



## **Impact of Information and Communication Technology (ICT) In Higher Education**

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### **ABSTRACT**

Education leads to human empowerment. It provides a way to live a quality life and is also capable of transforming interests, attitudes and values. Information and communication technology (ICT) has revolutionized the world and it has a great impact on human life as a whole. It has become an integral part of today's education system. It promotes curiosity and motivation for learning. The role of Information and Communication Technology (ICT) in higher education becomes significant and its importance will continue to grow and develop in the 21st century. It transforms teachers, students as well as non-teaching staff to make the teaching-learning process more fruitful and result-oriented. The use of Information and Communication Technology (ICT) in education not only improves teaching-learning process but also provides the facility of e-learning. In this digital era, ICT shapes traditional curriculum, teaching strategies, and administration processes as well. It eliminates the drawback of physical separation of teacher and learner in teaching-learning process. Information and Communication Technology (ICT) is a driving force for the successful delivery of quality education in higher education. Higher education is considered to play a key role in the development of a country as it has the power to build knowledge-based society, and in this direction, ICT can play a vital role to accelerate the pace of creating new knowledge. Information and Communication Technology (ICT) in higher education has a profound implication for the whole education process, especially while dealing with key issues of access, equity, pedagogy, and quality. The present study will focus on the importance of information and technology in higher education.

**Keywords:** ICT, Higher Education, and E-learning.

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## INTRODUCTION

Information and Communication Technology (ICT) means an amalgamation of computer applications and communication technology for gathering, processing, storing, and disseminating information. It is a varied set of technological equipments and resources used to communicate and to create, disseminate, store and manage information. ICT can develop education quality, expand learning opportunities and make education accessible. In this modern era of knowledge-driven economy and learning societies, both formal and informal education is playing an increasingly vital role in promoting economic solidarity, social cohesion, individual growth, and sustainable development. The use of ICT in education is considered a driving force that can accelerate learning opportunities.

It helps to enhance the quality of education with advanced teaching methods, improving learning outcomes. ICT can be considered as a subfield of educational technology. According to UNESCO, "ICT is a scientific-technological and engineering discipline and management technique used in handling information in application and association with social, economic and cultural aspects". Appropriate use of ICT can transform the whole teaching-learning process leading to the paradigm shift in both content and teaching methodology (Anu Sharma et al., 2011). After China and the USA, the Indian Higher Education System has established itself as the largest system in the world in terms of the number of institutions and student enrolment.

Education can be divided into three groups in light of ICT:

### 1. E-learning

E-learning is electronic learning. E-learning has been referred to computer-enhanced education. E-learning is a wider concept than online learning, encompassing a wide set of applications and processes which are all available in electronic media to deliver education more flexibly. E-learning is today used in India to capture the general intent to support a large range of electronic media to make learning more flexible for students.

### 2. Blended Learning

Blended learning combines online learning with face-to-face learning. It is also known as a combination of multiple pedagogical or teaching methods, such as self-paced, collaborative, or inquiry-based learning.

### 3. Distance Learning

Distance learning is a method of learning that allows us to learn without being in regular face-to-face contact with a teacher in the classroom. It is also known as open learning. Most distance learning programs include a computer-based training (CBT) system and communication tools to provide a virtual classroom.

#### Higher Education in India

The University Grants Commission is the largest governing body of India's higher education system at the tertiary level which is responsible for enforcing its standards, advising the government, and assisting in coordination between the centre and the states. The major institutes of higher education in India are universities and their constituent colleges. Table No.1 gives a brief overview of the present status of higher education in India.

<b>Particulars</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19</b>
No. of Universities	864	962	993
No. of Colleges	40026	38179	39931
No. of Stand-alone Institutions	11669	9190	10725
Enrolment in higher education	35.7 Million	36.6 Million	37.4 Million
Gross Enrolment Ratio	25.02%	25.08%	26.03%

**Source:** All India Survey on Higher Education (AISHE)

#### Need of the Study

The National Council for Teacher Education (NCTE) has decided to make Information and Communication Technology (ICT) literacy a compulsory part of pre-service courses to help teachers to become ICT literate. The main objective is to enable teachers to become competent in using ICT in teaching-learning, that is in using multimedia for preparing lesson plans, document creation, accessing offline and online resources. They need to be able to understand conceptually and in pedagogically appropriate ways, how, where, and why to use computer-related technologies. Thus, it is obvious that teachers need certain skills to use ICT effectively in the classroom.



