

# ICT and Quality Education in Indian Schools

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**Abstract:** Each and every day there is something new that the Department of Education introduces with the collaboration of ICT. I think there must be a continuous training of teachers, school staff and administrators because sometimes there are new areas of teaching learning process where ICT gets involved and it becomes difficult to achieve goals for teachers to keep abreast with the changes if they are not properly trained. Some say it takes a lot of their time, some feel that the government must employ someone who will be responsible to deal with ICT only. But by making direct changes in the way teaching and learning are organized, we can make more effective ICT in the organization of the education sector. The policy implications of my analysis point toward much more emphasis on bringing teachers and educational administrators into the information age with computer training and with more teachers oriented easily accessible data bases that help teachers in their teaching.

**Keywords:** ICT, teaching, learning, quality, education.

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## I. INTRODUCTION

ICT can play a great role in the teaching learning process by providing a lot of benefits to students, teachers, parents and the management. 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). On other hand, many developments and achievements took place in communication technology sector in the twenty first century. Hardware, know how, programs and the methods used in ensuring that message is transmitted correctly, efficiently and cost effectively are collectively known as Communication Technology (CT). Both of these technologies became complementary to each other means progress in one alone is not much beneficial. Hence IT and CT started moving together and a new term was coined named as Information and communication Technology (ICT).

Quality of education has been issue of concern in the absence of standard parameters of to measure the quality. Effective implementation of ICTs in the teaching-learning process to achieve our educational objectives would help in increasing the Quality of education in schools. Teaching is imparting knowledge or skill whereas learning is skill acquisition and increased fluency. Usage of ICT is one of the way by which India's large population base can be effectively reached. Traditional lecture is not an effective learning environment for many of our students because so many students do not participate actively during a traditional lecture. This is the mode of learning most commonly present in classrooms whereas active learning involves the student through participation and investment of energy in all three phases of the learning process (input, operations, and feedback). This type of learning is more effective to stimulate higher cognitive processes and critical thinking. In the past few years there has been a paradigm shift in curriculum where teacher acts as a facilitator in a student centred learning. In Student centred learning focus is on the student's needs, abilities, interests, and learning styles with the teacher as a facilitator of learning. Here students have to be active responsible participants in learning process. Teacher has key role in the whole process whereas in case of ICT based education, various ICT tools are supplemented to make the teaching-learning process more effective.

Usage of ICT is one of the best way by which India's large population base can be effectively reached. Moreover in enhancing the quality and delivery of services through ICT-especially in case of developing relations with citizen regarding education- Government will be better positioned. Passive learning occurs when students use their senses to take in information from a lecture, reading assignment, or audiovisual. Traditional lecture does not make an effective learning environment for many of our students because so many students do not participate actively during a traditional lecture. This is the mode of learning most commonly present in classrooms whereas active learning involves the student through

participation and investment of energy in all three phases of the learning process (input, operations, and feedback). This type of learning is more helpful in stimulating higher cognitive processes and critical thinking [13].

There are various ICT tools available which can be utilized for the knowledge creation and dissemination in the modern world. Tools include Radio, T.V, Internet, Mobile phone, Computer, laptop, tablets and many other hardware and software applications. Certain ICT tools like laptops, PCs, mobile phones, and PDAs have their own implication in Education. These devices can be used in imparting education and training for teachers and students. Use of radio for pedagogical practices has been very much popular in past and is still in use in India by IGNOU. But One-to-many broadcast technologies like radio and television are seen as less revolutionary ICTs in education, as their usage is seen as reinforcing of traditional instructor-centric learning models, unlike computers, which many see as important tools in fostering more learner-centric instructional models [6]. Successful ICT initiatives meet three intertwined objectives: availability, access, and demand [10]. Educational ICT tools are not for making educators master ICT skills themselves, but for making educators create a more effective learning environment via ICT. Teachers can utilize ICT tools to get benefits from using these tools in the areas of content, curriculum, instruction, and assessment. ICTs include fixed-line telephony, mobile telephony, newspapers, radio, television, radio trucking, very small aperture terminal (VSAT), computer, and internet must be accessible to rural public as per their demand.

