

## TEACHING AND LEARNING: ADDRESSING ISSUES AND IMPROVING DIGITAL APPROACHES IN EDUCATION

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### ABSTRACT

*It is challenging to recall life before technology in the modern era. Most of the world now has access to education, with ICT playing a crucial role in our daily routines. The transition from printed to digital forms of e-learning sources is one of the major key change that has recently taken place in the higher education sector. The integration of digital transformation in educational institutions has become important part of guaranteeing students high-quality of educational opportunities of the same standard from every corner of the globe. The aim of this research paper is to explore the structural transformations in the field of education and the role of different approaches that are helpful for teachers and students as a result of using digital technologies. It will address the issues as a result of technological advancements with reference to the comprehension, adaptability, and design of educational programmes. In addition, the paper examines the influence, both positive and negative, that digital education is having on education in contemporary times. On the basis of secondary sources, the paper aims to explore how the entire educational system has undergone a paradigm shift because of the COVID-19 pandemic, which accelerated the use of digital technologies in education. It will provide us with a deeper insight into the potential applications of educational technology in the world of digital media in the coming years.*

**Keywords:** Digital technology, E-learning, Education, ICT

## INTRODUCTION

Every day, there are exciting new technological developments that are being made, and these advancements are helping humans in every facet of their lives. Because educational systems all over the world are continuously improving, the application of digital technology is becoming increasingly necessary. We are now living in the era of blended teaching and learning, which is characterized by the combination of online and offline methods in order to achieve greater success in the field of education. The advancement of technology has made it feasible to communicate and work together in ways that were before unimaginable. The inventive use of current technology and other digital tools in educational settings to advance the teaching and learning process is referred to as "digital education." The goal of achieving quality education and promoting lifelong learning opportunities for all, outlined in the Sustainable Development Goals 2030 Agenda, can now be significantly advanced with the use of digital technologies. The swift structural transition from printing to ICT has brought about a major acceleration in the education sector's e-learning resource availability. However, the COVID-19 pandemic has led the institutes to adopt the online teaching technique in order to keep the education system functioning.

## OBJECTIVES

1. To explore the influence and significance of digital technology in education.
2. To pinpoint the challenges and effective strategies related to digital technology for both teachers and students.
3. To examine how Covid-19 has accelerated the adoption of digital technology in education and provide a deeper understanding of future applications in digital media.

## METHODOLOGY

This work is based on secondary data sources such as academic papers, journals, research reports, and other publications on the importance and influence of digital technology in education. Academic resources such as JSTOR, ProQuest, and Google Scholar are employed to provide access to the texts.

## **HISTORY OF TECHNOLOGY IN EDUCATION**

Since the early 1800s, a variety of technical breakthroughs have exerted an influence on the path that education has taken. It wasn't until the 1820s that new printing methods were invented, allowing for the production of more books and their distribution to a wider audience. As the 19th century progressed, so did our societies ability to create technological inventions like radio and television which were used to spread class lessons, similar to how we use programmes like Zoom and podcasts to present information regardless of location today (Haran, M.). When computers were initially incorporated into the educational system during the 1970s, hundreds of schools were awestruck by the promise they held to improve the standard of learning. Since its introduction into the field of education, there has been an evolution in the instructional practises of learning education. Because of our continuous pursuit of excellence during COVID-19, we were able to see the transformation of education on a national scale, from learning in the conventional way to learning that takes place entirely online in millions of homes. The digital learning resources that were formerly introduced in education as a complimentary supplement to paper-based materials and instructional material are now being utilised for the actual process of learning altogether. This is a significant shift from when digital learning resources were first deployed in education.

## **ROLE OF DIGITAL TECHNOLOGY IN EDUCATION**

1. It enables learners to study whenever they find it most convenient for them, as well as constant access resources to world wide in which they have the opportunity to exchange information with individuals hailing from a variety of nations and cultures.
2. It provides privilege to work together and study in an environment that is shared when online educational resources are used.
3. It enables to communicate their ideas and thoughts to others via the use of video conferencing and shared documents.
4. It upgrades the learning and teaching process with innovative content, teaching aids, programmed instruction material.

5. Educational administration issues may be mitigated with the use of cutting-edge technological innovations in the form of analytical tools and equipment.
6. It helps to strengthen the basis of scientific research and pave the way for future discoveries.

