International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Role of Mobile Learning in Higher Education in India

Manoj Chandra Barman

MA, Department of Education, Cooch Behar Panchanan Barma University, Cooch Behar, West Bengal, India

Abstract

Mobile learning (m-learning) has emerged as a transformative approach in higher education in India, driven by the rapid growth of smartphones, affordable internet access, and digital initiatives. This study explores the role of mobile learning in enhancing teaching–learning processes in Indian higher education institutions. It highlights how mobile devices enable flexible, accessible, and personalised learning experiences, allowing students to access educational resources anytime and anywhere. Mobile learning supports collaborative learning through apps, online platforms, and social media, thereby improving student engagement and participation. Mobile learning has revolutionised higher education by providing flexibility in time and place, allowing students and educators to engage in learning anytime, anywhere via internet connectivity. It supports personalised learning by catering to diverse learning styles and needs, and enhances student engagement through digital platforms and interactive content. Moreover, M-learning offers a practical solution for students in rural and underprivileged areas, where access to quality education and higher education institutions is limited by financial and infrastructural constraints. The National Education Policy 2020 emphasises the integration of technology, including mobile learning, to make education more inclusive and accessible. Similarly, Sustainable Development Goal 4 emphasises the importance of ensuring quality education and lifelong learning opportunities for all, a goal strongly supported by mobile learning initiatives. Furthermore, aligning with global standards and emerging technologies such as artificial intelligence and augmented reality can enhance the quality and competitiveness of Indian higher education. In the context of Viksit Bharat @2047, mobile learning is expected to play a vital role in building an inclusive, skilled, and knowledge-based society

Keywords: Mobile Learning (M-learning), Digital Learning, Higher Education, Information and Communication Technology (ICT).

Introductions

Along with the country's progress, the education system is incorporating new technologies and teaching and learning methods, with mobile learning among them. Mobile learning is known as M-learning. It is a learning process in which learners and others acquire various kinds of knowledge, skills, techniques, and methods. It helps learners and individuals to achieve educational and personal goals in their lives. M-learning continues to revolutionise higher education today by integrating portable devices such as smartphones and tablets into the learning process. Mobile learning has contributed significantly to the flexibility of time and place for students and educators. And this way, institutions can offer more personalised learning through technology, addressing diverse learning styles and needs. By mobile

(device), any individual or learner can learn any kind of knowledge at any time and place with the help of the internet. In rural areas where quality education is lacking and people are excluded from it, residents often face financial problems, and these places don't have many higher education institutions. That's why M-learning offers effective ways to deliver quality education through mobile devices. Mobile learning has significant implications for traditional classroom teaching methods, including improved access to educational resources and enhanced student engagement. But sometimes m-learning faces barriers and challenges in its implementation as well. Challenges such as the digital divide, technological infrastructure, and resistance to change are also discussed, providing a comprehensive understanding of the mobile learning landscape in India. The NEP 2020 aims to transform the Indian education system. It highlights the use of technology, including mobile learning, to make education more accessible and inclusive. Mobile learning allows students to learn anytime, anywhere, catering to diverse needs and helping make education more widely available. SDG-4 focuses on ensuring quality education for everyone and promoting lifelong learning. Mobile learning supports this goal by providing continuous learning opportunities and bridging the gap between urban and rural education. With mobile devices, students can access educational resources, participate in online courses, and engage with interactive content, promoting lifelong learning. Using global standards in mobile learning ensures quality education that competes internationally. Indian higher education must align with global best practices, leveraging advanced technologies such as artificial intelligence and augmented reality to create engaging and personalised learning experiences. By following global standards, Indian institutions can improve their curriculum and better prepare students for a globalised world. Biksit Bharat @2047" envisions a developed and self-reliant India by the 100th anniversary of its independence. Education is key to this vision, and mobile learning plays a vital role. By 2047, mobile learning can make higher education more accessible, flexible, and inclusive. It can empower students with future-ready skills and contribute to the nation's growth. Mobile learning also encourages continuous learning, which is essential for staying competitive in a fast-changing job Market. In conclusion, mobile learning in higher education is crucial for achieving the goals of NEP 2020, SDG-4, and "Biksit Bharat @2047." It has the potential to transform education in India, making it more inclusive, equitable, and aligned with global standards.

Significance of the Study

Mobile learning, also known as M-learning, plays a significant role in higher education by providing opportunities for learners to interact with educational content and goals.

There are many important aspects of mobile learning in higher education that affect students, educators, and institutions.

- One of the main significances of mobile learning is its flexibility in higher education. Students are no longer limited to traditional or modern classroom settings. Instead, they can access course materials, lectures and resources from anywhere and at any time. This flexibility is also useful for non-traditional students, such as working parents. Mobile learning also facilitates learning by allowing Students to learn at their own speed and review content as needed.
- Mobile learning facilitates personalised learning experiences. A variety of apps and Platforms that help students use e-books, interactive simulations, video lectures, and Quizzes to enhance their understanding of complex subjects. This personalisation helps to address the diverse needs of students and improve learning outcomes.

