



Impact of Technology on Education with special reference in Manipur

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Abstract: This paper aims to discover and study the role of technology and its impact on education. In the last few years, technology has greatly transformed our way of living, working, and learning. Technology has restructured the classroom experience of teaching and learning. With the advancement of technology, the need for various software tools and e-resources in the educational system arises. Technology is the need of an hour in the education system. It is essential to understand how these developments are crafting the learning experience and results of students. This paper examines how technology positively and negatively affects education by going through an in-depth literature review and analysis of empirical studies. It explores how technology has improved in accessing educational resources, increased learning opportunities apart from our traditional classroom settings, and encouraged unique and personalized learning experiences. This paper also examines disadvantages such as increased screen time, divergence or possibilities of distraction, and the need for digital literacy skills.

Keywords: *Technology In Education System, E-Resources, Digital Learning, Traditional Classroom, Learning Outcomes, Personalized Learning, Digital Literacy.*

1. Introduction

In today's world technology plays a very important role in our daily life. Technology is involved in every field, that is it can be in the fields of education, healthcare, finance, science, social science, arts and design, tourism, agriculture, and sports. It makes our work much easier and saves time. In the field of education, technology helps students a lot. Technology has also made significant progress, remodelled the traditional way of teaching-learning methods and created new ways for learning. In these modern days, educators, lawmakers, and researchers have a keen interest in the impact of technology and make this their debate topic (Kadve et al.,2023). In the last few years, we have observed an explosive growth of technology in the education system. Technology has revolutionized the classroom experience of teaching and learning, from our old system of the blackboard to whiteboard, smartboard, and online learning ICT platforms to smart phones devices and educational apps. The platform of a virtual classroom enables students to have access to quality learning. Digital learning platforms such as SWAYAM, NPTEL, IGNOU, BYJU, and many others provide online courses and they have become so popular in this digital era of learning (Kadve et al.,2023) With these facilities of distance learning programs, students can access education from any corner in the world. The virtual classroom is indeed very conveniently accessible and is a boon yet it has challenges too. With time, both the academicians and the students have started to adapt to this new regime of the education system. With the strengthening of bonds between the teachers and the students in a teaching-learning process, there is a possibility of overcoming every obstacle lying before us. Since the problems faced by both the teachers and students are quite common and hence, they need to understand each other.

During the outbreak of war in May 2023, the internet connection was disconnected throughout the Manipur state for three months. All the schools and colleges were closed in the affected area, but classes were going on in the place where it was not affected. Whether it is hill or plane education has no boundaries. Most of the schools and colleges are under BOSEM, COHSEM, and Manipur University. The administration system of education in some districts cannot be done physically due to ongoing crisis, however, it is conducted through an online system when an internet connection is open and given to all.

2. The Impact of Technology on Classroom Experience

The integration of technology in classrooms has revolutionized the way students learn and teachers teach. Technology has transformed the traditional classroom experience, offering a more engaging, interactive, and personalized learning environment. Software tools and e-resources play a very important role in education. With the help of digital tools, students can now access a vast array of educational resources, collaborate with peers, and develop essential skills such as critical thinking, problem-solving, and communication. In small states like Manipur also, uses of technology in the education system are implemented in every school, college and university.

The impact of technology on classroom experience can be seen in several ways:

Enhanced engagement: Technology makes learning more engaging and fun, increasing student motivation and participation. When technology is effectively implemented, technology-enhanced learning (TEL) can profoundly improve student outcomes by providing a variety of learning courses and offering flexible learning environments (Mote, 2023).

Flipped Classrooms: Technology allows teachers to create video lectures and assign them as homework, freeing up class time for interactive activities. Students learn basic concepts and content at home, often through pre-recorded videos or readings. Students tend to prefer video lectures instead of teacher's lectures in a class and also prefer interactive classroom activities over lectures (Bishop & Verleger, 2013).

Personalized Learning: Technology allows students to learn at their own pace, with adaptive software adjusting the difficulty level and content to suit their needs. Personalized learning is instruction that is focused on meeting students' learning needs while incorporating their interests (Pane et al., 2017). It is an educational approach that tailors the learning experience to the unique needs, abilities, and interests of each student. In this present modern education system, students create their learning paths, choosing topics and activities that interest them. A student creates a learning path on environmental science, including videos, articles, and projects.

Virtual Learning Environments: Technology allows teachers to create virtual learning environments that simulate real-world scenarios, making learning more engaging and interactive. Digital learning platforms such as SWAYAM, NPTEL, IGNOU, BYJU, etc. provide online courses. With the implementation of NEP in the higher education system in Manipur, students are allowed to enrol in SWAYAM courses. They are given the chance to get double or more degrees in the same year.

Blended Learning: Technology enables teachers to combine online and offline learning, creating a blended learning environment that suits different learning styles. Blended learning integrates digital media, technology, and traditional in-person teacher-led classroom activities. This hybrid learning technique has become a new trend in education. (Baquero & Escortell, 2022). The use of information and communication technologies (ICTs) in the classroom is one of the examples of Blended Learning. Most of the educational institutes in Manipur have installed ICTs-enabled classrooms.

Gamification: Technology enables teachers to use game design elements to make learning more engaging and fun. Gamification is an integration of game elements and game thinking in activities that are not games. (Kiryakova et al., 2014).

