# ROLE OF ICT IN IMPROVING QUALITY OF EDUCATION

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## ABSTRACT

*Information and communication technology has paved the way for accelerating the paradigm shift in promoting flexible learning environment to meet individual learning objectives of the subject matter concept. To be effective in class room instruction, teacher-educators should acquire the knowledge and skill to use the new challenges in promoting innovative teaching. A teacher must use strategies that are student- centered, collaborative ,engaging, authentic, self-directed and based on the development of higher order thinking skills.*

## INTRODUCTION

Technology has revolutionized our society. In the last two decades, technology has dramatically penetrated into almost all walks of our life and education is not an exception to it. The present education system is highly different from that it was in the past ,especially with regard to application of technology. There is a shift from Indian pen to the computer keyboard, from blackboard presentation to power point presentation, from paper based pen test to computer-based test, from interpersonal instruction, from teacher-dependent learning to independent learning. Education technology involves applying ideas from various resources to create the best learning environment possible for students. Educational –technologists ask question such as how a class room might change or adapt when a computer is integrated into the curriculum. The integration means that the curriculum and setting may also need to change to meet the opportunities that technology may Offer.

ICT is acronym that stands for

1. Information

2. Communication

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3.Technology

The Nature of Information:-(the 'I' in ICT) covers topics such as the meaning and value of information;  how information is controlled ;the limitations of ICT; legal considerations.

Communication:-The 'C' part of ICT refers to the communication of data by electronic means, usually over a distance.  This is after achieved via networks of sending and receiving equipment, wires and satellite links.

Internal Networks:-usually referred to as a local area network (LAN), this involves linking a number of hardware teams together within an office or building. The aim of LAN is to be able to share hardware facilities such as printers or scanners, software applications and data.

External Network:- after you need to communicate with someone outside your internal network; in this case you need to be part of a wide area network(WAN).

Technology:- The word 'technology' can also be used to refer to a collection of techniques. In this context it is the combine resources to produce desired products, to solve problems, fulfill needs or satisfy wants; it includes technical methods ,skills, processes and raw material.

ICT is a potentially powerful tool for extending educational opportunities, both formal and non-formal.

## ICT In Teacher Education

The need for teacher training is widely acknowledged. Professional development to incorporate ICT'S into teaching and learning is an ongoing process. Teacher education curriculum needs to update this knowledge  and skill as the school curriculum change. The teachers need to learn to teach with digital technologies while many of them have not been taught to do so .The aim of teacher's training in this regard can be either  teacher's education in ICT's or teacher's education  through ICTs. Professional development is central to the overall change process in education. They are unsure of how to make most effective use of ICT as a powerful and diverse resource. If they are to invest the time and energy in embracing the technology, teacher's need to understand the experience, the potential benefits of using ICT and to have access to the evidence that supports the improvements in teaching and learning. In addition they need strong leadership and support and a school development plan for

the integration of technology if the necessary change in education are to be realized.They also need technical support so that they feel comfortable in using the technology and are more willing to experiment thinking.

The quality of education depends to a great extent on the quality of teachers. It is a known fact that quality teachers opt for an innovation in their teaching aspect through integrating technology in the class room instructions to give the best to students. Since technology is a powerful tool for problem-solving, conceptual development lament and critical help to make the learning process much easier for the student.

Benefits of ICT:-The benefits of ICT features in classroom instruction are summarized below:

* Improves efficiency both in teaching and learning
* Increases motivation
* active participation of student
* self-paced learning
* Increase ICT confidence amongst students, motivate them and to use the internet at home for schoolwork and leisure interests.
* Multi-flexible and rich medium for students to access the information.
* Reduces isolation of teachers working in special educational needs by enabling them to communicate electronically with colleagues.
* Improves skills of staff and a greater understanding of access technology used by students.
* Use of voice communication aids, encourages parents to have higher expectations of children's sociability and potential level of participation. Comparison of traditional pedagogy and ICT enabled pedagogy.

## ICT Learning

ICT is an essential tool in the modern classroom as it can engage pupils on a level and make the job of the teacher considerably easier. However, the use of ICT does not necessarily ensure good learning. There could even be a situation where the class is quiet and engrossed in their computer/web –based activity, but getting no lasting benefit from the activity .