Using multimedia in school education results in the increasing productivity and retention rates, because people remember 20% of what they see, 40% of what they see and hear, but about 75% of what they see and hear and do simultaneously. Interactive whiteboard helps teachers to structure their lessons, supports collaborative learning, can help to develop student's cognitive skills, enables ICT use to be more integrated into classroom. Government of India has announced 2010-2020 as decade of innovation. Reasoning and critical thinking skills are necessary for innovation. Foundation of these skills can be laid only at primary level of education. Students who enter school are very curious, creative, and capable of learning many things. At this level, statement Picture is worth than thousand of words and it is very much true in case of teaching –learning process. Befriending ICT in the initial stages of education will help young people come to terms with what lies ahead. They understand more through animated pictures. Hence if the same environment is created in schools by using ICT for teaching kids at primary level may bring drastic changes in the education scenario. With the help of ICT tools, students at this level are able to grasp a lot by hearing voices or sounds and animated motion of various animals. Language learning is also taught at this level. To know a new language at this age is easier as compared to other levels. Multimedia projector & computer can be used to teach phonetics and pronunciation. Lessons, poems & lectures by eminent scholars stored in computers or other ICT tools can easily be shown to the students time and again anywhere. Such type of teaching and learning retains for long time in the minds of the children.

ICT is also used for increasing the effectivity of not only the students but also the teachers. In case of Government schools attendance of teachers is a big problem Biometric attendance system can really help in improving attendance of those schools where attendance of teachers has always been a hot issue. Employee Attendance Report also facilitates an objective inspection, as the attendance of all the schools are on display for the purview of the officers of the Department. With the help of such a transparent system everyone including citizens, schools, zonal offices, district offices, regional offices, and various branches at the headquarters can share information using the Web-enabled software. Certain initiatives like all correspondence may be done electronically, attendance of staff may be recorded daily online to the directorate, major notices, information regarding implementation of various Government schemes can be easily applied and can be shared by other departments as well for making improvement in the present system. Such types of initiatives provide transparency in the society which is the major requirement of the people in the present day. ICT provides opportunities to complement on the job training and continuing education for teachers in a convenient and flexible manner. Use of ICTs in education requires major shift in the way content is designed and delivered. New technologies cannot be imposed without enabling teachers and learners to understand these fundamental shifts. Ongoing training is necessary for the trainers in institutions and organizations who are engaged in the design of curriculum, teaching materials and delivery of ICT-enabled education. ICT is applied in their teaching practices as well as for delivery for these trainings.

School management policies and methods also have an impact on the adoption of ICT in schools (Anderson et al., 2007). In some cases, school management does not provide incentives for educators, nor does management appreciate the consequences of ICT adoption (Miller et al., 2006; Davids, 2009). Related to this is the feeling amongst educators that the current curriculum does not require them to use ICT for curriculum delivery and, by implication, that the integration of ICT is not perceived as important by the management (Davids, 2009). In most cases schools were provided with several

computers. The high learner: computer ratio challenged school management to organise laboratory sessions in an equitable manner (Davids, 2009). While the schools located in middle- to high-income areas may have raised their own financial resources through parent donations (for example to supplement the equipment provided) schools in low-income areas had no such opportunity (Miller et al., 2006; Isaacs, 2007). In addition, these schools received limited technical support resulting in maintenance challenges. Most schools in under-resourced areas could not afford in-house technical support; they relied on the support arrangements provided, which are insufficient. Furthermore, most educators and other staff in schools have inadequate ICT and pedagogical competencies for effective integration of ICT into their work. Integration is challenged by the ICT skills of learners as well as the lack of facilities to enable learners to improve their skills (Davids, 2009; Chigona et al., 2010). Learners from disadvantaged backgrounds often have low technical skills, and because most of them do not have computers at home they have no opportunity to practice what is covered in lessons. Consequently, educators expend time dealing with the use of technology, instead of teaching the subject content. Hence, some go to great lengths to avoid the technology (Alba-Juez, 2009; Chigona & Mooketsi, 2011). It is within this context that one needs to understand schools' perspectives of technology in teaching and learning.

## II. CONCLUSION

The role of information and communications technology in education is very important and it cannot be overlooked. There are many fundamental issues and questions regarding the ICT use in transmitting knowledge, particularly to school students who are not already highly motivated to learn or well versed in the art of using and interpreting information through technology. To date, the main application of ICT in the education system has focused on aiding access and processing of large quantities of information for the students, teachers and management with the principal aim of increasing productivity in terms of educational objectives. It is found that little is being used to improve student performance, mainly because education managers and teachers are largely illiterate in information management tools. Likewise, despite schools having more and more access to ICT, new technologies are still scarcely used as part of the teaching methodology. Once again, it is the lack of training that creates difficulties: many teachers do not have the necessary IT skills and feel uncomfortable, nor do they have the specific training needed to be able to use the new resources in the classroom. Thus it is not only the responsibility of teacher or the school management but each and every member of the society should develop the positive attitude towards ICT and make our children more techno friendly and creative for new transformed society.

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