

EDUCATION AND TECHNOLOGY

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Abstract

This article probes the delusion that technology and education commonly tend to generate by projecting visions of transformation. The ongoing reflection on education and technology points to the diverse effect of technology on education. Therefore, this article will identify both possible challenges and opportunities that the integration of technology into education offers. A reflection on both the challenges and opportunities offered by technology in an educational environment prevents that we over- or underestimate the value of technology in education. The primary aim of the article is to illustrate the complex nature of technology as medium. It is pivotal to understand the complex nature of technology in order to integrate it effectively and in a responsible manner into quality education. Building on the argument that technology is not a tool, but rather a medium that is shaping culture today, a discussion on the social embeddedness of technology as one of its outstanding characteristics, is outlined in the first section. In the light of that discussion, the following challenges will be attended to: the commodification of knowledge and education and how technology is the main driving force in this process. The complex nature of technology is introduced to dissect the possible implications for education.

Keywords: internet connectivity, mobile penetration, political mobilization, digital natives, innovation.

INTRODUCTION

The relationship between education and technology has become a defining feature of modern development, fueled by the rapid growth of internet connectivity and mobile penetration.¹ Our world is now interconnected, with approximately 40% of the global population utilising the internet, a figure that continues to rise at an astonishing pace.² While internet connectivity varies across countries and regions, the number of households with internet access in the global South has surpassed those in the global North. Additionally, over 70% of mobile telephone subscriptions worldwide are now

¹ Trends in Telecommunication Reform: Transnational aspects of regulation in a networked society. ITU. 2013.

² The world in 2014: Fact and Figures. ITU. 2013.

found in the global South. It is projected that within the next twenty years, five billion people will transition from having no connectivity to enjoying full access.³

Such technologies have expanded opportunities for freedom of expression and for social, civic and political mobilization, but they also raise important concerns. The availability of personal information in the cyber world, for example, brings up significant issues of privacy and security. New spaces for communication and socialization are transforming what constitutes the idea of 'social' and they require enforceable legal and other safeguards to prevent their overuse, abuse and misuse.⁴ Examples of such misuse of the internet, mobile technology and social media range from cyber-bullying to criminal activity, even to terrorism. In this new cyber world, educators need to better prepare new generations of 'digital natives'⁵ to deal with the ethical and social dimensions of not only existing digital technologies but also those yet to be invented. Education and internet are interrelated to each other. In pandemic time of 2020 online class are very important for students study for that online class internet has help a lot we can any information regarding our subject in internet.

While these technologies have expanded opportunities for freedom of expression, social engagement, and political mobilization, they also give rise to significant concerns. The availability of personal information in the cyberspace raises substantial issues privacy and security. The emergence of new spaces for communication and socialisation has transformed the very concept of "social," necessitating enforceable legal measures and other safeguards to prevent their excessive use, abuse, and misuse. Instances of misuse of the internet, mobile technology, and social media range from cyber-bullying to criminal activities, and even acts of terrorism. In this new digital landscape, educators must equip new generations, often referred to as 'digital natives' with the necessary skills to navigate the ethical and social dimensions of not only existing digital technologies but also those yet to be invented. Education and the internet are intricately intertwined. Especially during the COVID-19 pandemic in 2020, online classes played a vital role in facilitating students' learning, with the internet serving as a valuable resource for accessing subject-related information.

METHODOLOGY

The role of educational technology in enhancing access to education, particularly in impoverished areas and developing countries, is increasingly significant. However, it is important to recognise that educational technology is not solely about the

³ Cohen, J.; Schmidt, E. (2013). *The New Digital Age: Reshaping the Future of People, Nations and Business*. New York, Knopf. ISBN 9780307957139.

⁴ Hart, A.D.; Hart, Frejd S. (2013). *The Digital Invasion: How Technology Is Shaping You and Your Relationships*. Baker Books.

⁵ Prensky, M. (2001). "Digital Natives, Digital Immigrants". *On the Horizon*. 9 (5).

integration of education and technology; it is also influenced by the societal culture in which it is implemented.⁶

In developing countries, technology adoption may be limited, but some countries have made progress in implementing pro-technology policies and advancements in biotechnology. One positive outcome of improved technology in these countries is reduced dependence on developed nations. Strategies such as developing infrastructure, promoting entrepreneurship, and formulating open policies towards technology can be effective in enhancing education and economies in developing nations.⁷

Educational applications and websites are used in digital classrooms to assist students in improving their learning experience. Feedback loops and technology are two critical components of a digital classroom. Feedback loops are essential for students to obtain real-time feedback from their teachers. Teachers can use feedback loops to provide feedback depending on many factors such as student, lesson, group, etc. PPTs, video presentations, e-learning methods, online training, and other digital approaches are increasingly used in the teaching-learning process⁸. As a result, classroom instruction is becoming more participatory. Students may now learn many topics on their own by using internet resources and digital classrooms. In schools, colour charts, graphs, and models describe the finest instruction of the class. However, they are now considered old-fashioned methods of giving education. Education in the classroom is no longer restricted to reading books, writing on the blackboard to explain chapters and concepts, and taking notes in their books.

DISCUSSION

The role of innovation in education is crucial for ensuring equal access to essential tools that can have a significant impact on the lives of both educators and students. To develop effective strategies that cater to the specific needs of a developing society, several important themes can be identified. One such theme is the necessity to provide students with access to appropriate learning materials, particularly in their native languages, as this facilitates better comprehension of subjects. In this context, it is essential for education to adopt a humanistic approach, particularly in light of the increasing prominence of digital technologies.⁹

Quizzes are another active learning strategy that education technology may help.¹⁰ Students may begin working on a project together in class and fluidly collaborate,

⁶ "SAGE Journals: Your gateway to world-class JOURNAL research".

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⁷ Katherin, Marton (1992). "New technologies and developing countries: Prospects and potential" (PDF). econstor.eu.

⁸ G. Vavoula, M. Sharples, P. Lonsdale, P. Rudman, J. Meek Learning Bridges: a role for mobile technologies in education Educational Technology (2007), pp. 33-37

⁹ Rethinking Education: Towards a global common good? (PDF). UNESCO. 2015. pp. 27–28.

¹⁰ Intersection of serious games and learning motivation for medical education: A literature review Research Anthology on Developments in Gamification and Game-Based Learning (2022), pp. 1938-1947

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.

CONCLUSION

Technologies are being developed to address different challenges in topics such as education, health and global poverty, but there are cases in which this is not working or the results achieved are far away from the expectations.

Technology has made it possible for people from all walks of life to have access to different resources. Further, technology is also being used to equip people who need a certain type of assistance to improve their quality of life and help them avail opportunities that would otherwise be inaccessible.

Educational technology makes the teaching process scientific, objective, clear, simple, easy, interesting, and effective. Educational technology gives proper guidance to solve teaching problems.

Thanks to digital content production tools that customize 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.

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