### **E- LEARNING RESOURCES AND DIGITAL TECHNOLOGY USE IN EDUCATION**

It is evident that there have been major transitions from paper-based to internet-based electronic information for education in the twenty-first century. By using e-resources to their fullest potential, this knowledge was transferred from the physical world to the virtual one through a variety of methods for its creation, storage, and access. E-resources are of two types: Online e-resources, which include e-journals, e-books, websites, e-mail, an e-library, e-learning (lessons and courses), and online databases. Secondly, other electronic resources include CD-ROMs, MS Office documents, presentations and multimedia materials, digital archives, digital maps, and digital images. E-resources are now playing an enormously significant part in a variety of disciplines, including education, the promotion of careers, research and development, as well as the domains of data and information technology. Users are able to save both time and money as a result of the lightning-fast access to information that is provided by these electronic resources. Some of the modern tools used as a part of digital technology are Google Docs, e-shodh sindhu, virtual learning, video conferencing, etc. Promoting e-resources in the area of education helps people publish or write articles, finish assignments, stay current on relevant information, attend conferences and seminars, etc.

### **ENHANCED TEACHING AND LEARNING APPROACH FOR EDUCATION**

There are several digital resources for education that aim to empower students, streamline administrative tasks, foster teamwork, and improve two-way communication among teachers and students. The great majority of applications pertain to emerging pedagogical practises, whereas the majority of applications serve to reinforce established educational practises that are focused on the classroom instructor. It is possible that the use of technology in the form of programmes for mobile learning and video conferencing might

make the computer-based training that teachers get on computers far more effective. (Ganimian et al., 2021)

In order to use technology as a tool for teaching and learning, computers are an asset to a teacher. Smart classrooms and multimedia technologies are used in schools and colleges to facilitate education. Learners are given options to improve their various intelligences or learning styles when presented with learning materials that are augmented with a variety of media, such as sound, narration, video, animation, and graphics, among other examples. Information and communications technology-assisted education has the potential to make it easier for students to learn knowledge and skills that are relevant to the twenty-first century, such as creativity, critical thinking, and problem-solving abilities. Learners are able to communicate their thoughts in a manner that is both more personable and straightforward. Some of the digital educational tools for teachers and students are Edmodo, Thinglink, Prezi, Animoto, Educreation, etc. (Dahiya & Singh, 2019)

To improve the quality of education, the following points should be considered:

1. Increasing the amount of standardised, high-quality material available online.
2. Efforts like providing distance education are very encouraging.
3. Pre-recorded classes have to be accessible to everyone.
4. The interactions that take place between students and teachers have to be subjected to quality control procedures.

### **IMPACT OF DIGITAL TECHNOLOGY**

Our lives have advanced significantly as a result of digital technology, from better communication to more productive corporate operations. In several ways, digital technology has a significant influence on the entire world. The emergence of the internet and the creation of powerful computer devices have altered our daily lives, careers, and interpersonal relationships. To begin with, digital technology has completely changed communication. Social media sites like Facebook, Instagram, and Twitter have made it possible for users to interact and communicate with one other effortlessly from anywhere in the globe. As a result, there is now more social engagement, information and idea exchange, and community building. Additionally, digital technology has simplified the

process of staying in contact with friends and family who live far away, which has strengthened personal relationships.

Second, digital technology has completely transformed the way we learn and access information. The internet has enabled everyone to get access to almost limitless amounts of knowledge on any subject conceivable. This has improved accessibility and affordability of education while creating chances for lifelong learning. Digital technology has also made it possible to create innovative teaching strategies and resources, such educational applications and online courses that may improve the learning process. Thirdly, digital technology has a significant impact on the economy. Businesses may now more easily access clients worldwide due to the growth of e-commerce platforms like Amazon and eBay, which has enhanced sales and revenue. Moreover, digital technology has enabled the creation of new business models, such as the sharing economy, which has created new job opportunities and provided more flexibility for workers.

And lastly, advances in digital technology have improved healthcare. The advancement of medical technology, including electronic health records, wearable medical devices, and telemedicine, has improved communication between medical professionals and patients and facilitated the sharing of medical information. As a result, this has improved patient outcomes and made healthcare more efficient and cost-effective. However, these advancements also bring about significant challenges that must be addressed. One of the main challenge of digital technology is the issue of privacy and security. Strong security protocols are necessary to avert data breaches and assaults because of the volume of private data kept on digital platforms. Unfortunately, there have been numerous instances where individuals and companies have fallen victim to cyberattacks and lost sensitive information. This underscores the importance of constant vigilance and the need for strong security measures to protect sensitive data.

