



ROLE OF TECHNOLOGY IN FACILITATING MULTIDISCIPLINARY LEARNING:AN ANALYTICAL STUDY

NEHA SHUKLA

RESEARCH SCHOLAR, DEPARTMENT OF EDUCATION, DR. BHIMRAO AMBEDKAR UNIVERSITY, AGRA.

NEHA BAGHEL

RESEARCH SCHOLAR, DEPARTMENT OF EDUCATION, DR. BHIMRAO AMBEDKAR UNIVERSITY, AGRA.

ABSTRACT:

This paper explores the significance of the role of technology in providing multidisciplinary learning and emphasizes on how does multidisciplinary learning through technology helps in the universal development of learners?

As we all know that in today's time technology has an important place in every field. Technology has made access to every field easy multidisciplinary learning has become very accessible through technology, it works on the tools, gadgets and various scientific principles and rules so that the set objectives can be achieved in less time and with less efforts.

There are many examples based on our analytical study which tells us about the role of utility of technology. Many studies indicate that technology is very useful in enhancing students' capability and adaptability for multidisciplinary learning. There are many applications, tools or innovative technologies to improve the quality of education and enhance student's skills. In this paper, an attempt has been made to explain the importance of the role of technology in multidisciplinary learning by analyzing various research journals and articles.

KEYWORDS:

TECHNOLOGY, MULTIDISCIPLINARY LEARNING.

INTRODUCTION:

In the present times the importance of technology is immense. Technology makes any work simple, easy and organized. First of all, we have to understand what is technology? Only then we can understand the roll of technology well.

"Technology is the use of tools, equipment and scientific methods and knowledge to make work easier and interesting".

Multidisciplinary learning also known as cross-disciplinary or interdisciplinary learning, it is a method of learning that integrates knowledges, skills and perspectives from different disciplines. It was introduced in NEP-2020. Its aims to develop social, physical, emotional, intellectual and moral development of the learners. Multidisciplinary learning is helpful for developing critical thinking and problem-solving ability also. In the conventional paradigm education divided into many disciplines.

However, as the world becomes increasingly interconnected and complex, the need for a more holistic approach to learning has become evident, technology plays a vital role to fulfill this need.

METHODOLOGY:

This study based analytical method. This study used secondary data which were collected from 15 research papers, articles and reports.

RESULT:

In this paper, an attempt has been made to explain the importance of the roll of technology in multidisciplinary learning by analyzing various research papers and articles and reports.

By this analytical study found, that the roll of technology for multidisciplinary learning is very important technology plays an important role in making multidisciplinary learning very accessible along with helping students learn on their own. Technology has become a powerful catalyst in facilitating the accessibility of multidisciplinary learning. It provides a seamless pathway for integrating, connecting, collaborating and disseminating knowledge, it enables better access and integration of knowledge. It integrates diverse streams of knowledge. Other gadgets of technology like virtual lab, web 2.0, online repositories etc. Play a crucial role in delivering and sharing the knowledge to students and teacher of various subjects easily. These tools and gadgets facilitate the way to effectively synthesize diverse information by breaking down the traditional barriers between students and the region.

DISCUSSION:

This analytical study is the extract of many researches which are focused on the role of technology in facilitating multidisciplinary education. During the global pandemic COVID - 19 technology has emerged in every field even the education system is focusing on digital learning. Along

with digital learning the trend of multi- subject education is also growing rapidly because in today's challenging and modern time multidisciplinary education has become very necessary. Multidisciplinary learning promotes a comprehensive view of education by integrating knowledge, methods and principles of different disciplines. Technology plays an important role in advancing this process and provide various resources like innovative tools, online learning platforms, learning applications, real time discussion forum etc. Which breaks the language and region barrier by promoting effective communication. Through various devices thereby boosting collaboration. Many collaborative applications such as video conferencing, google workspace, slack promote interaction between learners, which is important for multidisciplinary learning. Many tools provide real time discussion, feedback and brain storming session also, this makes multidisciplinary learning easier to a great extent.

CONCLUSION:

This study highlights the role of technology in facilitating multidisciplinary learning. After analyzing various papers, articles and reports the findings highlight several key contributions of the technology, while also identifying challenges and areas for improvement. Based on the analysis done in this study, it can be said that technology has become an important means of knowledge in every field, in the field of education too.