It is impossible to **separate engagement** from getting pupils to **think at a high**

**level** and making them **independent learners**-they are all linked. The aim of all three is to create an effective learning environment.

1. Activities have a clear purpose and relevance.
2. New knowledge is related to old .
3. Presentation is varied.
4. Activities generate curiosity.
5. Pupils ask questions and try new ideas.
6. Pupils see their achievements and progress.
7. Pupils gain satisfaction and enjoyment from their work.
8. Pupils get a positive image of themselves as learners.

ICT-Supported learning encourages :

1. Interaction and cooperation among students,  teachers, and experts regardless of where they are.
2. Learners to take the opportunity to work with people from different cultures.
3. A thematic, integrative approach to teaching and learning.
4. It is student-directed and diagnostic process.

### Traditional learning

1. Activities were  prescribed by teachers, variation of the activities were less.
2. It was for homogenous groups.
3. It was teacher-directed and summative.
4.  It was discipline-based approach.

### Role of ICT  in improving the quality of education

The quality of education depends to a great extent on the quality of teachers .It is a known fact that quality teachers opt for an innovation  in their teaching aspect through integrating technology in the class room instruction, to give the best to the student teachers. Since technology is a powerful tool for problem-solving ,conceptual development   and critical help to make the learning process much easier for the student-teachers.

Improving the quality of education and training is a critical issues, particularly at a time of education  expansion. ICT can enhance the quality of education in several ways: by increasing learner motivation and engagement ,by facilitating the acquisition of basic skills and by enhancing teacher training.

## Motivating to learn

ICT such as videos, TV and multimedia computer software that combine text, sound and colorful, moving images can be used to provide challenging and authentic content that will engage the student in the learning process .Interaction radio likewise makes use of sound effects, songs ,dramatizations and   other performance conventions to compel the students to listen and become involved in the lessons being delivered .More so than any other type of ICT, networked computers with internet connectivity can increase   learner motivation as it combines the media richness and interactivity of the other ICT with real people and to participate in real world events.

## Facilitating the acquisition of basic skills

The transmission of basic skills and concepts that are the foundation of higher order thinking skills and creativity can be  facilitated  by ICT through drill and practice. Educational television programmes use repletion and reinforcement to teach the alphabets, numbers, colors, Shapes and other basic concepts ,most of the early uses of computers were for computer-based learning that focused on mastery of skills and content through  repetition and reinforcement.

## Enhancing Teacher Training

ICT has also been used to improve access to and the equality of teacher training. For example institutions like the cyber teacher training center(CTTC) in south Korea are taking advantages  of the internet to provide better teacher professional development opportunities to in-service teachers. The government funded CTTC, established in 1997,offer self-directed, self paced, web-based courses for primary and secondary school teachers. Courses include ' computers in the information society,'  'Education Reform' and 'Future society and education' online tutorials are also offered, with some courses requiring occasional face -to-face meetings. In china, large-scale radio and television based teacher education, has for many years been conducted by the china central radio and TV university ,the shanghai radio and TV university and many other RTVUs in the country.   At Indira Gandhi national open university,

satellite based one way video and two way audio-conferencing was held in 1996, supplemented by print materials and recorded video, to train 910 primary school teachers and facilitators from 20 district training institutes in Karnataka state. The teachers interacted with remote lecturers by telephone and fax.

## Barriers in integration of ICTs in Education

While consider the opportunities associated with ICT enhanced education it can be said that ICT enhanced education is better than a simple education, but there are many challenges, which hamper the exploration and exploitation of its opportunities. In view of integrating ICTs in education have following key challenges.

**ICT Infrastructure:** The main challenges for ICT enhanced education I availability of Information and communication technologies infrastructure before any ICT based program is launched, policy makers and planner must ensure the availability of the following; appropriate rooms or building to house the technology, computers as well as affordable internet service for on line learning and availability of electricity and telephony.

**English Language and Online Content:** English is the dominant language of the internet. An estimated 80% of online content is in English. A large proportion of the educational software produce in the world market is in English. For developing countries in the Asia Pacific where English language proficiency is not high, especially outside metropolitan areas.

