Relevant Digital Pedagogy in Today's Classroom

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ABSTRACT

We live in a constantly developing digital world. Digital relevance has, virtually, an impact on every aspect of our lives - from working to socializing, learning to playing. The digital age has transformed the way young people communicate, network, seek help, access information and learn. As technology becomes more and more embedded in our culture, we must provide our learners with relevant and contemporary experiences that allow them to successfully engage with technology and prepare them for life after school. The impact of Technology on Student Learning State has become increasingly sophisticated, multifaceted, and nuanced. People need high-level learning skills to respond, learn and adjust to ever-changing circumstances. As the world grows increasingly complex success and prosperity will be linked to people's ability to think, act, adapt and communicate creatively. With this in view, this paper analyses the various relevance of using Digital Technology in education, its significance in various aspects of learning, the advantages and disadvantage of the use of Digital Technology in education and how it supports change from the existing practices.

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INTRODUCTION

Education is at the confluence of powerful and rapidly shifting educational, technological and political forces that shape the structure of educational system across the globe. Many countries are engaged in a number of efforts to effect changes in the teaching / learning process to prepare students for information and technology-based society. The UNESCO World Education Report (1998) noted that the new technologies challenge traditional conceptions of both teaching and learning and, by reconfiguring the teachers and learners one could gain access to knowledge and thereby have the potential to transform teaching and learning processes.

Digital Technology provides an array of powerful tools that may help in transforming the present isolated, teacher-centered and text-bound classrooms into rich, student-focused, interactive knowledge environments. To meet these challenges, schools must embrace the new technologies and appropriate the new Digital Technology tools for learning. They must also move towards the goal of transforming the traditional paradigm of learning. To accomplish this goal requires both a change in the traditional view of the learning process and an understanding of how the new digital technologies can create new learning environments in which students are engaged as learners. Thomas Kuhn suggested that revolutions in science come about when the old theories and methods would not solve new problems. He called these changes in theory and methods as "Paradigm shift." There is widespread concern that the educational experiences provided in many schools will not prepare students well for the future.

TODAY'S SCENARIO ON DIGITAL TECHNOLOGY

The general notion regarding the use of computers in education is that it may best be used as a tool for drill and practice programs supplementing the instructional process. In such instructional processes, the learners receive information already programmed inside the computer following an algorithm. Although some amount of interactivity is ensured, the general impression is that in such instructional processes, computers control the learning structure giving the learner very little room for creativity, making him a passive recipient of information. There is a need to explore the potentials of this device beyond these traditional notions i.e. the meaningful designing of computer-based instructional processes with increased student participation. Also, it is not the extended usage on the device that would ensure the desired learning; but the nature of these learning tasks, which would transform and enrich the

instructional processes. Computer application programs can be used to design learning experiences to develop creative and critical thinking and be used as 'mind tools' that can be used by students to represent what they know and to engage in critical thinking about the content (Jonassen, 1997). Technology integration, if done properly, can do many things to help in the process of creating more authentic learning environments.

The present curricula for Digital Technology in education aims at realizing the goals of the National Policy of ICT in School Education and the National Curricula Framework. Given the dynamic nature of Digital Technology, the curricula, emphasizing the core educational purposes, is generic in design and focuses on broad exposure to technologies, together aimed at enhancing creativity and imagination of the learners. For the teacher, it is an initiation into:

1. Exploring educational possibilities of technology,

2. Learning to make right choices of hardware, software and Digital Technology interactions, and

3. Growing to become a critical user of Digital Technology; and

For the student, it is an initiation into:

1. Creativity and problem solving,

2. An introduction to the world of information and technologies, and

3. An opportunity to shape career pursuits;

Hence based on availability of infrastructure and access, teachers, who are already proficient in Digital Technology, can fast track through the course and students can begin as early as 6th standard, in any case, and complete the course before they leave school.

DIGITAL TECHNOLOGY – A TOOL TO HELP TEACHERS CREATE MORE 'LEARNER-CENTRIC' LEARNING ENVIRONMENT

The most effective use of Digital Technology are those in which the teacher, aided by Digital Technology, can challenge pupils' understanding and thinking, either through whole-class discussions or through small group activities using Digital Technology. Digital Technology is seen as important tools to enable and support the move from traditional 'teacher-centric' teaching styles to more 'learner-centric' methods.

DIGITAL TECHNOLOGY: USED TO SUPPORT CHANGE AND TO SUPPORT/EXTEND EXISTING TEACHING PRACTICES

Digital Technology could be used to reinforce existing pedagogical practices as well as to change the way teachers and students interact. Using Digital Technology as tool for information presentation is of mixed effectiveness. The use of Digital Technology as presentation tool (through overhead or LCD projectors, television, electronic whiteboards, and guided "web-tours" where students simultaneously view the same resources on computer screens) is seen to be of mixed effectiveness. While it may promote clear understanding of and discussion about difficult concepts (especially through the display of simulations), such uses of Digital Technology can re-inforce traditional pedagogical practices and divert focus from the content of what is being discussed or displayed to the tool being utilized. Teachers, therefore, require extensive, on-going exposure to Digital Technology to be able to evaluate and select the most appropriate resources. However, the development of appropriate pedagogical practices is seen as more important than technical mastery of Digital Technology.

Teacher usage of Digital Technology:

Teachers most commonly use Digital Technology for administrative tasks and for 'routine tasks' such as record keeping, lesson plan development, information presentation, basic information searches on the Internet etc. More knowledgeable teachers rely less on "computer assisted instruction". Teachers, more knowledgeable in Digital Technology, only utilize computer assisted instructions.