3. The Importance and Positive Effects of Technology in Education

In today's education system technology is very much necessary. It increased learning opportunities beyond traditional classroom settings. It encourages unique and individualized learning experiences. It is like education is not possible without technology in this digital world of the education system. Whether it is hills or valleys, technology is implemented everywhere. Every institute in Manipur either private or government has its website except for a few government schools in remote villages for lower primary schools do not have. Mobile App is used for monitoring students' attendance and submission of assignments can be done through mobile app. WhatsApp groups are created for students and even for parents.

Some of the positive effects of technology in education are listed below:

1. Technology allows personalized learning experiences customized to individual student's needs, abilities, and learning styles. In subjects like environmental studies, students are allowed to choose their topics and make them as an assignment which include videos, articles, and projects.
2. It provides instant access to a huge database of educational resources, which includes e-books, journals, articles, tutorial videos, and educational websites available on the internet at any time.
3. It makes learning more engaging and interactive, increasing student motivation and participation.
4. It enhanced collaboration among students, teachers, and parents, promoting communication and teamwork. This can be done by creating WhatsApp groups for

students and parents. Any information can be given to the parents instantly through these groups.

5. It helps students in developing digital skills including coding, digital citizenship, and online safety.
6. Technology helps to level the playing field for students with differently able, by making them easy to access, providing equal access to education, and including them in every possible way.
7. It increased efficiency and streamlined administrative tasks, such as grading and data analysis, freeing up teachers to focus on instruction. It provides teachers with valuable insights and data on student learning, enabling data-driven instruction.
8. Technology can reduce educational costs by providing access to free or low-cost educational resources. Digital learning platforms such as SWAYAM, NPTEL, IGNOU, BYJU, etc. provide online courses. Students can learn different courses online freely or at low cost.

4. Negative Effects of Technology on Education

Too much dependence and excessive used on technology has also raised concerns about its negative impact on education. Overusing digital devices, social media, and online resources can lead to decreased attention span, reduced critical thinking skills, and increased distractions in the classroom. Furthermore, the constant availability of technology can also contribute to social isolation, cyberbullying, and decreased face-to-face interaction among students.

Some of the negative effects of technology on education are as follows:

1. Over-dependence on technology can lead to a decline in critical thinking skills. Students always want a shortcut. They want direct answers to every question. They do their assignment mostly copied directly from ChatGPT or MetaAI. Too much reliance on technology reduces problem-solving skills as they always depend on devices to solve problems.
2. Students get distracted and divert their minds when they get social media notifications, emails, or text messages. This happens when they keep their mobile phone on their study table or near the place where they are studying. This will lead to a decrease in focusing their studies and learning.

3. Students who overuse technology are not socialized. They hardly mingle with friends and people surrounding them. Their screen time increases and so they become loners. They are weak in social skills.
4. In this current situation in Manipur, students take part in cyberbullying. Technology provides a platform for bullying among communities. Many students young and old, take an active role in cyberbullying even though they are not in the war field. This affects students' mental health, their studies, and also in their well-being.
5. Misusing social media can lead to online harassment in students' lives. This is a serious issue that can affect students' mental health and academic performance.
6. Uses of smart watch devices during exams helps students in cheating. Sometimes teachers are not aware of students wearing smart watches. Students take advantage of this and cheat in exams.
7. Too much on-screen can cause eye problems. Movement of the body less and thus leads to obesity, diabetes, and other health problems. In this modern era of technology, children overuse phones, and screen time increases thus leading to Vision problem. Giving smartphones to children by parents is the reason for over-screen time.
8. In the hilly region of Manipur, there is no current frequently and network issues sometimes. Technology cannot work without current and network. This affects students' academic performance as they cannot access study materials sent by their teachers, in doing their assignments and projects.

Remedial steps that can be taken to overcome the negative effects of technology or challenges faced by the students are:

1. It is necessary to keep a balance between the uses of technology and traditional teaching methods to minimize distractions and promote engagement and also to overcome the challenges of current and network issues that are faced by the students in Manipur.
2. There should be reliable and equitable internet access for all students. All schools and colleges should provide the necessary devices and resources to support the unification of technology with education.
3. Monitoring the uses of technology by teachers and parents can prevent cyberbullying, cheating, all kinds of cybercrime activities, and mental health problems among students.

4. Organizing awareness programs on cybercrime and teaching them digital literacy skills on how to use technology properly for their online safety.
5. The government and the concerned authority should make and develop a School-Wide policies and guidelines on the uses of technology in education system. Device management system software should be implemented in every institute to monitor and control technology use.
6. The concerned authority should develop and enforce policies to prevent cyberbullying.

5. Conclusion

Technology has transformed the education system. It redesigned the learning process of students in accessing educational resources, increased learning opportunities, and personalised learning experiences. It also poses significant challenges, such as increased screen time, distractions, and the need for digital literacy skills. It is necessary to keep balance between uses of technology and traditional teaching methods to overcome the challenges of current and network issues that are face by the students in Manipur. The educators, policymakers, the stakeholders must work to develop effective strategies for integrating technology into the curriculum, promoting digital literacy, and minimizing the negative effects of technology on students. Lastly, the effective use of technology in education needs a refined understanding of its pros and cons, positive and negative impact. By recognizing both the advantages and disadvantages of technology, we can utilize its potential to enhance teaching and learning, improve student outcomes, and prepare students for success in the digital era.

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