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TECHNOLOGY AS A MEANS TO ATTAIN SUSTANABLE DEVELOPMENT GOAL OF QUALITY EDUCATION

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***ABSTRACT**

Technology has been an essential contributor throughout history and continues to be so in the areas of development and progress, economic expansion, modernization, production and manufacturing, effective medical facilities, education, and the humanities. It is being used as a powerful tool in education during the outbreak of Covid-19. The rapid spread of technology in education, fueled by the Internet, provides innovative ways and support to academicians, students, teachers, and administrators in learning. In the history of education, this sudden shift from offline to online mode is considered the most significant movement. This unplanned and rapid development of digital learning without sufficient resources, technical training, and lack of internet access and learning material may lead to insignificant outcomes for sustainability. Revolution can be brought into education if sustainable technology is integrated with the teaching-learning process as a medium to shape the education system appropriately. Deliberation on education and technology reflects the multiple effects technology has on education. This paper attempts to identify the challenges and opportunities offered by the culmination of technology and education.

**KEYWORDS: Sustainable development, Education, Digital Learning*

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INTRODUCTION

Technology serves as the essential foundation upon which progress today is built. If we look at countries all around the world, we can see that they have significantly improved over the past few decades, and the reason for this improvement is the rise of technology. Technology is one of the most important aspects of our lives since it makes it simpler for us to survive in this world, grants us greater liberty, and opens a variety of doors that lead to alternative ways of existence. We are dependent on technology in every aspect of our lives because we live in an increasingly technological environment. Almost every area of our daily lives has been affected by technology, and education is no exception. Students sit in rows in the front of the classroom as the teacher lectures from a podium. A few students look to be paying attention with their books open in front of them. Several appear bored. Some are chatting with their friends. Today's classrooms don't seem all that different, but instead of books, you might see pupils using laptops, tablets, or smart phones.

Education has been substantially transformed by technology in numerous ways. Technology has made it easier for anyone to obtain an education. Due to the scarcity of books during mediaeval times, only a selected few could benefit from education. Through the Internet, we now have access to a vast amount of resources.

Teachers' and students' roles are beginning to evolve due to technological improvements. The teacher is the major provider of information traditional classroom, while pupils passively receive it. Educators have always emphasized the instructor as a "sage on the stage. Due to the ease with which students can now gather essential information and the expanded educational opportunities given by technology, the teacher's role is gradually shifting as a guide. Schools and institutions around the country are reimagining their learning environments to accommodate the new model of education.

EDUCATION FOR SUSTAINABILITY

According to "American Council on Renewable Energy" (ACE), "Education for sustainability" is defined as "the development of knowledge, skills, beliefs, and worldviews necessary for people to engage in ways that contribute to more sustainable living patterns".

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As a result, it allows people and groups to think about and interact with the world in a variety of new ways. Sustainability education aims to prepare students for a more sustainable and socially just future by encouraging them to act in a variety of contexts. A more sustainable lifestyle must include the interconnectedness of the environmental, social, cultural and economic systems and their interactions.

SUSTAINABLE DEVELOPMENT GOAL 4: QUALITY EDUCATION

The goal of Sustainable Development Goal 4 is to ensure that all individuals have access to inclusive, equitable, and high-quality education, as well as to encourage lifelong learning. This target ensures that by the year 2030, all children, shall have access to free primary and secondary education. In addition, it strives to eliminate gender and economic disparities, provide fair access to low-cost vocational training, and achieve universal access to high-quality higher education.

It is estimated that among those 59 million children, one in five of them has dropped out of school, and recent trends imply that two in five of the youngsters who are not currently enrolled in school will never set foot inside a classroom. The difficulties of quality and equity in education are being addressed more openly by the international community, but the Sustainable Development Goals make it obvious that this gap needs to be closed first and foremost.

OPPORTUNITIES OFFERED BYTECHNOLOGYFOR QUALITY EDUCATION

1. Communicate and Collaborate with learners: Technology has improved people's ability to communicate and collaborate. Historically, classrooms were primarily solitary spaces where pupils could interact solely with those immediately around them. Today's technology enables previously inconceivable levels of communication and collaboration. For example, Students in remote classrooms can follow a team of scientists on an excursion to the Arctic, read their blog postings and photographs, e-mail their queries directly to the experts, and even speak with them in person via videoconference. Students can benefit from their peers in other schools participating in the same expedition in different states. Students can collaborate on collaborative

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assignments using wikis and Google docs. Due to the power of technology, there is no longer a barrier to learning, communicating, and cooperating in the classroom.

