

Information and Communication Technology in Teaching and Learning

Dr. N. Iyappan

Principal, SA-YA-GOSH College of Education, Dharmapuri, Tamil Nadu, India

Abstract: Information and communication technology has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding information and communication technology and mastering the basic skills and concepts of information and communication technology as part of the core of education, alongside reading, writing and numeracy. UNESCO aims to ensure that all countries, both developed and developing, have access to the best educational facilities necessary to prepare young people to play full roles in modern society and to contribute to a knowledge nation. Because of the fundamental importance of information and communication technology in the task of schools today.

Keywords: ICT, Teaching and Learning

I. INTRODUCTION

Every aspects of life are related to science and technology. Now information and technology is popularly using in educational field for making teaching learning process successful and interesting for students and teacher both. In 1998, UNESCO World Education report refers about student and teachers must have sufficient access to improve digital technology and the internet in their classroom, schools, and teacher educational institutions. Teachers must have the knowledge and skills to use new digital tools to help all students achieve high academic standard. The quality of professional development of teacher education depends on the extent of information and communication technology integration in teacher education programme. According to UNESCO (2002) " information and communication technology is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters".

Information and Communication Technology

Information and communication technology is technology that supports activities involving information. Such activities include gathering, processing, storing and presenting data. Increasingly these activities also involve collaboration and communication. Hence IT has become ICT: information and communication technology.

Information and communication technology is defined as the combination of informatics technology with other, related technologies, specifically communication technology. In this book, these three definitions have been collapsed into a single, all encompassing, definition of Information and communication technology. This definition implies that Information and communication technology will be used, applied, and integrated in activities of working and learning on the basis of conceptual understanding and methods of informatics.

Three words for Information and communication technology:

- ❖ Information
- ❖ Technology
- ❖ Communications

A good way to think about Information and communication technology is to consider all the uses of digital technology that already exist to help individuals, businesses and organisations use information. Information and communication technology covers any product that will store, retrieve, manipulate, transmit or receive information electronically in a digital form. For example, personal computers, digital television, email, robots.

Information and communication technology in Teaching and Learning Process

Most teachers feel comfortable in using lecture method, which is not capable of achieving various objectives of classroom instruction. Information and communication technology may be of great use in achieving various objectives of teaching-learning process. It provides correct information in a comprehensive manner with different examples. It helps learners to broaden their information base. Information and communication technology provides variety in the presentation of content, which helps learners to learn according to their own pace. It helps in better understanding, and long retention of information.

Information and communication technology in Evaluation

The objective of school examination system is to assess the academic performance of students. ICT can be used in educational evaluation. Online tests can be used by individual student to evaluate his/ her learning. Students can instantaneously get the feedback about the status of his/ her understanding. If the answer is wrong, he/ she even can get the correct answer. Not only students, even teachers, can also use it to assess their own understanding of the subject.

Various Types of information communication technology

Radio: All of us know that radio is a very powerful medium for transmitting information to a large group of population. It saves time, energy, money and human resources in an effective way. Radio can be used as an effective tool in education both for formal and non-formal education.

Using radio programmes in classroom

Radio programmes in classroom situation are very useful for teaching and learning. Now-a- days, Gyanvani and All India Radio regularly broadcast many educational programmes. These programmes are both for teachers and students.

Television

Television is another important medium of disseminating information to its viewers. It is a combination of audio and visual technology, and thus considered to be more effective than audio media like radio. You must have seen the use of television for multiple purposes of entertainment, information and education. Because of its better accessibility, it can bring learning materials to the masses in more direct, effective and personal way than other educational media.

Using television in classroom

There is variety of educational programmes telecast on television ranging from monologue, dialogue, interview, demonstration lessons, panel discussions, quiz, drama, to simulated classrooms etc. You can use them in your classroom as per their utility in your subject.

Internet

The most popular computer application in education these days is 'Internet'. The Internet can be defined as the wired or wireless mode of communication through which one can receive, transmit information that can be used for single or multiple operations. For efficient worldwide communication, high speed information highways are being set up by various governments and private information technology firms. Through video chats and conferences, the need to travel has reduced quite a lot and people from the world of their lives are reaping the best of the internet services.

Multimedia

The use of multimedia in education has recently become more common. Multimedia is the combination of various elements like text, color, graphics, animation, audio, and video. The use of multimedia facilitates both teachers and students to effectively transact learning experiences. Multimedia is in essence "a presentation of information that incorporates multiple media such as text, audio, graphics, and animation."

Using multimedia applications in classroom

- ❖ You can engage and motivate students to participate in classroom activities as the use of multimedia in teaching-learning makes it more interesting and interactive.
- ❖ It provides students with an opportunity to feel a different classroom environment.
- ❖ You can use audio-video multimedia applications/CDs in absence of computer/internet facility so that students can get benefitted.
- ❖ Multimedia applications are of great use with those students, who have some learning difficulty or disability.
- ❖ Multimedia turn the classroom environment from teacher centered to student centered.

Information and communication technology support in learning

In terms of learning and learning environments, any technology geared towards supporting meaningful learning and pupils' motivation should promote:

- ❖ Interaction
- ❖ Diverse Forms of Narration and Expression
- ❖ Adjustment of Teaching and Learning to Individual Learning Styles
- ❖ Provision of Feedback
- ❖ Metacognitive and Meaningful Learning

The prerequisite of preserving Finnish competitiveness and well-being is for Finnish basic education to produce the best learning in the world. In order to promote and support the best learning, we need to develop, introduce and apply state-of-the-art technologies as part of everyday teaching and learning. We need considerable investment in Information and communication technology in basic education and its use in teaching and learning.

Professional Development for Teachers

Teachers need to be adequately prepared to implement a state-of-the-art Information and communication technology curriculum. Indeed, introducing any new curriculum calls for careful preparation, management, resourcing, and continuing support. In the case of an Information and communication technology curriculum, even more concerns have to be considered. Educational research studies show that programmes of professional development for teachers are most effective if directed to the stage of Information and communication technology development reached by schools. The implications of these research findings are that teacher development is best conceived as an ongoing process, with many professional development activities conducted in schools.

CONCLUSION

Teaching occupies an honorable position in the society. Information and communication technology helps the teacher to update the new knowledge, skills to use the new digital tools and resources. By using and acquire the knowledge of Information and communication technology, student teacher will become effective teachers. Information and communication technology is one of the major factors for producing the rapid changes in our society. It can change the nature of education and roles of students and teacher in teaching learning process. Teachers in India now started using technology in the class room. Laptops, LCD projector,

Desktop, Smart classes, Memory sticks are becoming the common media for teacher education institutions. So we should use information & communication Technology in Teacher Education in 21st Century as because now teachers only can create a bright future for students.

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