



# ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN EDUCATION FOR A BETTER SOCIETY

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## ABSTRACT

This paper discusses the role in enhancing learning in classroom and beyond. Information and communication technologies are extremely influencing every discipline including Education. It is affecting every aspect of education from teaching-learning to assessment and evaluation. It improves the effectiveness of education. The purpose of this study is to analyze what is happening at schools regarding the integration and use of information and communication technologies (ICT) and to examine teachers' perceptions about what teaching and learning processes can be improved through the use of ICT. A multiple-case-study research methodology was applied. From a previous exploratory research, four different types of schools were determined. Data show there is a widespread view that ICT in teaching favors several teaching and learning processes. In particular, it shows that the contribution of ICT to the improvement of teaching and learning processes is higher in the schools that have integrated ICT as an innovation factor. To attain this highest level implies that a school not only has to modernize the technological tools, but also has to change the teaching models: the teacher's role, issues regarding classroom organizational, the teaching and learning processes, and the interaction mechanisms.

**Key Words:** Information and Communication Technology, Learning Process, Classroom Organization.

## INTRODUCTION

A knowledge society is now taking shape in our country. India is passing through a period of an all-pervasive change. Science, Technology and Information and Communication Technology are transforming the traditional way of life and making inroads into beliefs, values and norms. Valuable contributions have already been made by Information and Communication Technology as an aid to teaching and learning within and outside the school campus. Information and learning experience acquired through ICT need to be interconnected and transformed into knowledge.

It has become a buzzword while talking about technology and its applications. IT is used in various business and management functions but not in the improving the quality of education. Quality of education has been issue of concern in the absence of standard parameters of to measure the quality. The hardware, software, the methods and know how required or used in acquiring, storing, processing and displaying data and information is collectively known as Information Technology (IT).

Educational technology is a relatively new field which aims at solving problem of teaching and learning. Hardware and software are two structural components of this technology and multimedia is an important aspect related to them. Education as a system has some objective planned for the proves, for the realization of which a variety of strategies, techniques and aids have been designed and devised by educational technologists. Multimedia approach is one such innovation that is aimed at improving the teaching-learning process.

Technology democratizes access to information and offers new opportunities to change the way education is delivered. Online lessons and learning resources designed in ways that are proven to work: This can help support more flexibility and choice in the curriculum and extend learning outside the traditional school environment. In areas of specialist teacher shortage, specialist teaching could be provided for groups of schools online. A smart classroom is a classroom that has an instructor station equipped with computer and audiovisual equipment, allowing the instructor to teach using a wide variety of media. These include DVD and VHS playback, Power Point Presentations, and more all displayed through a data projector. Some smart classrooms have a semi-permanent unit in the room called a Smart Console. These Smart Consoles have similar equipment housed inside them as the other smart classrooms.

### **21<sup>st</sup> Century the ICT Age**

The last decade is the global area has witnessed a tremendous growth is the area of information technology. Rapid advances in the technologies for communication media like Television, Computers, Internet, Printing and Publishing has enabled up to get prompt access to required information the computer in the most versatile machine man has ever made.

### **ICT in Education**

In 21<sup>st</sup> century the higher education institutions face a lot of challenges and these challenges need to be met and the pressure needs to be handled which can be achieved by accepting the changes and challenges that new ICT's bring. The new ICT's are also expanding the access, reach and range of educational institutions without any time bounds. It helps in minimizing the geographical boundaries thereby enabling the students across the globe to study.

The Education which was once an specialized activity of young people has now become lifetime need for everyone. A Nation's wealth depends increasingly on knowledge societies and knowledge based high-tech industries. The education and training throughout lifetime are essential elements of the new information age. Thus, ICT promises not only the widening access but, also strives at improving the quality of learning making it skill asked for the Open and distant learners.

There is also an increasing need to meet the demands of lifelong learning and training for professional development and upgrading of skills. This has led to the search for new delivery methods. By using ICT, the

formal universities are transforming into distance learning institutes. They will lecture on and offline to meet the growing pool of part-time students and to open another potentiality. On the other hand, distance learning institutions makes it possible to teach and learn beyond spatial/time limits. With their adoption of ICT, they are integrating elements which were available only in the formal system, Virtual seminars as real seminars allow cooperative learning. In other words, ICT can personalize the prevailing impersonal studies by making possible dialogue teaching forums, transmitted via data networks, which so far only existed in the Conventional systems. Distance educators are increasingly interested in some of the newer technologies such as the World Wide Web, Video conferencing and CD-ROM, as they allow the student to interact directly and flexibly with a teacher or the peer group while also providing a very powerful learning environment.

