



# ROLE OF ICT AND ITS CHALLENGES IN PROMOTING EXCELLENCE OF EDUCATION IN INDIA

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## Abstract

*Information and Communication Technology (ICT) is a vital part of educational system. ICT has changed the design of functioning of the academic system and its governance. The integration of ICT with teaching and learning environment increases the possibility of gaining education together with increased productivity. ICT provides various opportunities to students and make teachers conscious of their new roles & responsibilities. The growing use of ICT will change many of the methods employed by both teachers and students within the learning process. The study observed that India still experience a delay in its implementation and this still widen the digitalization and knowledge. Hence, the access to ICT facilities could be a major challenge in India. The study concludes that the roles of ICT in schools education in India haven't yet widely adopted them for teaching and learning processes as well as attempts geared towards integration of ICT into the educational systems haven't put much impact. That's why this paper attempts to investigated the role of ICT and challenges in promoting excellence in education. ICT in education isn't only a way for educational development but also how of socio-economic development of the country. The study urges that attempts should be made by state/central government to post and supply teachers skilled in ICT to every school to impart Information and Communication Technologies skills to the pupils and also should maintain available equipment and electricity supply in India.*

**Keywords:** ICT, Challenges, School education.

## INTRODUCTION

At present years researcher reveals the importance and benefits of information and communication technologies for promoting quality education. ICT is one of the major instruments for building skills, ideas, knowledge of an individual and particularly, as a machine at the educational level that could afford a way to rethink and redesign the educational systems and methods, thus directing to quality education for all. ICT refers to the assortment of technologies that are employed in the process of collecting, saving, storing, editing, recovering, and transfer of information in various forms. The field of education has been influenced by information and communication technologies which have unquestionably influenced the teaching-learning process and research.

ICTs have the power to enhance, to engage, to accelerate, to make deep skills, ideas, competency, active and motivate students as well as enhancing teaching and helping schools change. The National Policy on Education 1992 emphasized upon exercising educational technology to improve the quality of education. The use of ICT allows a powerful learning environment and it changes the learning and teaching process in which students deal with knowledge in an effective, self-directed and productive way. ICT is not only used as a tool, which can be connected to existing teaching methods but also seen as an essential tool to foster new ways of the teaching-learning process. Information and communication technology is being integrated into the teaching-learning process in different institutions. The integration of ICT in the school curriculum has received great attention in the educational system in recent years. It is broadly accepted that proficiency in managing ICT is a significant asset and an indispensable demand for citizens in modern societies. It is also believed that ICT in schools will improve subject learning. Additionally, In India, suitable use of ICT in school education is determined as a key factor in promoting excellence and quality at this educational level. The efforts of state and central government have been focusing on providing the schools with good equipment for ICT. However, many improving counties, especially in India, are still behind in ICT uses and applications. This paper focuses on ICT uses in Indian schools education, it particularly remains on the importance of ICT and the causes of low levels of ICT uses in Indian schools as well as afford recommendations.

### **NEEDS OF ICT IN PROMOTING EXCELLENCE OF EDUCATION**

Information and communication technologies need to be seen as a vital aspect of the teaching-learning process attempting new and transformative forms of development. It is considered that ICT makes a radical change in teaching methodologies. ICTs have shown the potential to improve access, options, participation, and accomplishment for all students. Although ICT has been introduced in schools in India, the education system has widely not been affected by the potential for pervasive change essential to ICT. For students, knowledge of ICT isn't only essential for their present but also necessary for their future. In India, many ICTs have been applied over the years to improve primary and secondary education. This contains satellite-based, one-way, radio, interactive television, and the Internet. Some of the states in the nation currently have an enabling condition in place that allows for greater use of ICTs in education, whereas other states lack such a condition making the use of ICTs for this purpose very irregular. ICT use will prove useful in promoting Indian's educational system and gives the learner a better education. Students need to access ICT tools properly that adjust to their attention time and provide valuable, immediate response for literacy improvement which is not fully implemented in the Indian educational system. The ability to use ICT applications effectively has become an essential part of everyone's education.

### **ROLE OF ICT IN EDUCATION**

Information Communication and Technologies have emerged as powerful instruments for imparting knowledge and information. However, the use of ICTs in education has profound effects on the entire education process varying from investments to use of technologies in dealing with key problems of access, equity, quality, efficiency, management, pedagogy, innovation, and research. The increasing use of ICTs as an instructional tool is changing and will probably continue to change many of the approaches applied by both teachers and pupils in the teaching and learning process. The following are some of the roles of ICT in education—

- a) **Promoting the Quality of Classroom Instruction:** ICT can improve the quality of classroom instruction in various ways: by enhancing student's motivation and commitment, by promoting the acquisition of fundamental skills. To improve the above points the following are some of the technological devices in the teaching and learning process. They are Computer Assisted Instruction (CAI), Computer Assisted Learning (CAL), PowerPoint presentation, Video-Assisted Instruction (VAI), Smart board, LCD projector, CCTV, e-mails, slide share, Blogs, and you tube. If an educator/teacher/instructor uses the above technology definitely the classroom instruction will be very effective.
- b) **Teaching-Learning process through ICT:** It gives significantly to the classroom teaching-learning process as it supports the teacher to stimulate the learners and to make the teaching-learning process more effective. ICT can assist the teachers to assess the student's achievement. It stimulates the students' interest because it improves the capacity of self-learning. It creates learning experience more productive through its different tools. The students can communicate with their peers, teachers, and experts on several problems outside the classroom.
- c) **ICT enables knowledge network for learners:** Active use of ICTs can help the suitable gears of information and knowledge, thereby helping educational systems reaches this challenge.
- d) **ICT improving the accessibility and quality of education:** ICT heightens the flexibility of transmission of education so that students can obtain information and knowledge anytime and anywhere. It can impact the way learners are taught and how they learn as now the methods are learner-driven and not by teachers. This, in turn, would better prepare the students for lifelong learning as well as to enhance the quality of education.
- e) **ICT promoting learning motivation:** ICTs can promote the quality of education in several ways, by enhancing learner motivation and commitment, by facilitating the acquisition of fundamental skills, and by improving teacher training. ICT such as television, videos and multimedia computer software that combine text, sound, color and moving images can be used to afford challenging and authentic content that will motivate and inspire the student in the learning process. Especially ICTs enable new ways of teaching and learning rather than simply allow teachers and learners to do what they have done before in a better way.
- f) **ICT promote learning Environment:** ICT showing a completely new learning context for students, thus necessitating a distinct skill set to be successful. ICT is an important tool for giving educational suitability in the teaching and learning process.

