

ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY

ICT FOR FUTURE TEACHERS

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ABSTRACT

ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters. Teacher, Student, administrator and every people related to education are popularly used ICT. The teacher uses ICT for making teaching learning process easy and interesting. A competent teacher has several skills and techniques for providing successful teaching. So development and increase of skills and competencies of teacher required knowledge of ICT and Science & Technology. In modern science and technological societies, education demands more knowledge of a teacher regarding ICT and skills to use ICT in teaching learning process. The knowledge of ICT also required for pre-service teacher during their training programme, because this integrated technological knowledge helps a prospective teacher to know the world of technology in a better way by which it can be applied in future for the betterment of the students. Now a day's ICTs is transforming schools and classrooms a new look by bringing in new curriculum based on real world problems, projects, providing tools for enhancing learning, providing teachers and students more facilities and opportunities for feedback. ICT also helps teachers, students and parents come together. Teachers must know the use of ICT in their subject areas to help the learners for learning more effectively. So, the knowledge of ICT is very much essential for both the prospective teachers as well as in-service teachers also. This will help teachers to know integrated technology with classroom teaching. This paper discussed about the role of Information and Communication Technology ICT for future teachers.

KEYWORDS: ICT, Technology, Pre-Service, In -Service, Student Teacher, Teacher Training

INTRODUCTION

Over the past two decades, Information Technology (IT) has widened to become an information and Communication Technology (ICT). It has become better established within teacher training colleges like DIETs, CTEs and IASBs and also in schools, provisions of equipment alone is limited value unless more understood about the interactions and engendered by using technology in different settings. The quality and level of ICT resource are needed to continue improvement in teacher training colleges and schools to enhance students learning pedagogical strategies.

Primary uses of ICT are for development of teaching skills and providing tools for teachers and students successful educational applications of the ICT are the involving a complex interplay of context, people activities, machines and available software within specific settings.

This paper will not only look at how ICT has helped our trainees and us to extent, but also how we should be prepared for the challenges ahead.

WHAT IS ICT?

Information and communication are the two sides of the same coin. Information means to be stored and shared. The latest technology may be used to develop communication skills and make teaching more effective.

Information and Communication Technology is sharing and interchanging information such as knowledge, mental skills, motor skills and attitudes through mass media and especially electronics. If we observe the developments of information and communication technology, some are long established like radio, television and telephones and some innovations have established a few years ago such as satellite transmission, optical fibers, microcomputers, video recordings on tape or videodisc and the latest development is the World Wide Web. This has led to tools like video conferencing, virtual classrooms etc.

These developments in the field of information and communication technology can be used in strengthening the future teachers in pre-service teacher training programme. So that educational reconstruction in the future will be meaningful and effective.

The use of an overhead projector (OHP) slides and filmstrip projector, radio, tape recorder, television, motion pictures, computers etc. have been an essential aspect in teacher education. The term 'information and communication' are related to two basic questions of the curriculum, viz., (1) what to teach? and (2) how to teach?

ICT LITERACY

NCTE in its general body meeting, held on 17 August 2000, decided that "information and communication technology (ICT) Literacy" should be made a compulsory part of B. Ed course.

According to Maheshwari (2000) "until every student has a computer in the classroom and a teacher will train to help, until every student has the skills to tap the huge resources of the internet, India will miss the full promise of the Information Age."

The world has entered in the information age by information explosion. The human brain has the privileged facilities of thinking, imagination and creativity. Any system of education, need to visualize the role of the future teacher.

The teacher is not an instructor or task master; he is a helper and a guide. The true principle of teaching is that nothing can be taught his business is to suggest and not to impose. He is not actually training the pupil's mind; he only shows him how to perfect this instrument of knowledge and helps and encourages him in the process. He does not impart knowledge to him; he shows him how to acquire knowledge for himself.

Heightening the importance of information and communication technology, UNESCO (1996) observed "as a tool for education of children and adolescents, the new technologies offer an unprecedented opportunity to satisfy increasingly widespread and diversified demand while maintaining quality. The possibilities they open up, along with their advantages for teaching, are vast. Computers and multimedia systems, for instance, make it possible to design individual learning paths along which pupil can move at his/ her own pace; they also make it easier for teachers to organize acquisition in mixed ability classes".