- Collaboration is another key aspect of mobile learning. Collaboration offers learning. Through social media platforms, messaging apps, and collaborative tools like Google Docs and Microsoft Teams, students can work together on projects, share ideas, and receive feedback in real time. And m- learning increases learners' motivation.
- M learning enhances students' engagement in academic tasks, provides a unique learning Experience, facilitates information collection and promotes online learning.
- M -learning plays a very crucial and significant role in the skills development of learners and individuals. By providing some kind of online technology, they have helped them develop their skills (communication skills).
- By using learning devices, every learner and individual can learn through various kinds of educational applications and online teaching strategies. That kind of learning saves time and Money towards educational courses.
- The above discussions are very significant for higher education in India. It helps the students in a Broader field. It provides flexibility in education and increases students' ability to use their mobile devices. Finally, Mobile learning is playing a significant role in higher education.

Objectives of the Study

1. To analyse the impact of mobile learning on student satisfaction.
2. To study the sustainable use of mobile learning.
3. Determine the challenges of mobile learning in higher education in India.
4. To analyse the role of mobile learning in higher education in India.

Methodology of the Study

"Role of Mobile Learning in Higher Education in India", a descriptive survey methodology is most suitable. This approach helps in understanding the current situation, usage, and impact of mobile learning among students and teachers in India. The study can collect primary data through questionnaires or online surveys to gather information about learners' experiences, preferences, and challenges related to mobile learning. In addition, secondary data from books, research articles, and policies such as the National Education Policy 2020 can be used to support the findings. The collected data can then be analysed using simple statistical methods, such as percentages and charts. This methodology is effective because it provides a clear, practical understanding of how mobile learning influences higher education and what improvements are needed.

Data Collection

Bhatt et al. (2024) examined the quality and sustainable use of mobile learning in higher education. The study used a convenience sampling method with questionnaires and SPSS for data analysis. The findings reveal that student satisfaction depends on process and content quality, whereas sustainable use depends on resource availability.

Kumar & Pande (2023) conducted a systematic review to analyse the impact and scope of mobile learning in higher education in India. Using quantitative methods, including questionnaires and surveys, the study found that mobile learning enhances student motivation and performance through flexible, personalised education. However, it also faces challenges like poor internet connectivity, inadequate infrastructure, and policy-related issues.

Asadullah et al. (2023) conducted a systematic review to examine the impact of mobile learning on higher education and its contribution to sustainability. Using the PRISMA method, meta-analysis, and bibliometric analysis, the study found that mobile learning has significantly grown and plays an important role in improving education and promoting sustainability.

Abduljawad & Ahmad (2023) analysed the challenges of mobile learning in education using content analysis. The study found that mobile learning faces issues such as outdated, traditional software, usability challenges, device technical limitations, and accessibility problems.

Uddin et al. (2022) examined the impact of mobile learning for capacity building in rural development. Using quantitative methods, including structured interviews, questionnaires, and random sampling, the study found that mobile learning is an effective tool for communication and learning among rural development professionals.

Shah et al. (2021) investigated the role of mobile learning in enhancing university students' academic achievement. Using quantitative methods such as surveys and questionnaires, along with percentage and mean-score analyses, the study found that mobile learning improves student engagement, facilitates information collection, and promotes effective online learning experiences.

Saikat et al. (2021) conducted a systematic review to examine the challenges of mobile learning in science and technology courses during the COVID-19 pandemic. Using qualitative methods such as surveys and content analysis, the study found challenges, including a lack of interaction between learners and educators, assessment issues, poor connectivity, reduced attention, and technological difficulties.

Safrinawati & Mayasari (2021) examined the factors influencing student satisfaction with mobile learning in higher education institutions. Using a quantitative survey and questionnaire, the study found that ease of use, internet speed, and layout design significantly affect student satisfaction, whereas smartphone portability has a significant impact.

Navaneetha & K (2021) explored postgraduate students' opinions on mobile learning as a classroom teaching tool. Using mixed methods and Google Forms, the study found that students have a positive attitude toward M-learning, considering it an effective teaching–learning tool, although the role of teachers remains essential.

Chetri, K. (2020) discussed the challenges of mobile learning in education using quantitative survey and questionnaire methods. The study found that mobile learning faces issues such as technical problems, usability challenges, learner distraction, and the need for proper integration into the curriculum.

Samant, S. (2019) examined the awareness and role of mobile learning among higher secondary students. Using quantitative survey and questionnaire methods, the study found that students have a moderate awareness of M-learning and primarily use mobile internet for social networking, entertainment, and education.

Hassan & Mirza (2019) examined the role of mobile learning in improving educational attainment in conflict-affected areas like Jammu and Kashmir. Using qualitative content analysis, the study found that mobile learning helps students complete their syllabus on time and maintain education quality, despite various challenges.

