



# THE ROLE OF ICT IN EDUCATION: CHALLENGES AND ISSUES

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## **ABSTRACT :**

ICT stands for information and communication technology. It is concerned with the storage, retrieval and manipulation, transmission and receipt of digital data. ICT is a power and playing a crucial and vital role in all aspect of human life. There is no area that has not been influenced by digital phenomenon. Education is not exception to it. ICTs are becoming a crucial part of our education system. It has transformed our education system into knowledge and information society. It has become an integral part of our today's teaching and learning process. The use of ICT in the classroom is very important for giving students opportunities to learn and apply the 21<sup>st</sup> century skill. With the world moving into the digital media and information. The role of ICT in education is becoming more and more important.

In this paper an attempt has been made to discuss the role of ICT in education. This paper also highlights on what are the issues and challenges in the implementation of ICT in education. This paper discusses possible solutions after analysis of issues and challenges.

**KEYWORDS :** ICT, its needs, challenges and solutions.

## **INTRODUCTION :-**

Information and communication technologies are developing at a very fast rate. Modern information and communication technology has made the world a global village. There is no area that has not been influenced by this digital phenomena. Education is one of them.

ICT stands for information and communication technology. It is concerned with the storage, retrieval and manipulation, transmission and receipt of digital data. ICT can be defined as anything which allows us to

get information, to communicate with each other or to have an effect on the environment using electronic or digital equipment. According to the United Nation Development Program, 'ICTs are basically information handling tools – a varied set of goods, application and services that are used to produce store, process distribute and exchange of information. They include the 'old' ICTs of radio, television and telephone and the 'new' ICTs of computer satellite and wireless technology and the internet. These tools are now able to work together and combine to form our networked world – a massive infrastructure of inter connected telephone services, Standard computing hardware. The internet radio and television which reaches into the every corner of the globe.

According to Blurton on (2002) ICT is defined as a diverse set of technological tools and resources to communicate, create, disseminate, store and manage information.

ICT is a part of our lives for the last few decades affecting our society as well as individual life. ICT is now broadly used in education at world.

Adam and cross have emphasized on the four major basic factors responsible for introducing ICT in education which can be as social, vocational, catalytic and pedagogical.

- **Social** – Technology plays an important role in the society for better social living. One needs to ICT related skill.
- **Vocational** – Now a days many jobs are technology oriented. That is why for the vocational development. The ICT is needed.
- **Catalytic** – Using technology tools as a great way to enhance teaching learning process.
- **Pedagogical** – Another important aspect that is pedagogical advancement. Technology and ICT tools can be used as a great way to chance learning, flexibility and efficiency in the process of disseminating knowledge.

### **OBJECTIVE OF THE STUDY :-**

- To understand the concept of information and communication technology.
- To examine the need of ICT in education.
- To identify the issues and challenges in the implementation of ICT in the educational institution.
- To Suggest measures for implementation of ICT in education.

## **METHODOLOGY :-**

This is a descriptive study. For this study secondary data was collected. To compile data for the study reports, books, periodicals, research papers, journal, peer – reviewed article were retrieved for comprehensive and holistic analyses.

## **LITERATURE REVIEW :-**

For the present study the related researches have been studied. The Reviews is given as follows :-

Chandha (2015) in her study titled ICT & present classroom scenario presented her opinion on technological learning tools for learning. She described various ways to incorporate ICT to the mainstream of classroom teaching and tried to ensure a positive approach to wards the successful implementation of ICT and suggested practical ideas to do so.

Kaur (2015) in her study titled ICT :culture in Teacher education found that the transformation to technology embedded classroom requires the transformation of teacher. In order to create awareness of ICT among the teacher educators. She suggested various input in teacher training such as knowledge of basic hardware skill, understanding system software, multimedia and social legal, ethical and health issues.

Gupta and Gupta (2014) in their study emphasized that the introduction of technology has opened the flood gate for education to be delivered at any time and from any where. ICT affects the way knowledge is imparted and student learning process.

Jenifer, Mohammad and Andel (2016) conducted a study and found that learners are able to improve their grades if ICT is completely integrated teaching and learning.

## **ROLE OF ICT IN EDUCATION :-**

ICT's play a great role in education. At all levels of education, whether at school or College ICT has promising results. It can enhance the quality of education in several ways.

### **STUDENT CENTRED LEARNING :**

Information and technology can facilitate a shift in students learning. It implies a move from teacher centered to student centered learning. ICT helps in students learning from reproducing knowledge conveyed by others to constructing knowledge themselves.

## PROMOTES STUDENTS ENGAGEMENT AND KNOWLEDGE RETENTION :-

Students become more engaged in their work when the teachers integrate ICT in the classroom. ICT enhances learning in multiple ways, ICT helps the teachers to make the classroom more engaging and teach the lesson, in interesting way. Students also learn better leading to knowledge retention.

## UPGRADED CLASSROOM :-

ICT has upgraded the classroom. With the help of ICT teachers can built the classroom more dynamic and make the lessons more enjoyable for the students. Now the concept of smart classroom is gaining popularity.

## ANY PLACE LEARNING :-

The use of ICT has extended the scope of offering programme at a distance. Now, students those who are deprived of getting education because of their problems they can learn through technology facilitated learning setting.

## CATERING TO THE INDIVIDUAL DIFFERENCE :-

ICT can contribute in catering individual needs of the learners. Because of the technology, teachers are able to consider the needs of every students in the classroom. ICT helps the students to learn as per their capacities and interest.

