ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

An Investigation into the Effectiveness of Mobile Learning Platforms in Selected Secondary Schools in Kapiri Moshi District, Zambia

Sabi Isabel*

[*]Dmi St Eugene University.

Abstract

This study examined the effectiveness of mobile learning platforms in selected secondary schools in Kapiri Mposhi District, Zambia, within the context of growing global digital education trends and initiatives such as Learning Passport Zambia. Guided by Constructivism, the Technology Acceptance Model (TAM), and Connectivism, the study used a mixed-methods approach, collecting quantitative data from 300 students and qualitative insights from 15 teachers and 10 administrators across 10 schools representing urban, peri-urban, and rural settings. Findings showed a high level of smartphone ownership (87%), providing a strong foundation for mobile learning; however, awareness of formal platforms like Learning Passport Zambia was notably low (22%). Students who engaged in mobile learning reported improved understanding, engagement, and flexibility, indicating strong perceived effectiveness. Despite this potential, the study identified a significant implementation gap driven by infrastructural challenges (high data costs, poor connectivity, unreliable electricity), institutional barriers (lack of policies, limited teacher training, and phone restrictions), and pedagogical concerns such as student distraction. The study concludes that while mobile learning holds considerable promise, its impact is currently constrained by the absence of a coordinated implementation strategy, and it recommends collaborative efforts among stakeholders to improve infrastructure, policy development, and teacher capacity for effective integration.

Keywords: Mobile Learning, M-Learning, Effectiveness, Secondary Schools, Kapiri Mposhi, Zambia, Learning Passport, ICT in Education, Digital Divide, Urban-Rural Disparity.

1. INTRODUCTION

Background of the Study

The rapid advancement of digital technology has transformed the education sector globally, leading to increased adoption of innovative teaching and learning approaches. One such innovation is mobile learning (m-learning), which utilizes mobile devices such as smartphones and tablets to facilitate access to educational content anytime and anywhere. Mobile learning has become particularly important in developing countries, where traditional educational resources may be limited but mobile device penetration is relatively high.

Globally, mobile learning has gained recognition for its ability to enhance flexibility, accessibility, and student engagement. Educational institutions are increasingly integrating digital platforms into their systems to support both formal and informal learning. The COVID-19 pandemic further accelerated this shift, as schools were forced to adopt remote learning strategies, many of which relied heavily on mobile technologies.

In Zambia, the government has made efforts to promote digital education through initiatives such as Learning Passport Zambia. These initiatives aim to provide students with access to

ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

digital learning materials and support continuous learning beyond the classroom. However, despite these efforts, the effectiveness of mobile learning platforms remains uncertain due to various infrastructural and institutional challenges.

Kapiri Mposhi District presents a unique setting for examining mobile learning. The district includes urban, peri-urban, and rural schools, each with different levels of access to technology and resources. While some students have access to smartphones and internet connectivity, others face significant barriers such as high data costs, poor network coverage, and limited access to electricity.

Although mobile learning holds great potential, its actual implementation and effectiveness in secondary schools are not well understood. Many students use mobile devices primarily for social communication rather than structured learning. Furthermore, teachers may lack the necessary training and support to integrate mobile learning into their teaching practices effectively.

This study therefore seeks to investigate the effectiveness of mobile learning platforms in selected secondary schools in Kapiri Mposhi District. It focuses on access, usage, perceived benefits, and challenges, with the aim of providing insights that can improve digital learning strategies in Zambia.

Statement of the Problem

Despite the increasing availability of mobile devices among students, the effective use of these devices for educational purposes remains limited in many secondary schools in Zambia. While mobile learning platforms have the potential to improve teaching and learning, their implementation is often hindered by various challenges.

In Kapiri Mposhi District, there is a noticeable gap between the availability of mobile devices and their use for structured learning. Many students own smartphones, yet only a small proportion are aware of or actively use formal educational platforms such as Learning Passport Zambia. Instead, mobile devices are frequently used for non-academic purposes.

Additionally, infrastructural challenges such as unreliable internet connectivity, high data costs, and inconsistent electricity supply limit students' ability to access online learning resources. Institutional factors, including lack of clear policies, insufficient teacher training, and restrictions on phone usage in schools, further complicate the integration of mobile learning.

As a result, the potential benefits of mobile learning are not fully realized. Without proper implementation strategies and support systems, mobile learning may fail to enhance educational outcomes effectively. This study therefore aims to address this gap by examining how mobile learning platforms are used and identifying the factors that influence their effectiveness.

Objectives of the Study

General Objective

To assess the effectiveness of mobile learning platforms in selected secondary schools in Kapiri Mposhi District.

