deadly disease called Covid-19 caused by a Corona Virus (SARS-CoV-2) shook the entire world. The World Health Organization declared it as a pandemic. This situation challenged the education system across the world and forced educators to shift to an online mode of teaching overnight. Many academic institutions that were earlier reluctant to change their traditional pedagogical approach had no option but to shift entirely to online teaching-learning.

INTRODUCTION

The present paper discusses about how digital revolution and active use of the technology creates new possibilities, dilemmas and challenges for teacher education in our contemporary society. In India there is an urgent need to explore this area more deeply because of the high technology density in society in general, the youngsters' massive use of technology in their everyday life and the difficulties experienced by teacher education in integrating and utilising the technology for educational purposes. Teacher educators are increasingly affected by this digital revolution and it is also highlighted that the teacher education students have to achieve digital literacy to be certified as teachers in this new pedagogical terrain. It has become one of the most important basic competencies for teachers in all subjects. Even if technology access in teacher education institutions is being mandatory but, we still find that there is a lack of essential digital literacy among teachers and there is too much low-speed Internet access in the institutions, neither of which is taken into account in the reformers'

ambitious visions for digital literacy. This illustrates the complexity of this area and, consequently, raises a number of questions. Does the new, converging, Internet-based technology create a fertile ground for this new, mandatory digital literacy in teacher education institutions? If so, what happens to the teacher's role, to students and to subjects when digital literacy becomes mandatory in all subjects?

Therefore, this paper focuses on whether if we are now entering a time of upheaval within technology implementation, and what kind of possibilities, challenges and dilemmas will teacher educators and teachers face when trying to integrate the new, Internet-based technology, in educational activities.

Teacher Education in India

We in India have a large number of teachers and we certainly require many more to suffice the best training lesson for the generations to come. Teacher Education is an important aspect of imparting genuine education to the students. Teacher Education is one way of ensuring that optimal learning takes place in the classrooms. It is very well known that the quality and extent of a learner's achievement are based on the teacher's competence and motivation. Various education commissions and a number of expert committee have discussed the aims of teacher education in India. The National Council of Teacher Education has defined teacher education as – A program of education, research and training of person to teach from pre-primary to higher education level (National Council for Teacher Education (NCTE), (1998). According to goods dictionary of education, Teacher Education means, “all the formal and non formal activities and experiences that help to qualify a person to assume responsibilities of a member of the educational profession or to discharge his responsibilities more effectively.” Owing to knowledge explosion and tremendously fast changing digital technology, the teachers sometimes find it rather difficult to cope with the new intellectual challenges being thrown up by the changed global and local context. Therefore, they need to acquire new knowledge, and reliable and authentic information. Teacher education in India helps the student teacher by providing relevant knowledge, an attitude to grab what is necessary as per the present need and skills to functions effectively in the teaching profession. It equips a student teacher in both conceptual as

well as theoretical framework in order to make them understand the professional intricacies (Kaur & Swarup, 2016).

Digital Technology in Teacher Education

The developments in the use of the electronic media have influenced all walks of life. Education is no exception to this. The use of computers and the internet for enhancing the quality of education by making learning more relevant to life has been seen as an ideal by educational institutions. The citizens of tomorrow who are our students now are going to live in the age of the digital technology. How are we preparing them for the same? Are we giving them technology based Education? Are we giving them exposure to the use of computers and the internet? Have we integrated the digital technology into classroom processes? What are the efforts made by the department in this direction? What does policy say about digital technology in Education? There are several such questions which we need to probe into. An understanding of these issues will enable us to use the digital technology more meaningfully in Education (Kaur & Swarup, 2016). With the growing demands of society and on set of Information and Communication Technology based education, it is necessary to include digital technology in teacher education. With a scenario where information is accessible to a child at one mouse click, a teacher must be equipped with competence to use digital technology for their own professional development. There is a major paradigm shift in the overall education system with implementation of better teaching concepts. This technology invites learners to be more independent and the curricula to be more dynamic. Teachers need to complement their content and pedagogy expertise by utilizing online facilities. Use of digital technology effectively requires a change in classroom practice rather than mere acquisition of technical skills. Teachers need to familiarize themselves with possibilities approaches and application in the use of digital technology, the facilitation of teaching learning. There are a variety of approaches to professional development of teachers in the context of use of digital technology in education. Professional development to incorporate digital technology into teaching and learning is an ongoing process. Teachers need to update their knowledge and skills as the school curriculum and technologies change. No more learning is a teacher centric static process; it is more of learner centric and flexible process. Now with the inclusion

