The Role of ICT in Teaching and Learning – In context to Indian Education System

VINAY M
Assistant Professor
BGS B-School

VINUTHA K
Assistant Professor
Dayananda Sagar College of Arts, Science and Commerce

Abstract - Technology is the engine that drives every part of our lives. As technology develops, we become more and more dependent on new inventions and discoveries. It not only simplifies our lives but also increases productivity. How can we ignore the changes brought about by the introduction of ICT in education when we are talking about the role of ICT in our lives? In this digital era, it's difficult to imagine event without the use of information and communication technology. This article evaluates the role of ICT in teaching and learning and positive impacts on students.

Index Terms - *ICT tools, education.*

I. INTRODUCTION

Today's changing world of today, incorporating information and communication technology (ICT) into education is becoming essential to changing conventional teaching methods. ICT in education, also referred to as digital learning or e-learning, has completely changed how teachers and students impart knowledge. The accessibility, interactivity, and efficacy of education have all been greatly improved by this digital revolution.

In digital age ICT has gained is own importance and role especially in the field of education. However, advancement in education system has led an opportunity to swiftly and readily, especially in higher education, where it is impossible to overestimate the value of representation and top-down. ICT advancements have typically changed all aspects of human effort, including business, administrative, and educational processes. The demand for education has peaked in agrarian nations like India, where it is still viewed as a vital cornerstone for social, economic, and political mobility. India constantly faces a range of challenges for individuals who choose to pursue an education, including financial, legal, practical, and semantic ones.

Information and Communication Technologies (ICT):

ICT is defined as "a combination of technological tools and resources that are used to manipulate and communicate the information" based on these three words. Electronic and digital tools such as computers, the Internet, and broadcasting technologies are considered technological tools in this context. These days ICT especially and internet plays a vital role in the process of integrating technology into educational field. ITC has gained its own importance which have an impact on Students Centred Learning, Supporting Knowledge Construction (Constructivism Learning), motivation to learn, Developing Higher Order Thinking Skills, Developing Problem Solving Attitude and Creating interest. The role of ICT is recurring day by day in education field. Rapid technological advancements suggest that ICT will play an increasingly larger role in education going

forward. ICT also emphasizes changing the role of educators. Apart from instructing in the classroom, they will also be responsible for other tasks and abilities.

II. LITERATURE SURVEY

(SAHA) In this study researcher has analysed the role of ICT in education. He also highlights the issues and challenges in implementation of ICT in education. Researcher finds that Sufficient financial resources are crucial for integrating ICT into the classroom. The government ought to give the education sector enough funding.

Alireza Abbasi [11] emphasized Iran's ICT situation and development strategy. Iran's national information and communication technology strategy has to take local, cultural, and social issues into much more account, according to a review report. Cultural, individual, and infrastructure-related resistance to change will be a problem that the national IT strategy must address. If the nation hopes to succeed in the information sphere as a regulator, promoter, and diffuser for the application of ICT in higher education, the government must play a significant role.

Universities in Colombia [20]. The study "Study of Satisfaction and Usability of the Internet on Student's Performance" sheds light on how students' performance and assignment completion tasks are affected by their usage of the internet. It also prepares an extended task technology fit model that takes into account factors related to technology resistance and usage. The author goes on to say that internet usage and technology satisfaction account for a large portion of the variation in students' performance.

III. Objective of the study:

➤ To understand the concept of information and communication technology.

➤ To examine the role of ICT in Indian education system.

➤ To recommend the importance of implementation of ICT in education system.

IV. Research Methodology: This paper is based on descriptive study. The study is based on secondary data collected from various magazines, articles and websites.

Role of ICT in Education:

Technologies related to information and communication technology (ICT) can be used to exchange, search, examine, analyse, and present data in a in an ethical and non-discriminatory way. Information and communication technology (ICT) allows users to instantly access concepts and experiences from a wide range of people, groups, and cultures. According to the Mission Document (aicte-india.org, 2022), the Ministry of Human Resource Development has recognized the value of information and communication technology (ICT) and has identified ICT as a tool in education that can help increase the current enrolment rate in higher education from 15% to 30% by the end of the 11th Plan period. Additionally, the Ministry introduced Sakshat, a "One Stop Education Portal." All fields and topics will have it uploaded to SAKSHAT. Several projects that will likely transform Indian education are almost finished.

It is impossible to separate the advancement of technology from education, particularly in this day and age. Over the past thirty years, a variety of electronic devices have been observed in classrooms. ICT fosters autonomy by providing teachers more control over course content than they would have in a traditional classroom by enabling them to create their own resources.

Information and Communication Technology (ICT) is integral to modern society. ICT has changed the ways in which we interact with government officials, do business, find necessary information, communicate with one another, and manage our social life. ICT affects people's daily lives, which influences macroeconomic growth. Growth in turn affects society by enabling advancements in infrastructure and living standards **(Roztocki, Soja, & Weistroffer, 2019).** ICT was essential to the growth and integration of world economies and to the creation of worldwide goods that could be bought and sold in other countries. Information and communication technology is used by organizations.

E-learning allows for limitless knowledge expansion, and appropriate training raises the standard of instruction. ICT is helpful for learning and work for instructors and students alike. The quality of higher education has increased as a result of free education. ICT has been used to shape India's educational system for the past few decades. Developing an ICT policy for students is the Indian government's aim.

I. Numerous government agencies, including the Department of Science and Technology (DST), University Grants Commission (UGC), All India Council of Technical Education (AICTE), and National Informatics Center (NIC), are involved in the nation's e-learning initiatives. The Satellite Instructional Television Experiment (SITE) is used to illustrate the rise of ICT in the sphere of education during the 1975–1976 period (Pal, 1975). It assists in setting up the studio and initiating the activities focused on the school. During that period, UGC initiated the creation of virtual classrooms for students in collaboration with the Consortium for Educational Communication (CEC) (SITE, 1975). In several colleges, they establish Audio-Visual Resource Centers (AVRCs) and Educational Media Resource Centers (EMRCs).

V. CONCLUSIONS

ICTs are viewed as change agents for many diverse purposes, such as information interchange and management, modifications to working environment, instructional methods, scientific study, among other things. ICTs are vital in business, education, the workplace, and recreation. Because ICT enhances instruction and learning, teachers must help create effective learning environments. Since the internet and interactive technology are unquestionably a major focus for education in the future, they are two ICTs that need to be properly integrated into formal teaching and learning systems. ICTs have the power to improve the existing assets, knowledge access, and agency of the impoverished on an individual and communal level. ICT in a clear and enjoyable manner. Online training programs in India are therefore becoming better and more in demand. ICTs have both positive and negative effects on education, however in the digital age, individuals who sincerely want to use ICTs to teach education are recognized.

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