Very often, an ICT in Education policy of a Government describes the steps by which computers will be placed in schools, how teachers and students will be provided the basic computer programming skills to cater to the growing job market in computer based technologies.

#### **Aims of Information-Communication Technology:**

The aims of information communication Technology in the field of researches and education are as follows:

- a. To store, retrieve, and process and to researches and education in makes.
- b. To place the present generation in actual cyber education Age successfully.
- c. To disseminate the programmes of the apse bodies in India like NCERT, UGC, IGNOU and NEIPA etc., in the makes.
- d. To establish e-libraries instead of traditional libraries.

#### **Role of Information Technology in Education.**

- In face to face counseling.
- In telephone counseling.
- In counseling through letters.
- In counseling through Text Books and Hand Books.
- In counseling through Audio-Radio Cassettes.
- In counseling through Broadcasting.
- In providing digital library services.
- In imparting education through computers.
- In entertainment.
- In educational Exercises.
- In Correspondence education.
- In open University education.
- In off campus Teaching Programs.
- In Free Learning.
- In Multimedia educational system.

## **Application of Information Technology in Education by Future Teachers.**

1. Application of information-Communication Technology in active participation in sharing of information with regard to education.
2. Application of information Technology in vocational development of the teachers.
3. Application of information Technology in accessibility of education.
4. Application of information Technology in educational development and researches.
5. Application of information Technology establishing virtual universities and virtual campuses for study.
6. Application of information Technology in promoting distance education program.
7. Application of information Technology in total quality development of education.
8. Application of information Technology in fulfilling the possibilities of all over revolution in the field of education.

## **Use of ICT in Teaching**

Teaching at School as well as Higher Education, mostly, concentrates on giving information which is not the sole objective of Teaching. Along with giving information, the other objectives are:

- Developing understanding and application of the concepts.
- Developing expression power.
- Developing reasoning and thinking power.
- Development of judgment and decision making ability.
- Improving comprehension, speed and vocabulary.
- Developing self-concept and value clarification.
- Developing proper study habits.
- Developing tolerance and ambiguity, risk taking capacity, scientific temper, etc.,

On INTERNET many websites are available freely which may be utilized by teachers and students for understanding different concepts, improving vocabulary, developing & Thinking,

## **Implementing ICT in Education**

The National curriculum framework 2005 (NCF 2005) has highlighted the importance of ICT in school education. (2) Training a teacher in using ICT is more crucial than acquiring a large number of computers in the institution. Teachers have to be trained to facilitate the learning process, make the process real, achievable, challenging, yet exciting and not intimidating. Reducing teacher talk and encouraging student discussion is extremely important. Everything need not be written on the blackboard to be considered as taught. Many teachers think the computer is used only to make the content look attractive. They need to know that in 21<sup>st</sup> century, information is not difficult to access. However, organizing, sharing and collaborating become essential skills. ICT provides meaningful, absorbing media that makes teaching-learning more productive.

## **Conclusion**

In the fast growing world we have to make ourselves fast. Education is the Panacea (remedy) to promote everything in human life. In teaching and learning we should make change on education system or method. To make education effective, we should utilize the modern technology and ICT in proper way.

Quality it education through ICT and its awareness among stakeholders will have positive impact on the society. ICT can be helpful in quality and standards of education by implementing it in various phases of education. ICT can be employed in formal and Non-formal types of education and would eventually make the learners employable and socially useful part of the society. By employing ICT in teacher training can save a lot of money of the Government. Moreover a lot of qualitative improvement can be seen as resource persons for the training can be best of the world. By employing ICT in administration can help in solving the problem of Absenteeism of students and teachers. Good quality content is one of the major issues and directly affects the standards of education and quality. By overcoming the certain challenges involved in the process of education can help a lot in this side. Conclusively a lot of quality improvement is possible after careful and planned implementation if ICT in education by various stakeholders.

Thus ICT is a science of techniques and methods by which educational goals can be achieved. In Higher Education it is very effective in Teaching Learning process which includes open learning system. The IGNOU and TNOU students at the world level have their own programmes through Gyan Darshan, which is a learner study centre. Moreover Video/Teleconference programmes organized by many universities are live in nature for the Higher Education students. Hence the Higher Education courses made this country progress with the help of ICT.

ICT based education causes changes in the educational objectives in the conception of the teaching and learning process. Successful implementation of ICT can lead change is more about influencing and empowering teachers and supporting them in their engagement with students in learning rather than acquiring computer skills and obtaining software and equipment. In addition, it will increase flexibility so that learners can access the education regardless of time and geographical barriers. However there exist some risks and drawbacks with introducing ICT in education which have to be mitigated. Thus, ICT enabled education will ultimately lead to the democratization of education and can improve the quality of learning and thus contribute to the economy.

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