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Benefit And Challenges Of Digital Technology In Classroom Teaching

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Abstract

Technology has transformed the teaching landscape, enhancing instructional methods and improving student engagement. Digital tools such as interactive smartboards, learning management systems, and artificial intelligence enable educators to deliver personalized and efficient lessons. Online collaboration platforms and gamified learning approaches foster student participation, while virtual and augmented reality provide immersive educational experiences. Additionally, cloud-based resources and adaptive learning technologies support accessibility and flexibility in education. This paper explores the integration of technology in teaching, highlighting its benefits, challenges, and future implications for educators and learners.Technology is at the center of our lives in most environments, and the classroom is no exception. Student in today's classrooms have grown up in a world surrounded by technology.

They do not know what it is like to experience life without cell phones, computers, televisions and other common tech devices.Despite this familiarity with technology, educational environments may be slow to integrate technology into the classroom. Many schools still use analog tools, such as books, notebooks, whiteboards and posters in instructional design. This could be attributed to lack of funding. However, some school districts have invested in instructional technology for the classroom by securing grant funding or donations from community and business partners. This includes smart boards to replace outdated projectors as well as personal digital devices such as iPads or Chromebooks. Technology has the potential to make aspects of education easier and more equitable in many ways. Let's find out how teachers and students can benefit from additional technology in the classroom.

Keywords- Digital Technology, Classroom Teaching, E-Learning, Educational Innovation, Digital Divide, Teacher Training, Smart Education, Online Learning Platforms, ICT in Education, Technology Integration

Introduction

Technology is the application of scientific knowledge to the practical tasks of life. The impact of technology is so tremendous that it practically dominates all spheres of life. If properly employed, technology could make education more productive, powerful more immediate learning, instruction is more scientifically based and access to education more equal. Due to technology, there is profound impact on how a person learns, what he learns and where he learns.

The new technology challenges the educators to reassess their roles and responsibilities in an era of radical change.When technology is used for the purpose of accelerating and facilitating educational processes with certain objectives in view, that technology is called educational technology. When a teacher uses educational technology in the class, he provides concrete (physical) structure to the mental (abstract) objectives. So educational technology is that science of strategies and techniques which leads us to the educational goals. Thus it refers to teaching strategies and techniques.

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BENEFIT OF TECHNOLOGY IN CLASSROOM :

Using technology in your teaching can help many students succeed in their learning. Here are eight top benefits of using technology in the classroom:

Increased Student Engagement-

Students who use technology in the classroom may be more engaged. When schools have a 1:1 initiative (one device for every student), students benefit because technology can be more smoothly integrated into the curriculum. Many teachers use interactive software and programs as learning technologies so that students can respond to questions and lectures digitally. In addition, gamified learning makes education fun and engaging as they earn badges and move through competencies.

Collaboration-

Technology makes it easier for students to collaborate and save their work. Traditionally, when students collaborated, they may have created posters or notes of their work together. However, technology allows students to create digital collections of research and ideas. They can draw and write together in the same program, creating documents and projects that are fully collaborative.

Inclusion-

Technology allows some students to be included in the classroom in ways they have never been before. Many students who receive special education can benefit from technology that helps them write, spell, read and do mathematical computation. Word processors can point out spelling mistakes to students. Adaptive readers highlight text or read aloud to students so they can research and use websites like their peers using technology. As technology becomes more prevalent in schools, students who receive special education and use a laptop for help will not stand out or seem out of place.

Differentiation-

Technology gives students access to a variety of programs and information sources at the simple click of a button. Teachers can find leveled readers or allow students to choose research topics that fit their interests much more easily than by going to the library where resources may be limited. In addition, teachers can assign programs to help students remediate or expand their knowledge so that students can process or investigate topics further. This work can be done during centers or group work, freeing the teacher to attend to individual students or other small groups. Using technology in this way ensures that all the students get what they need.

Productivity-

Analog tools need to be tended to, cared for and replaced. Using technology allows students to access what they need when they need it. They can keep calendars online, and teachers can push due date reminders in a learning management system (LMS). Word processors do not need to be sharpened and online books do not get lost. Technology allows students instant access to all the materials they need, saving time, space and mental effort.

Creativity-

The content available online is endless. Students who are interested in learning about arts, music, videos — and virtually anything else — can find plenty of resources. Any creative endeavor that calls to a student can be supported by technology. Tablets have the capabilities to capture students' sketches. Editing software lets students bring photos to life and manipulate them in creative ways. Technology can enhance creativity rather than inhibit it if students are given choice about what they create.

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Automation-

A huge benefit of educational technology for teachers is automation. You can upload lessons into an LMS for students to access on their own time. Online assessments make grading easy and parents can automatically be messaged when students receive a failing grade. Teachers are always looking for ways to find more time in the day, and technology can assist in big ways.

