**The Evolving Landscape of Education: Technology's Impact on Teaching and Learning**

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**Abstract:**

In the 21st century, the use of technology is becoming popular and common in the education sector. With technology becoming more prevalent in today's technologically driven world, methods for effectively implementing digital applications into the classroom have become a significant focus within the educational setting. The positive ways that can be used to integrate technology in the educational field can be games based on technology, blogging, coding, virtual classrooms and digital storytelling. Besides traditional classes, teachers can use technology to make some changes in their classrooms that can benefit both the teachers and students. It can improve the skills of teachers as well by making them proficient in delivering presentations. This paper is an attempt to bring to light the use and impact of technology in education nowadays, and its positive and negative outcomes in the education field.

**Keywords:** Education, Learning, Technology, Teaching

**Introduction:**

Today's world is considered an era of technology. The world in which we live is so heavily reliant on technology. A large number of jobs that did not involve the use of technology in the past do so now. We live in a technologically advanced world that is increasingly reliant on its use. Both kids and adults use technology every day in a variety of ways, including web browsing, texting, and social networking, interactive gaming, and more.

Technology is an essential subject in many different fields including education. Technology use and educating students on how to use it are now top priorities in public schools. Nowadays, technology plays an extremely important role in every sector. Technology is changing the way we learn, making it easier and more efficient for us to gain knowledge.

Often, It is considered the basis for the growth and development of an economy of a country. A country weak in technological terms can never grow as technology has become a necessity in every sector. This is because it improves the level of understanding of every individual, and makes the work less time-consuming and much easier. The influence of technology can be seen in every potential sector and one such sector is Education.

**Technology Impact on education:-**

In the process of achieving substantiated literacy, technology empowers students by providing them the control over how they understand and learn the topics, it makes education applicable to their digital world and prepares them for the future. Technology may be utilised to create engaging projects that encourage students to think critically and solve problems.

With the use of technology and resources beyond the walls of the classroom, students are motivated to become critical thinkers, problem solvers, colleagues, and innovators. Where technology has been effectively included in classrooms so that students may develop a lifelong love of learning. Student collaboration is boosted by technology as well.

Teachers always seek to epitomize learning for their students. Technology can help them to reach new situations with key real-time pupil information, access to valuable apps, content, longitudinal data and more. Technology empowers preceptors to produce amalgamated literacy surroundings and influence digital tools for summative and constructive assessments, implementing new models for literacy and tutoring in classrooms.

Technology in the education field and the correct technological tools in students' hands help them to prepare for their careers and specialized job performance that they need in today's and tomorrow's competitive environment to be successful. Learning experiences through technology can inspire to boost creativity, it can help students by putting purpose to their learning and preparing them for the coming career opportunities and jobs in future that haven’t even been created yet.

Detailed skills and knowledge in physical computing, programming, computational thinking, and coding, have become everyday necessities in the workplace. By attending different online programmes, students can acquire the skills of problem-solving and critical thinking for today's world. Learning by doing with designer mindsets and surroundings can be veritably engaging when integrated and designed with the right technology.

**Challenges of technology in education:-**

It is a difficult decision for schools to decide which technology model is better to use which will help them to achieve their vision of transforming learning. The decision to use the device should be made after discussing and evaluating with numerous stakeholders, how teachers and students will use these devices for learning in everyday life.

Many students in schools are without technological accessibility, because of the digital divide that still exists to this day and that cannot be easily understood. School's financial limitations make it even more difficult to immerse in the field of technology. This is because of the infrastructure, fee structure, and diverse technology development in the schools across different regions of the country..

Mostly used technology in all the schools are personal computers in computer-labs where classes are scheduled at times for the use of students, but some of the schools have only four to five personal computers for all the teachers and whole classroom use, which reduces the student's interaction with technology. There are some schools in districts, that can provide better technological experiences to students, but all students don't have this accessibility. In many schools, it will take plenty of years for the technology to reach all the classrooms.