## CONNECTING GEOGRAPHICALLY DISPERSED REGIONS :-

With the advancement of ICT. It has become possible to spread education even in the remote areas. Students from different parts of the world can learn together using online offline resources which was quite impossible in traditional classroom. No matter where the students are every learners can learn anytime and anywhere.

## ACCESS TO VARIETY OF LEARNING RESOURCES :-

In the era of ICT, Information technology provides variety of resources to enhance the teaching skill of the teachers and learning ability. The scope of learning resources are now being widened. Teachers and learners can utilize the variety of resources. For that they do not have to depend on the printed books and material available in the library. They can access wealth of unlimited learning resources from anywhere at any time day with the use of ICT.

## COLLABORATIVE LEARNING :-

The use of ICT also facilitates collaborative learning and development of twenty first century skills. Collaborative learning encourages the learners to work cooperatively in the pair or group.

## IMPROVES STUDENTS MOTIVATION :-

ICTs can stimulate, motivate and spark students appetites for learning. students are more engaged and hold their attention. Technology helps the students to feel confident and learn with pleasure and improves learning.

## ENHANCING TEACHER TRAINING :-

ICT plays a vital role in enhancing quality of teacher training. ICT is very important for the professional development of the teachers. Teacher educators need to the various ICT competencies for giving the students opportunities to learn and apply the required 21<sup>st</sup> century skills.

## **CHALLENGES AND ISSUES RELATED TO ICT IN EDUCATION :-**

ICT plays a vital role in improving our education system. Although ICT has great potential to improve education system of a nation, yet it is not in case of developing countries. There are major issues and challenges which our educational Institution are facing in the implementation of ICT in education. The issues and challenges are given as follows :-

### HIGH COST OF ICT TOOLS :-

The most important challenges in successful integrating of ICT in education is high cost of ICT tools. Due to high cost imposed on tools than the traditional face to face learning, it is really impossible to purchase the tools for implementation of ICT into education.

### POOR ICT INFRASTRUCTURE –

Poor ICT Infrastructure is also another important issues and challenge in successful implementation of ICT in education, Infrastructure such as hardware, software, internet access, and similar other resources which are required to integrate technology in teaching and learning are not sufficient.

### CHALLENGE OF LANGUAGE AND CULTURE –

A large portion of the educational software produced in the world market is in English. English is the dominant language of the internet. Majority of the online content is in English. Teaching learning resources used in connection with ICT are not suitable in the rural areas which becomes a serious barrier to maximize the benefit of ICTs.

## LACK OF TECHNICAL SUPPORT :-

Another important issues in integrating ICT in education is lack of technical support. Technical support are essential to the continued viability of ICT use for every learning institution. Due to lack of specialized skill personnel, Educational Institutions fail to implement technology in education.

## LACK OF TRAINED TEACHERS :-

There is a lack of trained teachers to implement ICT in education. Teachers are not trained to use ICT in their teaching. Teachers need to acquire new skills to prepare the students with necessary skills required for the 21<sup>st</sup> century. Due to lack of any quality training. Teachers are not comfortable to use ICT tools for making teaching and learning effective.

## INSUFFICIENT FUNDS :-

Implementation of ICT into education system requires a magnum of funds, infrastructure and support facilities. But there is a lack of insufficient govt. fund for use of ICT in education.

## WEAK GOVT. POLICIES :-

For the successful implementation of ICT in education. There is an urgent need of Govt. policies. But the Govt. policies are not strong. As a result we can hardly expect the implementation of ICT in education.

- Traditional Curricular Frame work is also a hindrance in integrating ICT in education.
- Unfavorable organizational culture and poor attitude towards the use of technologies is also factor in integrating ICT in education.
- Lack of co-ordination among the agencies with the ICT responsibilities is also a hindrance in integrating ICT in education.

## SOLUTIONS :-

The key points may be considered as recommendation for the implementation of ICT in education.

- Adequate funding is very important for the implementation of ICT in education. Govt. should provide adequate fund in the education sector.
- Technical support should be provided to the teachers to overcome identified barriers.
- Govt. should undertake strong policies to implement ICT in educational institution.
- Teachers should be trained on how to use ICT in teaching.
- Workshop Training programs should be organized to train the teachers and non teaching staff in order to make them competent to handle ICT infrastructure and services.



- In order to solve the problem of language and content more content in local languages should be created for preservation of cultural values.
- Positive attitude needs to be developed towards the use of technologies.
- The language of the authorized content should be clear and easy to understand.
- The student should also be provided training regarding basic knowledge of ICTs. The training programs is required not only to operate computer but also to familiarize them with the e-commerce, e-business, e marketing, e-library etc. as per modern needs.

## **CONCLUSION :-**

ICT Plays a great role in education. New and emerging technologies challenge the traditional process of teaching and learning and the way education is managed. The integration of ICT in education is important to improve the quality of education and make it more effective. No Nation can develop without ICT based education. It is regarded as the fuel of development. The application of ICT is creating significant changes in teaching and learning at all levels ICT use in the classroom is important for giving the students opportunities to learn and apply 21<sup>st</sup> Century skill. It not only improves teaching learning process, but also provides facility of e-learning. ICT is an effective tool to provide greater flexibility in education. With the use of ICT. It is now possible for the learner to access knowledge regardless of time and space. Teachers and educational system are using ICT integrated teaching and learning process to inculcate required knowledge and skills among the students.

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