Many revolutionary changes have come about through technology, due to which multidisciplinary learning has been promoted and its access has become easier. Multidisciplinary learning is one of the important needs of today's time. It is impossible to fulfill this need without the support of technology. The contribution of technology is incomparable in promoting and facilitating multidisciplinary learning.

At present in the absence of technology, innovation in the integration and promotion, dissemination of knowledge cannot even be imagined.

However, to use its full potential of the power of technology, educators, technologists and policy makers must work collaboratively to address existing challenges and create equitable and effective learning environments that can make multidisciplinary learning more accessible and adaptable.

REFERENCES

1. Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*. Retrieved from <http://www.keaipublishing.com/en/journals/sustainable-operations-and-computers>
2. Kumar, M., & Rani, N. (2023). An overview on need and importance of multidisciplinary development of teachers. *International Journal of Literacy and Education*, 3(1), 76–79.

3. Vali, I. (2022). The impact of technology on collaborative learning. *European Proceedings of Educational Sciences*.
4. Scanlon, E., & Conole, G. (2018). Interdisciplinarity in technology-enhanced learning: An interview study. *Journal of Interactive Media in Education*, 2018(1), 12, 1–8. <https://doi.org/10.5334/jime.476>
5. Cai, C., Yunus, M. M., Rafiq, K. R. M., Hameed, H., & Ediyanto, E. (2024). A systematic review on multidisciplinary technological approaches in higher education. *International Journal of Advanced Research in Future Ready Learning and Education*. <https://www.akademiabaru.com/submit/index.php/frle/index>
6. Oyetade, K. E., Zuva, T., & Harmse, A. (2020). Technology adoption in education: A systematic literature review. *Advances in Science, Technology and Engineering Systems Journal*, 5(6), 108–112.
7. Oyewale, G. M., & Familugba, J. O. (2021). The use of technology in teaching and learning of history in secondary schools. *American Journal of Multidisciplinary Research & Development (AJMRD)*, 3(6), 43–48. Retrieved from <http://www.ajmrd.com>
8. Hidiroğlu, Ç. N., & Karakaş, A. (2022). Transdisciplinary role of technology in STEM education. *Malaysian Online Journal of Educational Technology*, 10(4), 276–293. <https://doi.org/10.52380/mojet.2022.10.4.411>
9. Diola, G. O., & Omaña, E. F. (n.d.). The role of digital technology in shaping learning styles among Filipino students. *International Journal of Multidisciplinary Research and Publications*. ISSN (Online): 2581-6187.
10. Krishnaveni, R., & Purusotham, B. (2023). NEP 2020 emphasis on multidisciplinary and interdisciplinary approach. *UGC Care Journal*, 47(2), No. 6, April–June.
11. Aarnio, H., Clavert, M., Toom, A., & Kangas, K. (2024). Pedagogical infrastructures in multidisciplinary technology education. *International Journal of Technology and Design Education*. <https://doi.org/10.1007/s10798-024-09915-4>
12. Janssen, A., Robinson, T., Brunner, M., Harnett, P., Museth, K. E., & Shaw, T. (2018). Multidisciplinary teams and ICT: A qualitative study exploring the use of technology and its impact on multidisciplinary team meetings. *BMC Health Services Research*, 18, 444. <https://doi.org/10.1186/s12913-018-3242-3>
13. Schindler, L. A., Burkholder, G. J., Morad, O. A., & Marsh, C. (2017). Computer-based technology and student engagement: A critical review of the literature. *International Journal of Educational Technology in Higher Education*, 14, 25. <https://doi.org/10.1186/s41239-017-0063-0>

14. Ghosh, S. R. C. (2023), Integration of technology in education in NEP-2020. *A Journal on Multidisciplinary Studies, A Peer Reviewed Journal*, X, Annual Issue. ISSN: 2278-2699.

15. Kalyani, D. L. K. (2024). The role of technology in education: Enhancing learning outcomes and 21st-century skills. *International Journal of Scientific Research in Modern Science and Technology*, 3(4). <https://doi.org/10.59828/ijrmst.v3i4.199>

16. Hardiansyah, A. (2024), The role of digital technology in improving literacy skills of primary school students. *International Journal of Social and Education (INJOSEDU)*, 1(4), 1104–1116.

17. Williams, T. (2019), The role of technology in facilitating multidisciplinary collaboration in higher education. *International Journal of Open Publication and Exploration (IJOPE)*, 7(2), July–December. Retrieved from <https://ijope.com>.