**Necessities of an Educational Technology Initiative:-**

Stakeholders should focus on a suitable grade-level curriculum, content needs, and how the devices will be used in and out of the classroom. It’s not an easy task, but considerations such as compatible digital curriculum and content, manageability options, assessment needs, security features, device functionality, and the overall cost of ownership are some key features to choose the right device.

A secure, robust and powerful IT infrastructure is the basis of a 360⁰ learning experience, it supports digital content, boosts operational efficiency, safeguards students' data, encourages operational efficiency, and provides security, privacy and protection as per today's school's needs.

The use of open-source educational resources, online learning opportunities, and other technologies can improve educational productivity by speeding the rate of learning, and knowledge of subjects more precisely; it can even reduce the costs associated with instructional program delivery and can better utilize the educator's time.

**Importance of technology in education:-**

Technology's role in the field of education is boundless. Technology has a major impact on how we learn, making life more fun and exciting through gadgets like smartphones, laptops, and tablets. Technology provides every student with an equal opportunity to grab higher and global education. It is added to education as a curriculum part, it is a means of aiding instructions, an instructional delivery system, and also a tool to improve the whole learning process. Geographical barriers between students from different parts of the world are no longer an issue; technology is the only thing that has made this possible.

Education is essential for corporate and academic backgrounds therefore, every student wants to improve their performance and technology can help them to accomplish this objective. Technology can act as a means for students to find subject-related information and knowledge for their education and learning. It is most useful when the students gather information, relate it with what they have understood, and learnt and have a discussion on the gathered information with their teachers and classmates so that they can understand the relationship between what is new and the issues that they need to catch up on for influential learning.

Online educational audio and video provided to students can help them to improve their language skills in reading, listening, writing, and speaking. Listening to and watching educational videos is good for students so that they can learn the needed confidence when it comes to argumentative topics in the classroom where they can be able to deliver clarification and judgments on certain topics.

Earlier, training or education is used to help the employees to do things differently than they did before. Technology introduction in education can be geared toward creating curiosity in the minds of students and it can even help the students in understanding and retain concepts better.

**Enhancement in Communication and Collaboration:-**

Technology has increased communication and teamwork opportunities as well. Educational technology can promote collaboration among teachers and students. Teachers can encourage students' curiosity and interest by providing them with interesting and educational content through online courses and educational learning games, students learn to work together to solve problems. Teachers not only engage with students during online courses, and students can also share their ideas.

With the use of technology, students can ask subject-related questions and seek additional help on difficult-to-understand topics from their tutors. During holidays, students can upload their homework, and teachers can view and check their completed assignments. Teachers might choose more creative ways to support students' success. Students that require further assistance can receive it at the conclusion of the lesson, and they can also hold video or chat-based feedback sessions. With this strategy, educators may provide high-quality instruction in a more adaptable, quick manner.

**Technology Improves Productivity and Efficiency of Teachers:-**

The use of technology in education can boost the skills of both teachers as it provides them with exposure to a pool of knowledge where they can grab as much knowledge as they can. Collaboration has typically been restricted to pupils in the same classroom or building, and classrooms have been generally solitary environments. Technology now allows for collaboration and communication methods that were before unimaginable. Teachers and trainers use technology to improve their productivity, access valuable digital tools for teaching and training students, and promote student engagement. They can personalize learning and improve the use of language arts.

With the use of technology, teachers are able to improve their teaching methods and tailor learning specifically for their students. This allows all students to benefit from instruction in a way that is most beneficial to them. Productivity can be increased by technology use as it can eliminate the redundancy and repetition of the work performed by teachers and they can communicate more easily in the system. Additionally, the chance of human error can be reduced. Technology can help develop many practical skills in teachers such as creating presentations and enforcing the rules of online etiquette.