Today the learners are diverse, want to get educated but according to their own pace, place, and as per their own choice of modern learning resources. This implies that the need of the hour is teacher education that provides student teachers with a high degree of competency in using ICT who can then not only integrate ICT in their teaching but also help to develop ICT competency in their students.

### **The objective of the study**

The objective of the present study is: To study the impact of ICT in Higher Education.

### **Methodology**

The present study is based on secondary sources like Books, Research Journals, Thesis, and websites, etc. The descriptive Analytic method is used for the present study.

### **Role of ICT in Higher Education**

Information and Communication (ICT) provides influential support for educational innovations. It can be used for scheduling classroom activities, delivering content to students, and evaluating their learning. Students can access their learning material anywhere and anytime depending upon their practice. This helps in life-long learning. The use of ICT helps in removing environmental barriers in teaching. Experts sitting in their offices can use online videos and live streaming to guide and teach students residing in remote areas as well. It can improve the content, processes, and overall quality and quantity of teaching and learning as a change agent, reducing teacher workload and ensuring inquiry-based learning. Furthermore, ICT is a driving force in economic and social transitions, with technology skills being vital to today's student's potential jobs. ICT also plays a very important role in research work. It can be used to collect, process, store and analyze data. It also helps in drawing results. Students can access e-books, e-libraries, and other online resources. This saves a lot of time and money as well. It enhances the efficiency and quality of teaching and learning. It also leads to skill development and improves critical thinking and decision-making ability. The main roles of ICT in education are (Swati Desai, 2010 and Baishakhi Bhattacharjee et al., 2016):

- a) To create a diverse range of educational resources and media.
- b) Ensure that all people have fair access to education and knowledge.

- c) Create a framework for gathering and disseminating educational information.
- d) Encourage technology awareness and distance learning.
- e) Encourage others to share their knowledge and experience.
- f) To support sharing experience and information with others.
- g) Assists in the development of new teaching skills and increases the effectiveness of classroom instruction.
- h) Serves as a supportive tool for teaching and learning.
- i) ICT assists teachers in motivating students and inculcating a love for knowledge and learning.
- j) ICT serves as a repository for educational records since it allows for the secure storage of all educational data.
- k) ICT enables teachers to interact effectively with their students.

### **Digital Initiatives in Higher Education**

The different digital initiatives in the field of higher education are:

- National Mission on Education through Information and Communication Technology (NMEICT)
- National Programme on Technology Enhanced Learning (NPTEL)
- Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)
- SWAYAM Prabha
- National Academic Depository (NAD)
- Virtual labs and e-Yantra
- The Free and Open Source Software for Education (FOSSEE)
- Education and Research Network (ERNET)
- Consortium for educational communication
- Gyan Darshan and Gyan Vani
- e-Gyankosh
- EDUSAT

### **Advantages of ICT**

- With the use of ICT in teaching and learning, the barriers of time and place are removed. Now, Students can access learning material anywhere and anytime.



- ICT makes learning interactive, joyful, self-directed, and independent.
- It facilitates learner-centered learning with the use of the internet.
- Enables and enhances collaborative learning.
- The use of internet, e-books, and other e-resources provide a wide range of information to students.
- If planned properly, it can make teaching effective, efficient, and more productive.
- It develops communication skills and awareness of different audiences.
- The use of slides, videos, presentations, and other aids can improve creativity in students.
- Students get a chance to interact with research scholars from all over the world.
- Develops higher quality of education and new ways of interaction.
- Students can use educational apps on their smartphones for easy learning.

### **Conclusion**

Information and Communication Technology (ICT) can play a decisive role to accelerate the pace of creating new ways of knowledge if incorporated in higher education. It is a new tool of modern education. ICT is a combination of computer and the internet to exchange information from one place to another place in a rapid way. It provides a phase for distance learning, online learning, as well as to enhance knowledge and accessing teaching-learning content available online. It is believed that the use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education with advanced teaching tactics, teaching strategies, and teaching methods for improving learning outcomes and enable reform or better administration of the education system. ICT enables teachers and institutions to be more active and modern. Thus, ICT in higher education boosts the teaching-learning process and removes geographical barriers.

### **Suggestions**

Some teachers may not have awareness of ICT skills so that they must be trained for the use of these skills. Computer laboratories should be developed properly, and other adequate infrastructure should be used in academic institutions.



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