



# CHALLENGES AND OBSTACLES IN IMPLEMENTATION OF ICT ENABLED EDUCATION: A Theoretical Perspective

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## Abstract

Education is regarded as one of the fundamental conditions for the development of great nations. As the world moves toward digital media and information, ICT has become an integral aspect of today's teaching and learning process. Communication, reservation, processing, and multimedia capabilities are all part of information technology. Because of its adaptability and ability to form relationships among students, ICT plays a significant role in knowledge. The use of ICT in education enhances the teaching-learning process in the classroom, allows for e-learning, and prepares the next generation for their future lives and vocations. Access, quality, and cost are three key factors of education that have a role in ICT. ICT has developed all of the tools and technology that can assist us in tackling the aforementioned concerns in a timely manner. Indeed, better infrastructure, connectivity, reach ability, accessibility, and affordability have broken down all geographical barriers, allowing for sharing and collaborations to ensure that quality education is available to those who choose to learn. This study emphasizes the importance of ICT in education, as well as the challenges and hurdles that ICT presents in education, as well as its limitations and challenges to educational institutions.

**Keywords:** Digital media, ICT, need of ICT, challenges and obstacles of ICT, research.

## INTRODUCTION

Perhaps the most powerful influence on today's educational scene is technology. Many school districts are supporting higher levels of technology in the classroom by providing gear like tablets and PCs, improving internet connectivity, and creating computer literacy programmes for both instructors and students. Although

most instructors recognise the value of educational technology, they often find it difficult to integrate new technologies smoothly and effectively.

Technological integration provides considerable obstacles to educators at all levels of school systems, from the acquisition of new technology equipment to the adaption of curricula and teaching practises to accommodate new educational resources. Individual and societal well-being are dependent on education. The empowerment of a country is aided by high-quality education. One of the most effective and efficient ways to expand a learner's knowledge is to employ technology. All methods for altering and exchanging information are included in ICT (Information Communication Technologies) (Swati Desai, 2010). The goal of this research is to present frequent issues that educators have while seeking to integrate technology into the classroom, as well as potential solutions. Increased student exposure to ICT education through curricular integration has a significant and favourable impact on student performance, especially in terms of comprehension, practical skill, presentation, and skill knowledge, according to Multimedia Education. Mobile phones, television, the Internet, computers, radio, and satellite are all included in the definition of ICT. Traditional ICT (television, radio) and modern ICTs are the two types of ICT available (Internet and telecommunications). E-learning is the term for learning using new ICTs. Information and communication technology (ICT) is an essential component of today's society. It is an energy that affects many elements of our lives as well as a means of electronically gathering, processing, storing, and sharing data. Information and communication technology (ICT) is a specialised, methodical engineering discipline and management methodology for handling data in conjunction with social, economic, and cultural factors. The proper use of ICT will change and adapt the entire teaching-learning process, resulting in a content and teaching methods paradigm shift.



In this age of technology and science, the way people learn has changed dramatically. Technology and science can be found everywhere, from notebooks to tablets, PCs to laptops, blackboards to smart boards. At all levels, ICT allows teaching, study, and learning processes to be altered. It empowers instructors and students, making significant contributions to the educational fraternity.

In various terms, the use of ICT in education can be categorized as:

**1. ICT as an instrument:** ICT has been divided into distinct courses based on its goal, purpose, and field of application. What is taught is frequently influenced by the type of education received and the educational level

of the students. Students are taught how to use ICT in the classroom, in the workplace, and in social situations. Among the disciplines are computer science, information technology, data communications, software engineering, information systems management,

**2. ICT as a tool in education:** ICT is utilised as a tool in a variety of settings, including task completion, data and document gathering, communication, and research. ICT is frequently employed independently of the subject matter. The traditional kind of paperwork is no longer completed in modern higher learning Institutions with coursework, assignments and other labour. They're filled out and sent in electronically. Mobile computing and computer engineering, to name a few.

So we can say ICT is used as a record-keeping and management method, such as the planning and printing of examination papers, compilation of test results, schedule, course fees, and maintaining attendance records.

### OBJECTIVES OF THE STUDY

To grasp the conceptual framework of challenges and obstacles in ict enabled education implementation:

1. Research the importance of ICT in education.
2. To investigate the use of ICT in education.
3. Identification of the issues that arise during the execution of education, aided by
4. Identifying the obstacles to the adoption of ICT-enabled education.
- 5.To recommend and present new possibilities or directions for the future.