TEACHERS' ROLE IN ENHANCING CHILD'S LEARNING ACHIEVEMENT

Education, as we know, is instrumental to make the future generation well informed and competent. Unfortunately, the quality and accessibility of education varies so greatly between regions. Hence, the school system of our country often fails to deliver the level of education necessary to ensure such competency. Many schools have limited resources for buying books, stationery, furniture and other classroom materials.

DIGITAL TECHNOLOGY IN TEACHER EDUCATION

Teacher education institutions are faced with the challenge of preparing a new generation of teachers to effectively use the new learning tools in their teaching practices. Education in India faces a number of problems. These problems include the shortage of qualified teachers,

very large student population, high dropout rates of teacher students, and weak curricula. All of these negative aspects result in poor delivery of education. The most obvious technique for professional development of teacher is to provide basic Digital Technology knowledge and skills. It is necessary for teachers to become skilled in operating the new technologies and in exploiting them effectively as educational tools. Teachers must master the use of information technology skills of research, critical analysis, linking diverse types and sources of information, and reformulating retrieved data.

INCORPORATION OF DIGITAL TECHNOLOGY IN TEACHER EDUCATION: THE NEED OF THE HOUR

Digital Technology is the technology used to handle information and aid communication. It is a term used for desirable, exciting and innovative way to provide lifelong learners with global access to information learning and support. Information systems in Digital Technology include the fusion of computers and telecommunications. The use of Digital Technology changes teacher education mainly in two ways.

1. The rich representation of information changes learner's perception and understanding of the content.
2. Vast distribution and easy access to information because of social, cultural, and economical constrains.

Some other aspects of Digital Technology in Education are

1. **Wireless Technology:** Wireless Communication is an educational technology to improve education. It is the transfer of communication between two or more points that are not connected by an electrical conductor. The most common wireless technologies use electromagnetic wireless telecommunications such as radio and wi-fi.. It encompasses various types of fixed, mobile and portable applications, including two-way radios, cellular telephones, personal digital assistants, and wireless networking. Teaching and learning provides improvement in all curriculum areas with high quality instruction of the learning that ensures Trainees achieve at high levels.

2. **Digital Classroom:** Cognitive arena is influenced when Digital technologies are initiated in teaching-learning process. The major purpose of employing digital learning in the classroom

is Student-centered Learning: Here, students show accountability for learning when collaborative activities are implemented through technology.

3. **Motivation:** This is important as we have already learned that, we must first engage the attention of our students before they are ready to learn. Digital Learning allows teachers to address various learning styles in the classroom. Students can see, hear and imagine what things feel like as multimedia is used to bring a subject to life. Teachers are no longer limited as vast amounts of knowledge and teaching ideas may be explored.

DIGITAL TECHNOLOGY ENABLED CLASS ROOM LEARNING

Digital Technology enabled class room learning is a move towards using less paper: The digital classroom takes advantage of being able to write on the tablet a variety of programs because it makes written work available anytime and anywhere. The other techniques that could be adopted in a Digital Technology enabled class room are:

i.   Use of Projector with Tablet: The digital teacher uses the projected tablet screen to display and write most notes and work in class.

ii.   Use of Digital Resources and Digital Tools: The teacher routinely uses digital resources and has his/her students use them for a variety of purposes including research, texts, and multimedia.

iii. Inquiry, Project, & Problem–Based Learning: One-to-one technology puts powerful tools in the hands of the students which could be used with a more student-centered approach to curriculum which challenges students to find answers to problems and create meaningful digital products.

iv.   Class Web Sites: A digital classroom is strongly supported by a class website, extending learning opportunities beyond the walls of a classroom and the time period of the class.

ADVANTAGES OF DIGITAL TECHNOLOGY IN EDUCATION

a. It allows flexible, self-paced learning where students are, to an appreciable extent, able to choose what they would like to focus on and spend variable amount of time on it based on the perception of their learning needs and positions.

b. This leads to added abilities for self-regulated learning.

c. It enables to reduce the stigma of failure. Failure is a natural part of learning, but it is harder to deal with it in actual classroom settings because of societal pressures. An online

environment provides enough privacy and space for learners in order not to feel miserable about minor failures that come along the way and thus helps keep up the motivation.

d. Through Digital Technology images could be easily used in teaching and improving the retentive memory of students.

e. Teachers can easily explain complex instructions and ensure students' comprehension using Digital Technology.

f. Digital Technology helps teachers to create interactive classes and make the lessons more enjoyable, which could improve students' attendance and concentration.

DISADVANTAGES OF DIGITAL TECHNOLOGY IN EDUCATION

i. It may not help disorganized learners who need more structure and routine available in a physical classroom setting.

ii. Difficult to replicate settings such as lab activities that require hands-on experiential learning.

iii. Setting up of the devices could be troublesome.

iv. It may be too expensive

v. It may be difficult for the teachers to use Digital Technology when they lack experience in the use of it.

CONCLUSION

Digital Technology promotes Constructivist Learning. Today, in classrooms, the role of the teachers needs to change from the traditional role of prescriptor to that of orchestrator of learning, which necessitates the designing of Digital Technology integrated classrooms, promoting higher order of cognitive skills. The focus is more on the process of information acquisition, the critical and analytical thinking involved in acquiring information from multiple sources, analyzing this information and then designing the learning outcomes in aesthetic presentations. Such a model of learning focuses more on the process over the product, acquiring information from multiple sources, analytical and critical thinking and finally a comprehensive evaluation assessing different areas of student's academic growth. Jonassen (1996) identified many different kinds of software programs that can be used by students; different kinds of tool are suitable for different goals. The phrase "mind tools" was used to describe various computer software such as spread sheet and database applications, concept-mapping programs, multimedia

and hypermedia development software. These programs are only considered as mind tools when students in a learning situation use them as cognitive tools. When students are actively involved in constructing a system using the software, they are engaged in many thinking tasks.

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