of digital technology it is observed that Class Room has turned into an active participant's platform where actually the knowledge evolves. Thus professionally powerful teaching is the need of the hour in order to design dynamic ways of human development. Teachers need to acquire knowledge as well as skills to be able to survive and more than that to impart best of knowledge to the students.

Online Teaching Is No More an Option, It Is a Necessity

The major part of the world is on quarantine due to the serious outbreak of this global pandemic Covid-19 and therefore many cities have turned into phantom cities and its effects can be seen in schools, colleges, and universities too. Betwixt all this online teaching and online learning can be termed as the panacea for the crisis. The Corona Virus has made institutions to go from offline mode to online mode of pedagogy. This crisis will make the institutions, which were earlier reluctant to change, to accept modern technology. This catastrophe will show us the lucrative side of online teaching and learning. With the help of online teaching modes, we can sermonize a large number of students at any time and in any part of the world. All institutions must scramble different options of online pedagogical approaches and try to use technology more aptly. Many universities around the world have fully digitalized their operations understanding the dire need of this current situation. Online learning is emerging as a victor ludorum amidst this chaos. Therefore, the quality enhancement of online teaching–learning is crucial at this stage. Online education in Chinese universities has increased exponentially after the Covid-19 outbreak. There was an overnight shift of normal classrooms into e-classrooms, that is, educators have shifted their entire pedagogical approach to tackle new market conditions and adapt to the changing situations. During this tough time, the concern is not about whether online teaching–learning methods can provide quality education, it is rather how academic institutions will be able to adopt online learning in such a massive manner.

Problems Associated With Online Teaching and Learning

There are number of technologies available for online education but sometimes they create a lot of difficulties. These difficulties and problems associated with modern technology range from downloading errors, issues with installation, login problems,

problems with audio and video, and so on. Sometimes student finds online teaching to be boring and unengaging. Online learning has so much of time and flexibility that students never find time to do it. Personal attention is also a huge issue facing online learning. Students want two-way interaction which sometimes gets difficult to implement. The learning process cannot reach its full potential until students practice what they learn. Sometimes, online content is all theoretical and does not let students practice and learn effectively. Mediocre course content is also a major issue. Students feel that lack of community, technical problems, and difficulties in understanding instructional goals are the major barriers for online learning (Song et al., 2004). In a study, students were found to be not sufficiently prepared for balancing their work, family, and social lives with their study lives in an online learning environment. Students were also found to be poorly prepared for several e-learning competencies and academic-type competencies.

1. **Media for Explicit Knowledge:**

Explicit knowledge could be represented using different media. Text, graphics, animation, sound and video are the media to represent them [3]. Unlike the traditional media in forms of books information stored digitally can be preserved without any forms of distortion and they can be accessed easily and quickly from any part of the world.

Text: Text is one of the most effective components of representing knowledge. The words embodied as text, convey a powerful message and this has been widely used in handwritten and print media. Most data and information is represented through this medium. It is impossible to convey an unambiguous message without text. To convey a message effectively the message should be specific, definite, concrete and precise. Selection of suitable fonts and size is important for legibility and aesthetic effects. Learning is concerned, summarised text is used to identify the important points and detailed descriptions are for explanations and subsequent supplementary reading.

Graphics :Text and graphics are the basic components of multimedia systems. Text without graphics will fail to retain person's attention as well as long-term retention.

Bitmaps (paint) graphics and vector (draw) graphics are two basic forms of still graphics. Each type has its own characteristics and satisfies different needs. Bitmaps stores the graphics as seen on screen while vector graphics stores the instructions of how the graphics is created. Colour is an important component of a picture. However when producing graphics colours should be chosen carefully to ensure effective and pleasing displays. Human eye react to light intensity and to the three colours red, green and blue. Like in the case of fonts and sizes of text, the choice of colour composition has immediate aesthetic impact.