Future Focus-

We do not yet know what types of jobs will be around when many of our students are adults joining the workforce, but we do know that technology is not going anywhere. Students will need strong technology skills to be successful in whatever job or career they may go into after school. Simply having a mindset that embraces the process of learning and using new technology can make a difference in a student's future.

CHALLENGES OF DIGITAL TECHNOLOGY IN CLASSROOM :

Educational technology is not without its difficulties, notably in implementation and usage. Issues regarding excessive screen time, the efficacy of instructors' use of technology, and concerns about technology fairness are also raised. The content has become more significant as a result of the COVID-19 problem. Educators must generate and comment on online educational content, encouraging students to analyse a topic from several angles in particular. Furthermore, while some students thrive in online learning settings, others struggle due to various factors, including a lack of support. For example, a student who has previously suffered in face-to-face circumstances may suffer far more in the current situation. These people may have been reliant on services that are no longer accessible. However, online education may provide difficulties for instructors, particularly in areas where it has not been the norm Some of the reasons for the learning crises are widely known. One crucial factor is the poor quality of instruction. Teachers frequently lack topic expertise and have received little training. There are technology solutions to this, and they could be helpful in both training instructors and instructing students. Technologies can provide in-service training or a combination of online and in-person training. Additionally, there is evidence that instructors require better incentives. They can educate but lack the motivation to do so. Even though education has always extended outside the conventional classroom, the changing circumstances and scale of digital and remote contexts demand significant adaptation, preparation, support, and engagement. Limited or no contact with students, rethinking engagement, reaching, teaching approaches, appropriately addressing a range of unique needs, motivating students, handling conflicting time demands, and coping with constrained settings may contribute to attentive learning and teaching.

There is also evidence that low-tech interventions for "instruction at the appropriate level" can significantly affect learning. Because low-tech solutions are less expensive and funding restricts impoverished nations, careful investigation is required to establish whether high-tech or low-tech solutions are better or not. Teachers are teaching through video, but they are not always teaching better than they would if they were standing in front of a classroom. More massive open online courses are being offered and taken up, but many are not for primary education and do not address the learning issue. It necessitates hardware and connectivity at home, inaccessible to children in low-income homes. Gamification and other strategies may encourage youngsters to devote more time to studying. Finally, consider that effective learning outcomes may be obtained without using education technologies Some students are having difficulties as a result of this online schooling. Some students come from low-income families and do not have cellphones in their homes; thus, they struggle in school. Millions of youngsters simply do not have access to the internet at home. Students under 15 acquire this complex technology early, yet they struggle with poor vision and backache. Teachers are also having

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difficulty since some are utterly inexperienced with digital technologies. Nonetheless, they do everything possible to educate their children through online classes. College students who take more practical subjects than theoretical subjects face similar challenges because practical knowledge is not attainable in online programmes While technology can be considered yet another avenue for cheating, it is possible to design assignments and assessments so that such an occurrence is unlikely. On the other hand, open-book exams can be used to emphasise problem-solving and mastery over retention. Time-consuming processes such as tracking student attendance and performance can be sped up with automation. Because of their objective nature, engagement tools can assist in expediting grading for writing assignments, conversations, and participation and address typical student inquiries. Without proper information and communication technology equipment, internet/mobile network connectivity, instructional resources, and teacher training, students cannot participate in distant education. Students from resource-poor locations, isolated rural areas, and low-income households are more likely to fall behind. Learners with disabilities or who speak a language other than English at home will require additional individualised assistance.

DISCUSSION :

Digital technologies allow students to experience the globe and go to faraway places from the comfort of their computers. Inviting a guest speaker to talk to the class about their expertise is terrific to spice up any lesson plan. Video conferencing systems make it simple to bring a subject matter expert face-to-face to our classroom, no matter where they are. We can easily organise a classroom video conference with kids from another institution. Online polls and other digital technologies engage all students, timid kids who would not ordinarily raise their hands in class. Online engagement tools enable checking in with students regularly to solicit input on course materials and assignments. Student insights can also be utilised to identify areas where students may be struggling. Student response systems promote digital citizenship in the classroom by allowing students to participate in class while also being rewarded. Schools serve an essential role in our communities, and their closure has far-reaching consequences for the psychological well-being of many families and children. Digital technologies can easily take up this challenge. Online learning allows students to learn at their speed, pause and rewatch videos, and explore course content independently.