## CHALLENGES OF ICT IN PROMOTING EXCELLENCE IN EDUCATION

There are important challenges in integrating ICTs use in education arising from cultural, environmental, and educational faced by educators, students, policymakers, and educational administrators in school education. Educational challenges are one of the biggest challenges in ICT integration in education is balancing educational systems and goals with economic facts. The following lists are some of the necessary challenges that can be applied in integrating ICTs use in the educational system in wide. In the following part, we review these challenges in detail.

- a) **Lack of Qualified and trained Teachers:** The demand for ICT learning has been increasing tremendously and the number of teachers who are not trained to teach ICT. Most of the school teachers don't have an idea

of how to compute a computer to transfer their skills as well as proper training on how to use ICT in education. Thus, the absence of trained teachers in computers to teach practical aspects of computer skills impact to promote quality education.

- b) **Poor funding:** This condition has been a major problem in making educational institutions ICT assent. In India educational system is underfunded. Therefore, sufficient funds are used to solve the more require and essential needs of educational institutions. A low level of funding has emerged in insufficient ICT facilities in schools.
- c) **Cost of equipment:** In India, the cost of equipment is very high. Apart from the basic computers, other supported hardware/ tools such as printers, monitors, papers, modem, extra disk drives, and other software are very costly.
- d) **Lack of Compatible Software:** Teaching with ICT facilities is a difficult task without up-to-date devices and supplementary materials. In India, there is clear evidence that the supply of appropriate and relevant software is a major barrier preventing the wider application of the computer.
- e) **Inadequate Computers:** Most of the computers are not functioning well in Indian school education. Computers are still very costly and notwithstanding active efforts by the government agencies, corporate organizations, NGOs and individuals to distribute computers to as many institutions as possible. There are remaining a huge percentage of the schools unable to buy computers for use by their pupils.
- f) **Lack of Electricity:** The other challenge faced is that in many schools the necessities for electricity are not available and not yet connected to electricity. If the electricity supply is not well-built and fixed, it is difficult to maintain ICT tools and facilities such as computer hardware and their accessories functioning in well. India being a developing nation, the government has not been ready to connect all parts of the state of the country to the national electricity grid. Consequently, those schools that fall under such areas may not be able to offer computer studies.
- g) **Broken Down Computers:** while several schools have benefited computers by the education department but they have not been well equipped with the same on maintenance and repair, hence it's very common to see a school computer lab full of broken-down computers, some are repairable and some are not. This is also one of the major challenges to functioning computer properly in school for promoting excellence in education.
- h) **Internet Connectivity problems:** Most of the schools unable to connect to the www, due to the slow network connectivity problem. In India, internet connectivity is not still well functioning, which does slow connectivity.
- i) **Lack of proper lap and room:** Also many schools do not have proper lap and room buildings to arrange the ICT tools for students. So, students could not learn independently the knowledge of ICT in school which was impact to get a quality education.

## CONCLUSIONS AND SUGGESTIONS

Thus, the increasing use of information and communication technologies has brought advances to teaching and learning at all levels of education systems leading to quality improvements. Traditional forms of teaching and learning are frequently being transferred to online and virtual learning. There are infinite opportunities with the integration of ICT in the educational system. The application of ICT in education not only promotes the classroom teaching-learning process but also affords the facility of e-learning. Teachers or trainers must be prepared to utilize technology in their teaching methods to afford pedagogical and educational gains to the students. Effectively implementations of ICT lead empowering teachers and supporting them in their duty with students in learning. To enhance that ICTs are broadly used and applied in Indian's school system, the following exercises should be taken.

- a) Sufficient funds must be given to initiate, improve, promote, review and implement ICT policies in the educational sector to bring about an enhancement on ICT utilization for all learning needs and aspirations by state/central government.
- b) Adequate facilities should be provided to pre-service and in-service teachers to practices the ICTs in teaching-learning process.
- c) ICT infrastructures including computer hardware and software, internet and electricity should be made available in all our educational institutions and as to provide access to ICT to both teachers and learners.
- d) Necessary training on the use of ICT should be given to the Professionals of higher education.
- e) All school teachers must be competent in the use of ICT and they must have broad understanding of the administrative, technical, curricular, financial and social dimensions of ICT use in education.
- f) Proficient manpower as well as training facilities for ICT should be given appropriately at all levels.
- g) There should be effective management of all ICT programs for quality of education initiatives
- h) State and central government should make certain that ICT policy statements are translated into reality in promoting education in all institutions.
- i) ICT education should be made compulsory for all school students.
- j) Ministry of Education should be made efforts to post teachers expert in ICTs to each school to impart ICT skills to the students.

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