### Learning of education can be classified into two types as a result of ICT

1. **Blended Learning:** Blended learning refers to the educational practise of blending digital learning resources with more traditional face-to-face classroom instruction. Both the student and the teacher should be in the same physical place in a real blended learning environment. Learning stations, labs, and the flipped classroom are all examples of how learners can practise a subject before attending face-to-face instruction.

2. **E-Learning:** E-Learning, often known as online learning, is a generic word for computer-assisted knowledge delivered through distant education. It solves problems with timing, attendance, and travel.

The following are some of the benefits of e-learning:

- It aids in the removal of temporal and regional barriers in education for both students and teachers.
- The use of information and communication technology (ICT) improves group collaboration.
- New instructional tools are available to students and teachers.

## NEED AND IMPORTANCE OF ICT IN EDUCATION

ICT plays the same role in our information and communication process and their outcomes, as played by other technologies in making our life comfortable and purposeful. ICT in education has tremendous potential to serve and help the people connected with the process and product of education in many ways.

1. ICT can help match the existing educational system with the knowledge-based, information-rich society by making advanced tools, strategies, and methodologies available to it.
2. The use of ICT can result in a paradigm change in traditional teaching and learning approaches.
3. ICT prepares instructors to address the problems of modern-day teaching-learning tasks. It assists instructors in carrying out their multi-faceted tasks in numerous areas of education effectively.
4. ICT can benefit teachers not only for their own education and training, but also for creatively increasing their pupils' educational advancement.
5. Schools or Students that have no access to computer devices like PCs, laptops, tablets or smartphones can especially utilize ICT in the form of Radiobroadcasts and Telecast. There are specific educational programs such as Gyanvani and Gyandarshan hosted by Akashvani and Doordarshan respectively to cater to the subjects of a school curriculum.

So we can say to Education is a life long process therefore anytime anywhere access to it is the need of ICT. Information explosion is an ever increasing phenomena therefore there is need to get access to this information. Education should meet the needs of variety of learners and therefore IT is important in meeting this need. It is a requirement of the society that the individuals should possess technological literacy. We need to increase access and bring down the cost of education to meet the challenges of illiteracy and poverty-IT is the answer. .

## CHALLENGES AND OBSTACLES IN IMPLEMENTATION OF ICT ENABLED EDUCATION

While ICT can significantly improve the country's education system, it is not the case in developing countries. Prerequisite for the provision of ICT-based education

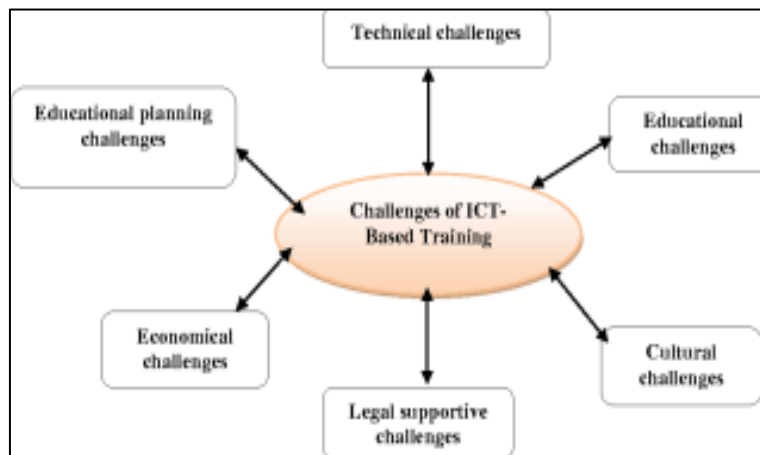
In rural areas unique to their skills set-up and for the implementation of policies to facilitate broad access to learning and ICT-based skills provision of broad-based ICT-based formal education. The introduction of ICT education in schools and educational institutions is facing several problems and challenges. ICT related issues and concerns are intensified in schools located in remote villages and rural areas. In rural schools, the implementation of ICT faces challenges in the form of barriers.

1. **Lack of qualified teachers to teach ICT in schools:** Teachers who are qualified to teach ICT in schools are in short supply; The demand for ICT education is enormous, yet the number of ICT-trained teachers is insufficient to provide it. More pupils want to learn computer skills than there are teachers willing to teach

them. The situation has gotten a lot worse after the new subsidiary ICT was introduced at A' level!

2. **Lack of computers:** Computers are still very expensive, and despite the best efforts of government agencies, non-governmental organisations, corporate organisations, and individuals to donate computers to as many schools as possible, a large percentage of schools are still unable to purchase computers for their students to use.

