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EDUCATION AND TECHNOLOGY

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Abstract
The development of research on educational technology over the past 50 years is examined in this study. its is accomplished by taking into account current trends and factors that have shaped its evolution. The topic is further investigated by looking at the impact these changes have had on the advancement of pedagogy for distant learning, particularly in the context of adult education. A few major current trends in educational technology research are covered in this paper. They are machine learning, learning design, social learning, personalization, and data-driven improvement. These are worth looking into since they all have roots in early research in the subject and therefore highlight some enduring issues. The study ends by recognizing the larger factors that have shaped the advancement of educational technology as well as the intricacy of the problems that the field faces and the real-world uses for it.

Keywords: Information Technology, Education, theories, distance learning, technology enhanced learning

Introduction

Educational technology, sometimes shortened to EduTech or **EdTech**, is a wide field. Therefore, one can find many definitions, some of which are conflicting. Educational technology as an academic field can be considered either as a design science or as a collection of different research interests addressing fundamental issues of learning, teaching and social organization. Educational technology as practice refers to any form of teaching and learning that makes use of technology. Nevertheless, there are a few features on which most researchers and practitioners might agree:[1]

1. Use of technology is principled: Technology means the systematic application of scientific knowledge to practical tasks. Therefore, educational technology is based on theoretical knowledge drawn from different disciplines (communication, education, psychology, sociology, philosophy, artificial intelligence, computer science, etc.) plus experiential knowledge drawn from educational practice.

[1] Alessi, Stephen. M. & Trollop, Stanley. R., (2001) Multimedia for Learning (3rd Edition), Pearson Allyn & Bacon, ISBN 0-205-27691-1.

2. Educational technology aims to improve education. Technology should facilitate learning processes and increase performance of the educational system(s) as it regards to effectiveness and/or efficiency.

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. 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. 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 found in the global South.[2] It is projected that within the next twenty years, five billion people will transition from having no connectivity to enjoying full access.

Education and technology in developing countries

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

Various organizations, including charities like One Laptop per Child, are dedicated to providing infrastructures that enable disadvantaged individuals to access educational materials. The OLPC foundation, supported by major corporations and originating from MIT Media Lab, has a mission to develop a $100 laptop for delivering educational software. These laptops have been made widely available since 2008, either sold at cost or distributed through donations.

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.[3]

In Africa, the New Partnership for Africa's Development (NEPAD) has launched an " e-school program" with the ambitious goal of providing computer equipment, learning materials, and internet access to all 600,000 primary and high schools within a decade. Another notable initiative, nabuur.com, supported by former US President Bill Clinton, utilises the internet to facilitate cooperation among individuals on social development issues.

India is also making advancements in educational technology by implementing initiatives that deliver learning materials directly to students. In 2004, the Indian Space Research

[2] Trends in Telecommunication Reform, Special Edition. Fourth-generation regulation. ITU. 2014.
[3] Katherin, Marton (1992). "New technologies and developing countries: Prospects and potential" (PDF). econstor.eu.

Organisation launched EDUSAT, a communications satellite that provides cost-effective access to educational materials, reaching a larger portion of the country's population.[4]
Educational tech (EdTech), encompasses information and communication technology (ICT) and has the potential to address various challenges, such as the absence of teachers, by providing improved lessons, teacher training, and student motivation. In recent years, the cost of educational technology has significantly decreased, making it more accessible even in economically disadvantaged countries. Tablets, for example, can now be purchased for as low as $28, and India offers the most affordable data plans worldwide. This affordability has given rise to new ventures like ExtraClass, which aims to provide affordable education to 260 million children.

Effects of Technology on Education

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.[5]
An example of the application of innovative technology in education is the implementation of an AI-based tutoring system at an entry-level IT school in Pensacola by the U.S. Navy. This system incorporates a human tutor who closely monitors the progress of the students and provides individual assessments. According to the Navy, students who utilised the digital tutoring system consistently achieved higher test scores compared to those who did not use the digital tutor. The adaptive nature of the technology appears to have a positive impact on students, as it can assist individuals with diverse learning styles and better equip them to learn independently.[6]

CONCLUSION

In this essay, I have claimed that the subject of educational technology has a long history and has been influenced by many different academic disciplines. Such advancements are not produced in a vacuum; theoretical influences from a wide range of domains are present. Innovative methods of assisting students and instructors in challenging environments are the focus of educational technologists' work. The report posits that an oversimplified interpretation, according to which educational technology research is little more than

[4] "EDUSAT". ISRO. Archived from the original on 2012-12-27. Retrieved 2013-01-01.
[5] Rethinking Education: Towards a global common good? (PDF). UNESCO. 2015. pp. 27–28. ISBN 978-92-3-100088-1.
[6] "Here's how technology is shaping the future of education". Business Insider. Retrieved 2018-11-11.

technological evangelism or is inadequate in terms of the learning theories it draws upon to create high-quality learning experiences, is not credible.

Referring back to our primary research topic, the focus of this paper's reflection on the evolution of educational technology has been on what influences development and what changes have occurred. Technology development and societal changes have both had an impact on the development of educational technology research. This has been demonstrated by the debate over whether technological advancements drive changes in educational technology or whether societal changes drive the need for new (technological) solutions to educational problems. All that's left in educational technology research and practice is a more comprehensive and sophisticated grasp of the intricacy of technology-supported teaching and learning.

References

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.
3. Trends in Telecommunication Reform, Special Edition. Fourth-generation regulation. ITU. 2014.
4. Cohen, J.; Schmidt, E. (2013). The New Digital Age: Reshaping the Future of People, Nations and Business. New York, Knopf. ISBN 9780307957139.
5. Hart, A.D.; Hart, Frejd S. (2013). The Digital Invasion: How Technology Is Shaping You and Your Relationships. Baker Books.
6. Prensky, M. (2001). "Digital Natives, Digital Immigrants". On the Horizon. 9 (5).
7. Rethinking Education: Towards a global common good? (PDF). UNESCO. 2015. pp. 27–28. ISBN 978-92-3-100088-1.
8. Hart, A.D.; Hart, Frejd S. (2013). The Digital Invasion: How Technology Is Shaping You and Your Relationships. Baker Books.
9. Prensky, M. (2001). "Digital Natives, Digital Immigrants". On the Horizon. 9 (5).
10. "SAGE Journals: Your gateway to world-class journal research". doi:10.1177/0270467616644383. S2CID 147481824. {{cite journal}}: Cite journal requires |journal= (help)
11. Katherin, Marton (1992). "New technologies and developing countries: Prospects and potential" (PDF). econstor.eu.
12. "African nations embrace e-learning, says new report". PC Advisor. 16 October 2012. Retrieved 2012-10-24.