Another challenge is the issue of the digital divide. While digital technology has the potential to bring about positive changes in society, not everyone has equal access to it. This creates a digital divide between those who have access to technology and those who do not, resulting in an uneven distribution of benefits. Bridging this gap requires

government and private sector intervention to ensure that everyone has equal access to digital technology. Furthermore, digital technology is also contributing to job displacement. With the rise of automation and artificial intelligence, many jobs are becoming obsolete, which leads to significant workforce changes. As such, there is a growing need for retraining programs to help individuals adapt to the changing job market and avoid unemployment. The overreliance on digital technology is leading to a decrease in human interaction. With the ease of communication via digital platforms, there is a growing concern that face-to-face interactions are becoming less frequent. This could lead to a decrease in empathy, emotional intelligence, and social skills, which are all essential for building healthy relationships and maintaining a strong sense of community.

### **CHANGES IN EDUCATION SYSTEM DURING COVID-19**

The COVID-19 pandemic has had a significant impact on education around the world. Schools and universities have been closed, and millions of students had to adjust to new ways of learning. One of the most significant changes in education has been the shift to online learning. With physical classrooms closed, many schools and universities have to alter their mode of teaching to online platforms. This required a significant investment in technology infrastructure along with teachers and students to adapt to new ways of teaching and learning. While online learning has been around for some time, the pandemic has accelerated its adoption, and it has become the primary mode of education for many students.

Another change in education that has occurred due to the pandemic is the use of digital tools and platforms. With the shift to online learning, teachers had to rely heavily on digital tools and platforms to deliver their lessons. This included the use of video conferencing software such as Zoom and Google Meet, Google classrooms as well as educational software and learning management systems. These tools have enabled the teachers to delivered quality based education to their students despite the limitations of remote learning. At the same time, it also allows the teachers to avail more study material. Furthermore, the pandemic has also highlighted the importance of student well-being in education. With the pandemic causing significant disruptions to everyday life,

including school closures and social isolation, many students have experienced increased levels of stress and anxiety. As a result, many schools and universities have prioritized the mental health and well-being of their students, providing counseling services and mental health resources to those who need them. Further it has reduced academic skills among students and creates over-exposure and dependency on internet and gadgets. It leads to the lack of EdTech and online learning options for Students with Special Needs. The pandemic has also brought about changes in the assessment and evaluation of students. With traditional forms of assessment such as in-person exams being difficult to conduct, many schools and universities have to explore alternative assessment methods. This included the use of online exams, take-home assignments, and other forms of evaluation that can be conducted remotely.

### **FUTURE ASPECTS**

The future of digital technology and online education is an exciting prospect that has the potential to revolutionize the way we learn and acquire knowledge. Increased reliance on artificial intelligence (AI) is expected to be one of the most transformative aspects of online education in the foreseeable future. The use of AI has the ability to tailor the educational experiences of students, so making education more adaptable to the specific requirements of each student. This technology may also assist instructors in determining the areas in which their pupils may be facing difficulty so that they can provide extra assistance and resources to help those students achieve their academic goals.

One further exciting development that lies ahead for digital technology and online education is the growing prevalence of augmented and virtual realities. These technologies have the potential to give students with immersive learning experiences that enable them to investigate and engage with ideas and concepts in a manner that is more interesting to them. Students may, for instance, be transported to historical events or scientific simulations via the use of virtual reality, which makes the student's educational experience more vivid and unforgettable.

Furthermore, the future of digital technology and online education also includes the increasing use of gamification. Gamification involves incorporating game-like elements into the learning process, such as points, badges, and leader boards. This approach can



increase student engagement and motivation, making learning more fun and enjoyable. The future of digital technology and online education also includes the increasing use of mobile learning. With the rise of mobile devices, such as smart phones and tablets, mobile learning has become an increasingly popular way to access educational content. Mobile learning allows students to learn on-the-go, providing them with flexibility and convenience.

## CONCLUSION

Digital technology has brought about numerous advancements, but it also has a unique set of obstacles. These difficulties vary from worries about security and privacy to the loss of jobs and a decline in social interaction. Addressing these challenges will require a collaborative effort from all stakeholders, including the government, businesses, and individuals. It is necessary to collaborate if we want to use full potential of digital technology while reducing its adverse effects. These technologies, which include big data, mobile learning, virtual and augmented reality, and artificial intelligence, will continue to influence how we learn and engage with instructional materials. It is crucial that we accept these changes and continue to investigate new methods to enhance the quality of and access to online education as we go ahead in time.

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