**Leadership:** Integrating ICT in education is not an easy task, as requires a wide range of support including higher management, and teachers. Therefore it is necessary to properly convince them for their support and for this task a leader is required. Leadership is necessary before during and after project implementation. Before project is initiated, leadership is needed in order to explain the model, the concept and create awareness; during the project, leadership is needed to manage change and support the project; and after the project, it is needed to change to pledge the required adaptability and flexibility of initiative.

**Lack of Teacher's confidence-** The teacher's feelings towards ICT programs are negative, mainly with teachers that have been practising within a classroom for more than a year, a rising number of teachers that are pushing for the integration. This could be because they are stressed about the

classroom structure if we were to integrate ICT into classrooms or they are not confident, as they do not possess the skills necessary.

**Resistance to change and negative attitudes-** Several researchers have commented on the barrier saying that this is one of the main obstacles that is stopping the integration as it influences all other barriers. Many teachers that are already practicing believe that is too hard, will take to much time or it is not necessary to use the technology. Others believe that the classroom dynamitic will change, as they cannot control all aspects of the learning.

**Lack of Time:** Many teachers have competence and confidence in using computer in the classroom, but they still make little use of technologies because they do not have enough time. All the teachers was lack of time, they had to plan technology lesson, explore the different internet sites, or look at various aspects of educational software. The teachers work from 10:00 a.m. to 3:30 p.m. and the average number of class session taught by teachers is 18 per week, both teachers and students have a limited number of hours during the day to work on integrating ICT education.

**Lack of Accessibility:** Many teachers complained about how difficult it was to always have access to computers. The main reasons like computer had to book in advanced and the teacher would forget to do so. They could not book them for several period on row. When they wanted to work on several projects with the students. In  other words, a teacher would have no access to ICT material because most of these were shared with other teachers.

**Lack of Technical Support:**

Without both good technical support in the classroom and resources, teachers can not be expected to overcome the barriers preventing them for using ICT. These technical barriers included waiting for websites to open filing to connect to the internet, printer not printing, malfunctioning computers and teachers having to work on old computer "technical barriers impeded the smooth delivery of the lesson or natural flow of the classroom activity".   Technical support helps teachers to use ICT in teaching without losing time through having to fix software and hardware problems.

## IMPLEMENTATION

It is much easier to remove the barriers by resolving and reducing the reasons for the occurrence of these barriers. Education, teacher and principal need to collaborate to over come of the obstacles and breakdown the above mentioned barrier to the meaningful integration of ICT. There is need to provide training course for teachers to gain new pedagogical approaches. Additionally college must provide teachers with the necessary ICT resources including hardware and software. Teachers should take advantage of ICT resource offered at all level. They need to prepared well before joining the teaching profession. Where the training is absent, teachers can prepared themselves by enrolling in private session or by self-training. They should be open minded towards new approaches of teaching. Where support is lacking, they need to find ways to be able to solve problems involving their use of ICT. There some Implication for teachers and school/colleges for successful integration of ICT.

## SUGGESTIONS

* ICT literacy
* Effective and efficient use of ICT hardware and software for teaching-learning activities.
* ICT-based pedagogy, online support, networking and management
* Teachers should have positive attitude towards ICT.
* Adopting the best innovative practices in the use of ICT.

## CONCLUSION

ICT will play a significant role in teaching in the future. The innovative use of ICT is defined as the use of ICT applications that support the education objectives based on the need of the current knowledge society. In this article the use ,updating and integration and integration of information and communication technology for teaching and learning purpose is discussed. The facility members and teachers will have to be updated regarding the improvement in the technology.

## REFERENCE

Bingimlas. Barriers to the Successful Integration of ICT in Teaching and learning Environment. Eurasia Journal of Mathematics and Technology education. 2009; 235-245.

Chodavarapu Jalaja Kumari and Digumari Bhaskara Rao (Ed). Methods Of Teaching Education Technology. New Delhi1-10002: Discovery Publication House.

Yadav N. (Ed). A Handbook of Education Technology. New Delhi-110002 : Anmol Publications Pvt. Ltd.; 2003.

Maheswari VK.; Suraksha Bansal and Rawat SC. (Ed). Essentials of Education Technology. New Govt. Inter College, Meerut -25001: R. Lal Book.

Manas RP. ICT-Enabled Teacher Education: A Challenge. University News. 2010 May ; 48 (20) : 17-23 pp19-24.