Keeping in view the recent trends and utility of information and communication technology, the objectives of the ICT Literacy in pre-service teacher education can be:

- To create general awareness amongst teacher trainees about information and communication technology and its use in teaching-learning.
- To acquaint teacher trainees with parts of computer system and their functioned.
- To develop vocabulary of information and communication technology amongst teacher trainees.
- To develop competency amongst teacher trainees by using off-line electronic resources (CD Rom etc.) and on-line resources such as World Wide Web to develop competency and encourage teacher trainees in using INTERNET for improving school teaching and for personal academic growth (online resources).

STRATEGIES FOR RAISING ACHIEVEMENT THROUGH ICT

The strategies for raising achievement through ICT are

- Identification of key areas for a year improvement plan.
- Governing body involvement in setting targets and improvements
- The gifted and talented project allows for the involvement of a number of outside, speakers and visits to promote learning at a higher level.
- Schemes of work, lesson plans and pupils work, delivery of lessons and record keeping are monitored by curriculum leaden and senior management.
- Curriculum leaders have an opportunity to present their department 'success and concerns' to a strategy group which comprises of senior managers (head, deputies, assistant head teachers, allowances +5 holders and bursar) midway through the internal departmental monitoring cycle.
- A working group 'improvement strategy group' meets on a regular basis to discuss strategies that work and plan for improvement.
- Curriculum leader meetings allow for discussion of 'raising achievement' strategies in order to disseminate information and best practice.
- Performance management review allows teachers to identify area for improvement.
- Progress review weeks for all pupils.
- All staff produces classes raising achievement action plans for each class, specifying three levels of work and identifying the level for each student in the class.
- The computer system "success maker" to help with the literacy and numeracy of younger pupils.
- A learning mentor (teacher) who meets with all students four times throughout the year.
- A use of study skills, holiday revision sessions and ICT material to aid revision.
- Use of modeling to enable pupils to test target grade hypotheses.
- Use of verbal and non-verbal data to highlight high intelligence scores against low verbal scores.

THE MAJOR THEMES OF ICT FOR TEACHING AND LEARNING

There are six major themes of ICT in teaching and learning at different levels.

- Task effected
- Refinement assisted
- Ambience altered
- Motivation changed
- Learning reshaped
- Teaching displayed

Task Effected

This theme concerned the contribution of Id use to effective tasks encountered within academic work. The majority of future teachers, who have computers at home used them to game-playing, homework and the internet (although the latter was often restricted by cost). Some felt that IT skills gained in this context supported their use of technology in school: future teachers valued ICT tools as enabling them to carry out academic tasks easily, rapidly and reliably, yielding results of high quality. Although they, generally, welcomed the way in which ICT tools effected tasks, some were concerned to retain control over their work.

Refinement Assisted

This theme concerns the contribution of ICT use to refining creations in the course of academic work. It goes beyond the idea of simply effecting tasks to focus on the scope that ICT provides for trailing options and revising attempts, enabling ideas to be essayed and improved. Across all years and school pupils remarked on how writing with ICT made various types of modification much easier. One aspect was simply correcting and erasing mistakes.

Ambience Altered

This term concerns the association between ICT uses an altered working ambience and classroom relations. Future teachers in all groups commented on the difference between ordinary lessons and those using computers and other technologies. Typically lessons using computers took place in specific resource area or computer suites.

Motivation Changed

This theme concerns the association between ICT use and changed motivation. Across schools, future teachers linked the altered classroom ambience associated with ICT use to raised interest and increased motivation and pointed to ways in which the scope for effecting tasks and refining creations with ICT use.

Learning Reshaped

This theme cancer the contribution of ICT use to reshaping learning. ICT resources had potential to be used not 'as just a tool' but as something to learn with. Future teachers in every college will be enthusiastic by the revision software and websites, seen as addressing learning objectives simply and directly.

Teaching Displayed

The theme associated ICT use with a degree of distancing and displacement of future teachers and teaching and arose first in responses to a question about whether they taught differently when they used ICT in the classroom.

CONCLUSIONS

In this paper I have outlined how ICT can be used, together with some monitoring strategies, to improve learning and hence achieve predicted results. The nature of the use of ICT is as effective teaching and as an aid in administrative tasks. Indeed, using the computer and other related technology, it seems to make our life easier. Using the electronic white board to demonstrate a complex or dull topic makes excellent attraction and understand.

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