3. **Lack of electricity:** Many schools are still without electricity because, as a developing country, Uganda's government has not been able to link the entire country to the national grid. As a result, those schools that fall within these categories are disadvantaged and may not be able to provide computer studies.



4. **Burglary:** Because computers are still relatively expensive, they are a target for thieves who usually have ready markets for them at a lower price. As a result, several schools have had to invest additional costs in order to secure their computer rooms. Some schools are hesitant to purchase computers for their children because of the additional cost. Unfaithful school computer lab staff have also been known to take computer components and hardware parts and sell them on the black market!

5. **Fear by the administration:** While it is true that computers do not require highly skilled employees to operate them, some school administrators are concerned about viruses infecting their computers and causing data loss.

6. **Fear by other teacher:** The non-ICT compliant teacher may be concerned that the advent of computers in his or her classroom will render him or her obsolete. Most instructors value the 'feeling' that they are still an authoritative figure and a 'know-it-all' in the classroom, and anything that makes them feel otherwise is viewed as an enemy of the classroom.

7. **Lack of internet or slow connectivity:** most schools are not able to connect to the World Wide Web, due to the high costs involved in the connectivity.

8. **Increased moral degradation:** Addiction to social media sites like Facebook, internet pornography, cyberbullying, and other anti-social activities are all on the rise.

As a result, we can conclude that information and communication technology (ICT) can play a vital role in equating opportunities for underrepresented individuals and communities.

However, for individuals who are unable to bridge the technological barrier, ICT is another another method of greater marginalisation. Education has a critical part in fixing this issue. As a result, unless ICT is integrated into both the delivery and content of education, the gap will widen and development will suffer.

## **RECOMMENDATIONS AND RESOLUTIONS OF APPLYING ICT IN EDUCATION**

1. Take a holistic approach towards the development of ICT in education plans and policies. This includes support for ICT at both the national and individual school level. This includes measures such as involving education stakeholders in how to integrate ICT skills in the curriculum, or tap teachers to help develop policy plans.
2. Build the capacity of teachers, administrators and other education leaders to use and integrate ICT in education systems. Education leaders should be provided with professional development opportunities so they can engage teachers and together demonstrate a shared commitment to ICT in education.
3. Share best practices and lessons learned among countries in Asia, and among schools within the country. This accumulated knowledge can then be used to inform the development of blueprints and tools to better support ICT in education practices.
4. Forge public-private partnerships (PPPs) and collaboration with tertiary institutions to bring in additional technical and management expertise, as well as financial resources. 'Education PPPs' combine the strengths and capabilities of both sides to ensure the sustainability and scalability of ICT in education initiatives. Governments should drive and facilitate partnerships that include attracting private sector investments on a sustained basis, and tap upon the expertise and resources of both private sector and tertiary institutions, with an emphasis on equal access to quality, ICT-enabled education.
5. Mobilize resources for research and evaluation of ICT in education to spur innovation and scale up its use. This includes working with tertiary institutions to act as research centers. Governments can create incentives for R&D on innovative uses of ICT in education, including for instance making software and hardware more affordable and relevant for students. Rigorous evaluation studies on ICT effectiveness can provide evidence-based justification for transforming the education sector to embrace ICT.

A lot of knowledge available online can dissuade learning from students. In the absence of classroom learning, students may feel alienated. Through using computer applications for the development of teaching and learning curricula, study and extension, governance and leadership, infrastructure services, and the use of the expert system to recommend intelligent decisions for top management, universities and schools may use computer programs at different levels of quality criteria to monitor, manage and impose strict discipline on campuses.

## CONCLUSION

For both established and emerging countries, information and communication technology is a growth strategy. ICT makes great social gains and gives vulnerable people with appropriate opportunities by giving them access to markets, health, and education through access to people and awareness building. ICT is a collection of electronic tools that allow the processing and communication of information, including transmission and display functions, and is not limited to computers, the Internet, or telecommunications.

Information and communication technology (ICT) is often regarded as an effective tool for educational advancement. ICT plays a significant role as a potent agent for change in many academic processes, such as conducting an online exam, paying online fees, and accessing online books and journals. As a result, ICT improves the teaching-learning process in higher education by providing online learning opportunities for thousands of students who would otherwise be unable to benefit from higher education owing to a variety of factors such as cost, time, and geographic location. Enabling ICT in education and using technology in education creates an easy-to-navigate learning environment in which knowledge transmission is simpler and faster. ICT is the way to go for institutions, especially in countries like ours, because our growth is inextricably related to technology, and education is no different. Assuring the quality of education received by its students will be the deciding factor. Ensuring the standard of education of its students will decide if the institution can step forward or perish.

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