Animation: Animation adds impact to a presentation. Unlike text and graphics these are dynamic time based media. The visual impact of animation is to harness the learning process. Animations usually take forms like moving an object across the screen, user-controlled movement of an object, bitmap flipping and full animation files. Authoring tools are used to create such objects.

Sound: All forms of verbal communication use sound. Technology has been used to transmit sound across the universe. Teacher's voice has been the primary focus in delivering knowledge. Sound could be represented using computers, and MIDI (Musical Instrument Digital Interface) and digital audio are the two basic file types used in multimedia systems. A multimedia system requires the use of speech, music or special sound effects. When used for education, speech should be short, manageable and integrated with other media. It should be used as a complementary to text.

Video: Video occupies the most disk space and bandwidth when used over the network. Hence video can be integrated with other media only through use of edited segmented video clips each conveying a specific message.

Student's Role: Some classrooms are equipped with computer access to all students. In such cases students interactively participate in the learning process. Now the student's focus is totally on the learning process than on copying note as the learning material can be accessed at a future time. Teachers should ensure that knowledge and skills are not presented to students directly, but are constructed by them in response to information and learning tasks. Teachers need to consider how these learning experiences could be encouraging to students who are performing this type of mental

work. Thus student who used to learn facts and skills by absorbing the content presented by teachers and media resources should move towards creating personal knowledge by acting on content provided by teachers, media resources, and personal experiences. The focus should be on acquiring higher order skills like problem solving and critical thinking.

CONCLUSION

This study is more related to identifying the perceptions in implementing Digital Technology tools in teaching and learning in the classroom among B.Ed. teacher educators. Furthermore, it examines the challenges of using Digital Technology tools in supporting classroom teaching and learning in the classroom teaching and learning. Based on the study the findings indicate that average level of the perceptions in implementing digital technology tools in teaching and learning in the classroom among teacher educators, high level of challenges of using digital technology tools in teaching and learning in the classroom among teacher educators and recognizing the effectiveness of the extent of digital technology tools in supporting teaching and learning in the classroom.

REFERENCES

- Al-Alwani, A. (2005). Barriers to integrating information technology in saudi arabia education. Doctor al dissertation, the University of Kansas, Kansas.
- Burnett, C. (2011). Shifting and multiple spaces in classrooms: An argument for investigating learners' boundary-making around digital networked Texts. *Journal of Literacy & Technology*, 12(3).
- Coccoli, M., Guercio, A., Maresca, P., & Stanganelli, L. (2014). Smarter universities: a vision for the fast changing digital era. *Journal of Visual Languages & Computing*, 25(6), 1003-1011.
- Ertmer, P. A. (2005). Teacher pedagogical beliefs: the final frontier in our quest for technology integration?. *Educational technology research and development*, 53(4), 25-39.
- Ghavifekr, S., Kunjappan, T., Ramasamy, L., & Anthony, A. (2016). Teaching and learning with ict Tools: Issues and Challenges from Teachers' Perceptions. *Malaysian Online Journal of Educational Technology*, 4(2), 38-57.

- Ghavifekr, S., Afshari, M., & Amla, S. (2012). Management strategies for e-learning system as the core component of systemic change: a qualitative analysis. *Life Science Journal*, 9(3), 2190-2196.
- Gomes, C. (2005). Integration of ICT in science teaching: A study performed in Azores, Portugal. *Recent research developments in learning technologies*, 13(3), 63-71.
- Gruszczynska, A., Merchant, G., & Pountney, R. (2013). Digital futures in teacher education: Exploring Open Approaches towards Digital Literacy. *Electronic Journal of e-Learning*, 11(3), 193-206.
- Jani, J. (2015). Digital India: a need of hours. *International journal of advanced research in computer science and software engineering*, 5(8).
- Jukes, I., & Dosaj, A. (2005). Understanding digital kids (dks): teaching & learning in the new digital landscape. The Info Savvy Group.
- Kaur, M. P. (2016). Teachers education in India: inclusion of ICT in teachers education.