Quizzes are another active learning strategy that education technology may help. Students may begin working on a project together in class and fluidly collaborate, communicate, and bounce ideas off one another utilising social media, interactive whiteboards, and other technology. Physical and social constraints allow students to collaborate from anywhere and at any time. Technology has also enabled students to join in spontaneous discussions and obtain immediate answers to any difficulties or questions regarding a subject. Because of self-paced learning and individual variances, students will virtually always complete their work at various times. When this happens, maintaining students' attention is as simple as giving them access to educational films, course-based games, or interactive learning tools. As a result, faster-paced students no longer need to wait for all of their colleagues to finish before continuing their studies, while slower-paced students are no longer tempted to rush through their work. This Education 4.0 programme will be implemented in future schools to improve education and better prepare the next generation of potential. Further, Artificial intelligence will help driverless cars travel more effectively and reduce emissions. Material scientists are using AI to produce biodegradable plastic substitutes and techniques to clean our seas. Recycling and upcycling may appear to be simple procedures, yet they are highly effective instruments for increasing sustainability efforts. Recycling is a game-changer for sustainability, whether it is consumers reusing bottles to decrease plastic waste or businesses fashioning discarded objects into new goods.Future of technologies in education

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Small, medium and large-scale education technology companies have started proliferating in the future and are offering various new digital solutions to academic institutions. This will improve the quality of digital infrastructure across the country, making innovative educational technology more accessible to larger masses. We foresee the removal of all linguistic boundaries and better Online availability of learning resources in regional languages. E-learning and m-learning programmes provide students and teachers access to a vast pool of information content. While technology will play an essential role in shaping the future of education, ensuring that new teaching tools are used effectively will require a new generation of educators who understand the importance of human connection in the classroom. These can lead to a satisfying and engaging career in education. Students gain the knowledge and skills necessary to employ new educational technology to maximise their advantages for today and in the future. In upcoming years, education trends will ride the tide of growing internet capabilities and network capacity, making it easier to incorporate innovative technology into classrooms. However, there is no complete substitute for offline (classroom) teaching & learning. Thus we have reached the era of hybrid teaching and learning, where both online and offline systems are integrated to enhance the outcomes and are envisaged as an outcome of the implementation of Education

CONCLUSION :

Digital technology in the classroom refers to various software and gadgets meant to help students with particular accessibility needs. The most effective way to reduce the number of repetitive, time-consuming duties a teacher undertake is to use technology in the classroom. Educational technology applications may save a lot of time and energy by automating or partially automating day-to-day operations like attendance tracking and performance monitoring. Students are taught how to use technology responsibly and strategically, which can help them make decisions and develop self-discipline. Technology in education can help students to prepare for lifelong learning. These technologies provide students with a virtual world and the freedom to access digital knowledge according to their learning styles. Thanks to digital content production tools that customise teaching and learning, students can study at their own pace. The digital classroom uses electronic devices and software to instruct students and incorporates technology into education. A traditional classroom is transformed into a digital classroom through computers and the Internet. Students can learn more efficiently and track their progress with the help of technology and sophisticated equipment. In the upcoming days, these technologies will successfully be implemented in education to enhance the students' digital learning environment and performance. Modern technologies have been instrumental in complicated data analysis and management to make long-term decisions in areas such as climate change, air and water security, biodiversity protection, catastrophe resilience, etc. These technologies refer to innovation that considers natural resources while also promoting economic and social growth. These aim to dramatically decrease environmental and ecological concerns while producing a long-term product. These technologies reduce degradation, pollution, and other negative environmental effects.

REFERENCE:

- Bates, A. W. (2019). Teaching in a Digital Age: Guidelines for Designing Teaching and Learning (2nd ed.). Tony Bates Associates Ltd.
- Selwyn, N. (2017). Education and Technology: Key Issues and Debates. Bloomsbury Publishing.

- Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher Technology Change: How Knowledge, Confidence, Beliefs, and Culture Intersect. Journal of Research on Technology in Education, 42(3), 255–284.
- Mishra, P., & Koehler, M. J. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. Teachers College Record, 108(6), 1017–1054.
- Means, B., Murphy, R., & Bakia, M. (2013). Learning Online: What Research Tells Us About Whether, When, and How. Routledge.

Reports & Online Sources:

- UNESCO. (2020). Embracing Digital Technology in Education: A Global Perspective. Retrieved from https://en.unesco.org
- OECD. (2021). Teaching in the Digital Age: Challenges and Opportunities. Retrieved from https://www.oecd.org
- U.S. Department of Education. (2017). Reimagining the Role of Technology in Education:
- 2017 National Education Technology Plan Update. Retrieved from https://tech.ed.gov/netp/
- Digital Technologies and Teaching Strategies" by S. Bhargava
- "Educational Technology and ICT in Education" by Dr. Sangeeta Solanki and Dr. Vedmeena Singh
- National Digital Library of India (NDLI)
- Managed by the Ministry of Education, Government of India,