**Technology has removed restrictions on time and space:-**

The availability of several online educational programmes has given education a new dimension. Teachers and their students can participate in the same virtual classroom, even though they are geographically far away from one another. Many colleges offer online learning programs as an opportunity, that enables their students and teachers to communicate with each other through the Internet.

Students can have access to a wide range of resources and can highlight, store, and utilise the soft copies in online libraries that contain encyclopedias, books,p eriodicals, and other study materials. It is evident that both teachers and students take full advantage of what technology has to offer. Saving a lot of time is one of the biggest benefits of utilising technology in the classroom. There are several apps available to help teachers take attendance so the task doesn't take up too much of their time.

**Technology can aid in self-paced learning:-**

Students who have trouble picking up new concepts in a regular classroom would lag behind their colleagues. They can, however, move through the learning process at their own pace when using self-paced learning components. Those who require more time or assistance can practise outside of class by doing guided exercises or taking on additional work. Likewise, students seeking a greater challenge might do so. They can access online learning resources whenever they need to since technology is constantly available. These tools can also assist educators to identify which students might require additional support. Students can develop digital literacy and 21st-century skills through the use of self-paced learning using these new technologies, which will benefit them when they enter the profession.

### **Disadvantages Of Technology In Education:-**

There are many concerns about the potential effects of quickly integrating new technologies into classrooms. Some experts argue that technology-based teaching methods can be beneficial, while others claim that they can have negative consequences. Many of the concerns expressed about using technology in education are valid, as most teachers lack the training to integrate it properly into their teaching methods. Some of the challenges associated with this approach include the following:

**1. Higher Management and Training**

Due to the rise of technology, teachers' ability to be effective on a screen and technology platforms is now needed. According to research, three-quarters of teachers believe the internet and other digital tools have increased their workload and significantly expanded the range of topics and abilities about which they must be educated. This is the reason that IT specialists are needed to help, manage, and support teachers and students in setting up, managing, and supporting new technology in the classroom..

**2. Expensive.**

Internet services, computer hardware, printers, Internet browsers, and other technologies are all necessary for education. Acquiring all of these requires a significant investment in technology at school.

**3. Distraction.**

Social media platforms like Twitter, Facebook, and YouTube are gaining a lot of popularity among young people. Students spend a significant amount of time on these websites, which is interfering with their academic performance. Cell phones have also become a major source of distraction in the classroom. When students use their cell phones or other devices in class, their attention spans substantially decrease. Their teacher and lessons become less important as attention is diverted to what they are viewing, playing, or doing on their phones. During lunch breaks or free lectures also students use their cell phones instead of playing or gossiping with their friends.

**4. Makes students cheat.**

Cheating was far more difficult when students were not allowed to use their phones and access the internet during tests. Students have used new technology to cheat in exams and Continuous Assessment Tests (CATs) in order to outsmart the system. As a result, a sizable fraction of students get away with it and graduate with good marks and honours. They go on to become true experts in their fields while not being academically qualified for them.

**5. Students acquire wrong information.**

Many websites and other online platforms are providing the wrong information that is required by the users. Many websites post deceptive material online to increase their traffic, even if the information is inaccurate. As a student, you are sure to come across some of these sites that contain inaccurate information or incorrect details. Some websites replicate stuff from other websites without verifying its authenticity. Readers are misled in any case, which is bad for learners.

**Conclusion**

Technology offers exciting opportunities and has a positive impact on students' and teachers' learning but at the same time, it may also present negative effects on their performance. To achieve excellence, teachers and students should take advantage of technology in a good light while actively eliminating the drawbacks which are pulling back both students and schools from achieving excellence. It is thus time for every country to prioritize the development of a technologically advanced education sector for the future. Students today must master all of the tools available to them if they are to become tomorrow's leaders in science, technology, healthcare, the arts, and other fields. It's an exciting time to be a teacher, and we should take advantage of it by challenging ourselves, our students, our administrators, and lawmakers throughout the nation to support all teachers in maximising their use of the technology tools at their disposal.

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