Research Article

ICT CHALLENGES FOR ENHANCING TEACHING LEARNING PROCESS IN HIGHER EDUCATION

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A R T I C L E   I N F O

A B S T R A C T

The innovative use of ICT is believed to be a game changer that can significantly strengthen India's higher education system and propel the country into becoming a "Knowledge superpower." The innovative use of ICT in higher education addresses the three fundamental challenges of - Access; Equity & Quality. The present paper focuses on the use of information Communication technology in teaching learning process that will greatly contribute to meet student needs for learning anywhere, anytime. The author is describing a pre-service teacher training experience that used Information Communication Technology to develop teachers. This is an attempt to look at Integrating ICT in teacher education with an aim to bring ICT culture for teaching learning and improving teacher quality. The progress of any country depends upon the quality of education offered and its practices. Therefore, the main purpose of this paper is to discuss about Information Communication Technology integration process and accept the challenges as a teacher educator and as a student teacher which help to improve the teaching learning process in Teacher Education.

INTRODUCTION

21st century is the threshold of a new age which pretends vast changes in the operation of higher education all over the world. A new world order, based on information technology is fast coming into existence. The emerging new order has traditional educational scenario. The altered notions about education have revolutionized the practices used for transacting higher education.

The new information order gives special importance to knowledge and the processes used for generalizing new knowledge. The political status of nations are getting redefined in terms of quantum of knowledge available to them in terms o f their ability to create new knowledge, Which would mean that hitherto unknown countries would move to the top once they acquire the ability to create useful new knowledge. Nation which have mastered in the techniques for accessing and ingesting new knowledge will overtake the nations which practice education using the outmoded procedures and educational structures.

ICT in higher education is the face of these challenges are what and how students learn, when & where students learn, who the new faces of students & lecturers are, and ways to reduce the cost of education. The draft National policy on education framed in 1986, and modified in1992 stressed upon employing educational technology to improve the quality of education.

Teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change. For education to reap the full benefits of Information and Communication Technology in learning, it is essential that pre-service teachers are able to effectively use these new tools for learning. Teacher education institutions and programmes must provide the leadership for pre-service teachers and model the new pedagogies and tools for learning. They must also provide leadership in determining how the new technologies can best be used in the context of the culture, needs, and economic conditions. To accomplish these goals, teacher education institutions must work closely and effectively with teachers and administrators, national or state educational agencies, teacher unions, business and community organizations, politicians and other important stakeholders in the educational system. Teacher education institutions also need to develop strategies and plans to enhance the teaching-learning process within teacher education programmes and to assure that all future teachers are well prepared to use the new ICT tools for teaching and learning.

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Why ICT?

According to UNESCO,"ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economical and cultural matters" ICT as the systematic study of artifacts that can be used to give form or description to facts in order to provide meaning or support for decision making, and artifacts that can be used for the organization, processing, communication and application of information. ICT as the use of hardware and software for efficient management of information, i.e. storage, retrieval, processing, communication, diffusion and sharing of information for social, economical and cultural upliftment.

Information & communication technologies (ICT) & the empowerment of teacher to utilize ICT have been acknowledged as two important aspects in teaching & learning ICT. Teacher should know how to use ICT as a tool of teaching & interpreting data. The use of ICT in education is greatly relevant to foundation construction for the student. ICT was integration for wireless technology, communication & multimedia facilities. The inclusion of ICT into teacher education program will help the future teachers cop-up with pattern shift in learning.

ICT Culture, although the new learning environment can be created without the use of technology, it is clear that ICTs can provide powerful tools to help learners access vast knowledge resources, collaborate with others, consult with experts, share knowledge, and solve complex problems using cognitive tools. ICTs also provide learners with powerful new tools to represent their knowledge with text, images, graphics, and video. The ICT culture provides the learner with coaching and scaffolding in developing knowledge and skills. It provides a rich collaborative environment enabling the learner to consider diverse and multiple perspectives to address issues and solve problems. It also provides opportunities for the student to reflect on his or her learning.

To effectively harness the power of the new information and communication technologies (ICTs) to improve learning, the following essential conditions must be met:

- Students and teachers must have sufficient access to digital technologies and the Internet in their classrooms, schools, and teacher education institutions.
- High quality, meaningful, and culturally responsive digital content must be available for teachers and learners.
- Teachers must have the knowledge and skills to use the new digital tools and resources to help all students achieve high academic standards.

ICT Paradigm

In contrast to the traditional teaching-learning paradigm, a new paradigm of the teaching-learning process is emerging, based on three decades of research in human learning that encompasses the following views of the human learning process:

- Learning is a natural process.
- Learning is a social process.

- Learning is an active and not a passive process.
- Learning may either be linear or non-linear.
- Learning is integrative and contextualized.
- Learning is based on a strength model of student abilities, interest, and culture.

Basic Principles for Challenges of ICT Culture

- Technology should be infused into the entire teacher education programme.
- Technology should be introduced in context.
- Students should experience innovative technology-supported learning environments in their teacher education programme

ICT in to the Teaching- Learning Process

Items Vs environment	Teacher-centered learning environments	Learner-centered learning environments
Classroom activity	Didactic	Interactive
Teacher Role	Always expert ,	Collaborator, learner
Instructional emphasis	Facts memorization	Relationships, Inquiry and invention
Concepts of knowledge	Accumulation of facts, Quantity	Transformation of facts
Assessment	Multiple choice items Criterion referenced,	Portfolios and performances
Technology use	Drill and Practice	Communication, access, collaboration, Expression

ICT brought a great shift Changes in Student and Teacher Roles in Teacher -Centered Environments, as well as Changes in Student and Teacher Roles in Learner-Centered Environments.
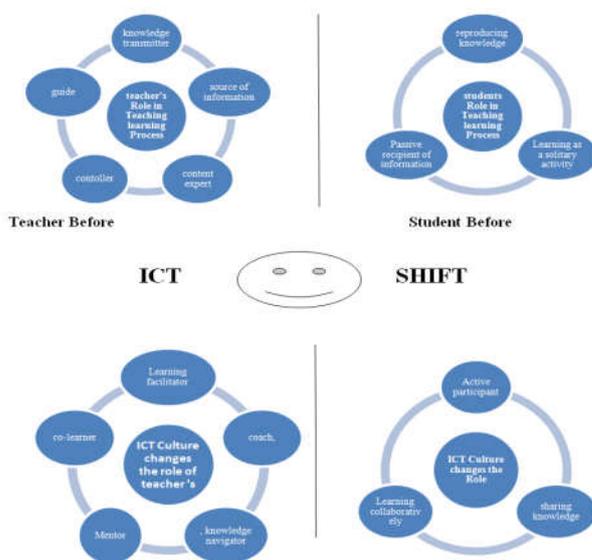
In addition to ICT access in their coursework, pre-service teachers must have technology access in their student teaching environments and in their classrooms in the induction year and beyond. Otherwise, opportunities to use technology tools for teaching students or communication tools for mentoring or staying connected with parents will be limited.

The educators who work with teacher candidates must be skilled in the use of technology for learning. They must be able to

apply technology in the presentation and administration of their coursework and facilitate the appropriate use of technology by their teacher candidates.

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