Data Analysis

Mobile learning in higher education in India enhances student motivation, performance, and Engagement through personalised, flexible experiences. However, its sustainable use depends on the availability of resources, such as internet connectivity. Challenges include technical issues, Curriculum integration, and

policy concerns. Despite obstacles, mobile learning has proven Beneficial during COVID-19, improving the quality of education and student satisfaction. Addressing Teacher training, effective technology integration, and connectivity issues are crucial for maximising its impact.

Conclusion

Mobile learning has become a crucial component of modern education, especially in higher education in India. It significantly impacts student satisfaction by offering flexibility, accessibility, and personalised learning experiences, allowing Students to access educational resources at their convenience and enhancing their Overall satisfaction and engagement with their studies. The sustainable use of Mobile learning depends on the availability of reliable technological infrastructure and High-Quality content, requiring educational institutions to continuously adapt to Technological advancements and ensure equitable access for all students, thereby preventing digital divides. Sustainability also involves promoting environmentally Friendly practices in the use and deployment of mobile devices. However, challenges exist, including technological disparities like inconsistent internet connectivity and Limited access to devices, particularly among students from lower socio-economic Backgrounds. Comprehensive teacher training and support are needed to effectively integrate mobile learning into the curriculum, alongside efforts to address concerns about Content quality and digital literacy among students and educators.

Reference

1. Bhatt, K., Rajdev, A & Bhatt, K. (2024). Analysis Of Quality of Mobile Learning (QML) AndIt's Sustainable Use: Task Technology Fit & Expectation Confirmation Approach. Educational Administration: Theory and Practice, 30(4), 4170-4181. Doi:10.53555/Kuey.V30i4.2172.
2. Kumar, D., & Pande, B. (2023). Influence and Scope of Mobile Learning in Higher Education: A Systematic Literature Review. Advances In Mobile Learning Educational Research,3(2),873885. DOI: 10.25082/AMLER.2023.02.014.
3. Mohammad, A., Yeasmin, M., Alam, A., Alsolami, A. & Ahmad, N. (2023). Towards ASustainable Future: A Systematic Review Of Mobile Learning And Studies In HigherEducation. Sustainability,15(17), 1-17. Doi.Org/10.3390/Su151712847.
4. Mohammad, A., & Ahmad, A (2023). An Analysis of Mobile Learning (M-Learning) InEducation.9(2), 145-152.Doi 10.5281/Zenodo.7665894.
5. Ramu, K., Ramachandran, M. Prashant, V., & Nanjundan, P.(2022). Application Of Mobile Learning Methods In The 21stCentury, Journal On Innovations In Teaching AndLearning.1(1),9-14. DOI:Https://Doi.Org/10.46632/Jitl/1/1/2.
6. Shah, N.H., Noor, A.E., & Akhtar ,M. (2021). Role Of Mobile Learning In Enhancing Academic Achievement Of Students At University Level, Global Educational Studies Review.VI(II),213-23. DOI: 10.31703/Gesr.2021(VIII).21
7. Saikat, S., Dhillon, J., Ahmad , W.F., & Jamaluddin, R.(2021). A Systematic Review Of The Benefits And Challenges Of Mobile Learning During The Covid-19 Pandemic, Education Science.11(459),2-14. Https://Doi.Org/10.3390/Educsci11090459.
8. Navaneetha, M., & K,M. (2021). Opinion Of Students On Mobile Learning As Tool For Class Room Teaching And Learning, Ip Journal Of Paediatrics And Nursing Science.4(3),90-92. Doi:https://Doi.Org/J.Ijpns.2021.019.

9. Zhang, J., & Crompton, H. (2021). Status And Mobile Learning In English LanguageAcquisition: A Systematic Review Of Mobile Learning From Chinese Databases,Asian Journal Of Distance Education. 16(1),1-15. Retrieved From Http://Www.Asianjde.Org
10. Chaterjee, S., Majumder, D., & Mishra , S. & Damasevicius, R.(2020). Adoption Of MobileApplications For Teaching-Learning Process In Rural Girls' Schools In India: AnEmpirical Study, Education And Information Technologies. 25 ,4057-4076. Https://Doi.Org/10.1007/S10639-020-10168-6.
11. Chetri, K.(2020).Mobile Learning In Education: Advantage & Challenges ,InternationalJournal Of Management. 11(11), 1427-1430.Doi: 10.34218/IJM.11.11.2020.134
12. Samant, K.(2019).To Study The Awareness Of Mobile Learning In Higher SecondaryStudents, Thank India Journal.22(40),202-204.
13. Hassan, M.M.,& Mriza, T.(2019).Mobile Learning: An Approach To Improve The Quantity OfEducational Attainment In Conflict Hits Areas Like J&K, Journal On Today's Ideas –Tomorrow's Technologies. 7(2),118-125. Doi: 10.15415/Jotitt.2019.72007 .