2. Open Education: Today, more than ever, people may easily access a wide range of information. Articles produced by individuals, micro-learning courses from professionals, and archives made available by renowned universities are the free materials available to learners in today's cutting-edge, revolutionized world. If you have access to the Internet, the vast information universe on the Internet will have the resources to answer your inquiry, regardless of your location or financial situation. Students today have unprecedented access to educational opportunities due to technological breakthroughs.
3. Online degree: People who must work during the day and therefore are unable to attend traditional classes have found the availability of courses online to be a miraculous solution. Courses, certifications, and degrees are available from a wide variety of academic levels and settings, including courses from the world's top universities to community colleges which become very popular during the COVID lockdown.
4. Technology as a Teaching aid improves students' capacity: Teachers can use digital simulations and models to communicate complex topics more concretely and effectively, and students who are visual or tactile learners can better comprehend the concepts. Medical simulation technology enables students of some of the most complex subjects to practice their abilities in a more secure environment. When digital simulations are immediately applicable to their real-world counterparts, they excel. Students in other time zones can get also benefit from pre-recorded lessons, and they can learn at their own pace and at their own convenience.
5. Advanced Research and Quick Information: Cloud storage and intelligent search engines have made research significantly easier for students nowadays. The days of flipping through stacks of books to find a specific reference is over. Students are able to include a vast amount of information and expertise in their projects as a result of the time saved during research and the facilitated access to a greater variety of sources. Global results may be compared more effectively, allowing sophisticated

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research to advance more rapidly. While new technology and information databases are excellent, a concerted effort must be made to ensure equitable access to them.

6. Effective Assessment: Technology helps teachers prepare practice exercises and monitor student progress. Teachers can continuously assess students using available software. Teachers can regularly monitor progress via digital tests. They can easily and properly update records. Teachers may see if a question was answered correctly and how long it took. These tests let teachers gauge student progress. They can then intervene quickly and effectively. They can also study class trends and compare test results with other classes and schools.
7. Learning at One's Own Pace: Students undoubtedly value the great benefit of being able to learn on their own terms, which is made possible by the rapid development of technology within the academic sector. There are some students who are capable of fast adapting to new ideas and concepts, but there are also those students who need a significant amount of time to internalize a thought. Students in this position are fortunate to have the opportunity to incorporate technology into their educational experience; as a result, they can keep up with the learning pace of their classmates by utilizing guided exercises and online curricula to learn new ideas at their own pace and then practice them again later at home.
8. Enhance Retention of the student: Active participation from students is essential for deep learning. Students who pay close attention and participate actively are more likely to retain the information being taught. Students are transformed from passive bystanders into active participants in a gamified classroom. Thanks to advancements in technology, schoolwork is now a lot more enjoyable. Many different types of learning activities are being used to increase students' ability to remember what they've learned. The use of video games as a teaching tool is gaining popularity and has been the subject of numerous academic studies.
9. Using Artificial Intelligence for quality education- The overall student experience can be vastly improved by the implementation of solutions powered by artificial intelligence, which can lead to an increase in the percentage of students who graduate. The use of AI technology enables the creation of personalized course schedules. It can provide an answer to the queries of both students and faculty. Analyzing students'

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previous learning history can suggest the course and changes needed to improve the efficiency of the learners. The provision of tutoring services to students outside the classroom will result in a reduction in both time and costs. In addition to this, it gives students in faraway locations access to educational content around the clock.

CHALLENGES

1. Lack of necessary gear: eBooks and learning applications are fantastic resources, but they are nearly useless to students who lack the necessary gear. According to a survey by "Ofcom" in 2020, between 1.1 and 1.8 million children do not have access to a computer, tablet, or smartphone at home. Internet access at home is another luxury that low-income families often cannot afford, forcing them to instead use their phones and costly data plans at a time when it might be difficult to cover other essentials like food and utilities.
2. Poor Network Infrastructure: The school lacks the network infrastructure required to handle laptops and notebooks. Sending a classroom full of pupils, a box of computers or notebooks will not be beneficial. A robust network infrastructure necessitates like high-speed, high-quality Wi-Fi at school and at home, in addition to data privacy and security, access to digital resources, and much more are needed. Designing, constructing, and maintaining a robust network infrastructure with considerable care and foresight is essential for the continued efficient and responsible use of technology in education.
3. Lack of Digital skills and proper training: Every day, increasingly innovative and advanced schooling technology is introduced. Teachers must know not only how to maximize their own use of each new tool but also how to instruct their pupils in its application. Providing classrooms with shiny new technology that neither the teacher nor the students can use is unlikely to improve any child's educational experience and asking teachers to train themselves how to utilize a new tool can be frustrating and time-consuming. Training teachers, faculty, and staff professionally may take time and money, but it is required if pupils are to achieve the intended results from their technology experience.

CONCLUSION

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The technology considerably helps teaching and learning. A new era of mobile education is emerging because of the Internet's worldwide reach and the widespread availability of smart devices that can connect to it. Adopting new technologies in education and refining them to better suit student outcomes will undoubtedly present some obstacles. Despite certain drawbacks, the benefits of using technology in the classroom far exceed them. No one should be frightened away from Educational Technology, but we also shouldn't rush headlong into the digital age. After all, we should all be receptive to the possibility of growth and development as a natural byproduct of the educational experience and technology is expected to continue to play a large role in the educational scene for the foreseeable future, regardless of the method through which it is implemented. Everyone will have access to effective and efficient education, but it will be up to educational technologists and instructional designers to seize the new opportunities given by technology.

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