

**INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH
TECHNOLOGY****THE ROLE AND IMPACT OF ICT IN IMPROVING THE QUALITY OF
EDUCATION: AN OVERVIEW****Namita Saxena**** Assistant Professor Department of Chemistry Rustamji Institute of Technology, BSF Academy
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DOI: 10.5281/zenodo.439205

ABSTRACT

Information and Communication Technologies (ICTs) is increasingly becoming indispensable part of the education system. It has changed many aspects of the lives. These changes have caused educational institutions, administrators, teachers to rethink their roles, teaching and vision for the future. ICT has opened new challenges for quality education. The purpose of this review article is to discuss the benefits of Information Communication Technology use in education, in the enhancement of teaching and learning. It highlights the impacts and benefits of ICT in education, its limitations and challenges to education systems.

KEYWORDS: ICT, education system, impact and limitations of ICT, roles of ICT, teaching and learning process.**INTRODUCTION**

The education has vital role in building the society. It is one of the most important needs for the well being of individual and the society. Quality education helps to empowering the nation in all aspects. There are many ways to increase the learner's knowledge, and technology is the most effective way. ICT is an acronym that stands for Information Communication Technologies, that includes all technologies for the manipulation and communication of information (Swati Desai, 2010). Broad definition of ICT includes radio, television, satellite, mobile phones, computers and the internet. It can be divided into two groups; traditional ICT namely radio, television and the new ICTs like internet and telecommunications. Learning through new ICTs is also called e-learning. Information and communication technology (ICT) is an indispensable part of the contemporary world. It is a force that has many aspects of the way we live, and also an electronic means of capturing, processing, storing and communicating information. The potential of information and communication technologies today, from the time we awaken in the morning to the time before we sleep, we are surrounded by media, such as newspapers, radio, television and computers. Sometimes we are not even aware that we are surrounded by these media. All these media come under the overall umbrella of ICTs. Impact of ICT in education includes two things-ICT and education. It includes any communication device, application or service used to educational purposes to support and improving the learning of the students. ICT can be considered as a sub field of educational technology. According to UNESCO: ICT is a scientific technological and engineering discipline and management technique used in handling information in application and association with social, economic and cultural aspects. Appropriate use of ICT can transform the whole teaching-learning processes leading to paradigm shift in both content and teaching methodology (Anu Sharma et al., 2011).

OBJECTIVES OF ICT IN EDUCATION:

1. Improvement in learning pace and achievements.
2. Increased acquisition of knowledge, skills by individuals required for better living and sustainable development.
3. To promote and facilitates the relationship between human and the environment.
4. To implement the principle of long lasting education.
5. To increase the variety of educational methods and services and literacy rate through distance education.
6. To promote the technology literacy among citizens, and the equal importance to slow and gifted children.

ROLE AND BENEFITS OF ICT IN THE FIELD OF EDUCATION:

ICTs are a potentially powerful tool for extending educational opportunities. The use of ICT is making major differences in the learning of students and teaching approaches. Several studies reveal that students using ICT facilities mostly show higher learning gains than those who do not use, actually it acts as an assisting tool. It provides quicker and easier access to more extensive and current information. ICT can also be used to do complex tasks as it provides researchers with a steady avenue for the dissemination of research reports and findings (Yusuf Musibau Adeoye *et al.*, 2013). Honey and Mandinach (2003) advanced three major reasons for information and communication technology in education. They suggested that it is a tool for addressing challenges in teaching and learning situation; a change agent, and central force in economic competitiveness. As a change agent, it is capable of changing the content, methods and overall quality and quantity of teaching and learning, thereby reducing teacher's workload and ensuring inquiry-oriented classroom. Moreover, ICT a central force in economic and social shifts that has technology skill critical to future employment of today's student. Role of technology in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education policy, if ICT is properly used; it holds great promise to improve teaching and learning in addition to shaping work force opportunities. The use of ICT for teacher training has been recognized by the governments of India. Broadening the availability of quality education materials in India, several initiatives are ongoing for creating digital repositories and learning objects; the Sakshat Portal of Government of India, initiatives like National Program of Technology Enhanced Learning (NPTEL), the Multimedia Educational Resource for Learning and Online Teaching (MERLOT) seek to create quality digital content for different levels of education (Jyoti Narayan Patra, 2014). The main roles of ICT in education are (Swati Desai, 2010 and Baishakhi Bhattacharjee *et al.*, 2016):

1. To develop variety of educational services and medium.
2. To promote equal opportunities to obtain education and information.
3. To develop a system of collecting and disseminating educational information.
4. To promote technology literacy and support distance learning.
5. To support sharing experience and information with others.
6. Helps in improving innovative teaching skills and makes classroom teaching effective.
7. Acts as an assisting tool for teaching and learning itself
8. ICT helps teachers to motivate students and develop interest in learning.
9. ICT is store house of educational institution because all educational information can safely store through ICT.
10. ICT helps teachers to communicate properly with their students. So ICT bridge the gap between teacher and students and plays an important role in student evaluation.

LIMITATIONS OF ICT USE IN EDUCATION:

ICT as a modern technology simplifies and facilitates human activities is not only advantageous in many respects, but also has many limitations. Limitations can be categorized as teacher related, student related, and technology related. Teacher's attitude towards use of these technologies is vital, many observations reveal that some teachers do not have clarity about how far technology can be beneficial for the facilitation and enhancement of learning due to lack of competency to handle, whereas some teachers may have positive attitudes to the technology. Teacher resistance and lack of enthusiasm to use ICT in education may also be another limitation (Himanshu Kumar Sharma, 2015). Unless teachers develop some basic skills and willingness to experiment with students, ICT use in education is in a disadvantage (Brosnan, 2001). Lack of infrastructure and equipment's are another problem for back warding Indian education system.

THE IMPORTANCE OF ICT IN EDUCATION:

Conventional teaching has emphasized content and contemporary settings are now favoring curricula that promote competency and better performance, which are well supported and encouraged by emerging instructional technologies (Stephenson, 2001). The growing use of ICTs as tool of everyday life is increasing the quality of student learning. ICT is supporting changes to the way students are learning as they move from content centered curricula to competency based curricula; associated with the move from teacher centered form of delivery to student centered forms (Yusuf *et al.* 2013). It improves the quality of instruction and encourages collaborative learning. ICT facilitates fast and accurate feedback to learners (Becta, 2003). It promotes deep learning and allows educators to respond better to different needs of different learners (Lau & Sim, 2008). This activates paced learning and allows effective mapping of learning path ways. According to (Newhouse P., 2002), ICT supported learning environments could be beneficial to a constructivist teaching approach. One of the major advantages of

using ICTs in the education system has been to prepare the present and next generation of students for a workplace where ICTs particularly computers internet and other related technologies are becoming more and more ubiquitous. These computer savvy and technologically literate students possess the desired competencies to use ICTs effectively (Anu Sharma et al, 2011).

SUGGESTIONS:

1. Since many teachers may not have the required IT skills and feel comfortable, they must be trained for the use of these skills.
2. Advance computer laboratories and other adequate infrastructure should be there in academic institutions.

CONCLUSION:

Information communication technologies are influencing all aspects of life, in which the impacts of ICT is significant is education. ICTs help expand access to education, motivate to learn, facilitates the acquisition of basic skills, and can transform the learning environment thus help improving the quality of education. ICT has tremendous potential for education. ICT enables a teacher to reach out widely efficiently and effectively. It helps teachers and institutions to be more modern and dynamic. Eventually, the use of ICT will enhance the learning experiences of students. It also helps for building a successful career, in a technology savvy world.

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