Specific Objectives

- To determine the level of access to mobile learning platforms among students.
- To examine how frequently mobile devices are used for learning purposes.
- To assess the perceived benefits of mobile learning.
- To identify challenges affecting the use of mobile learning platforms.

ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

Research Questions

- What is the level of access to mobile learning platforms among students?
- How frequently are mobile devices used for learning?
- What benefits are associated with mobile learning?
- What challenges hinder effective mobile learning?

Significance of the Study

This study is important for several stakeholders. For policymakers, it provides insights that can guide the development of effective digital education policies. For school administrators, it highlights ways to improve the integration of mobile learning into school systems. Teachers can benefit from understanding how to use mobile technologies to enhance teaching, while students may gain improved learning experiences.

Scope of the Study

The study focuses on selected secondary schools in Kapiri Mposhi District. It examines mobile learning among students, teachers, and administrators, with emphasis on access, usage, benefits, and challenges.

Limitations of the Study

The study may be affected by response bias, limited access to participants, and time constraints. Additionally, findings may not be fully generalizable beyond the study area.

2. LITERATURE REVIEW

This chapter reviews existing literature on mobile learning, focusing on global, regional, and local perspectives

Empirical Literature Review

Global Studies

Globally, mobile learning has been widely adopted due to its flexibility and accessibility. Studies show that it improves student engagement and supports self-paced learning. However, effectiveness depends on proper implementation and support systems.

Regional (African) Context

In Africa, mobile learning adoption is increasing but faces challenges such as poor infrastructure, high data costs, and limited digital skills. Many institutions use mobile learning mainly for content distribution rather than interactive learning.

Local Context (Zambia)

In Zambia, mobile learning is still developing. Studies show low usage of formal platforms and significant challenges related to internet access and digital literacy. There is limited research on effectiveness, especially in secondary schools.

Theoretical Review

Technology Acceptance Model (TAM)

TAM explains technology adoption based on perceived usefulness and ease of use.

Constructivism

ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

This theory emphasizes active learning, where students construct knowledge through interaction and experience.

Connectivism
Connectivism highlights learning through digital networks and online connections.

Conceptual Framework
The study is based on relationships between access to technology, usage patterns, and learning outcomes. Factors such as infrastructure, digital literacy, and institutional support influence mobile learning effectiveness.

Research Gap
There is limited research on mobile learning effectiveness in Zambian secondary schools, particularly in semi-urban districts like Kapiri Mposhi. This study addresses that gap.

3. METHODOLOGY

This chapter describes the systematic procedures that were followed in conducting the research. It covers the research design, study area, target population, sampling techniques, research instruments, data collection procedures, ethical considerations, and methods of data analysis. The methodology is designed to build on previous research conducted in Kapiri Mposhi District while addressing the specific objectives of this study.

Research Design
This study adopted a mixed-methods research design, specifically the concurrent triangulation approach. As Creswell (2014) defines it, this design involves the collection and analysis of both quantitative and qualitative data during the same phase of the research process. The rationale for using this design is that it allows for a more comprehensive understanding of the research problem than either approach alone.
The quantitative data (from student questionnaires) provides breadth by measuring the extent of m-learning access, usage, and perceived effectiveness across a large sample. The qualitative data (from interviews with teachers and administrators) provides depth by exploring the reasons behind the numbers, uncovering the nuances of experiences, challenges, and perceptions. The findings from both datasets are then triangulated to corroborate and validate the results, a process essential for establishing credibility in educational research (Lincoln & Guba, 1985).
This design aligns with the approach used by Kabeta et al. (2022) in their study of COVID-19's effects on teaching and learning in Kapiri Mposhi, which also employed mixed methods with questionnaires, interviews, and focus group discussions.

Study Area: Kapiri Mposhi District
Geographical Location
Kapiri Mposhi District is located in the Central Province of Zambia, approximately 200 kilometres north of Lusaka. It lies at latitude 13.96316° S and longitude 28.68386° E, covering an area of approximately 9,720 square kilometres. The district is a strategic transport hub, lying at the junction of the Great North Road (T2) and the railway line to the Copperbelt Province, making it a critical gateway for trade and movement.
The district's geography is characterised by undulating terrain interspersed with rivers and streams, giving rise to its name from the local Lenje words "Kapiri" (hill) and "Mposhi"

ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

(river). The district has distinct urban, peri-urban, and rural areas, with varying levels of infrastructure development and access to services.

Demographic and Socio-Economic Profile

According to the Zambia Statistics Agency (2022), Kapiri Mposhi has an estimated population of 300,000 people, with approximately 60% residing in rural areas and 40% in urban and peri-urban settlements. The population is diverse, including Lenje, Bemba, and other ethnic groups, with agriculture being the main economic activity. Maize, cotton, and vegetable farming dominate the rural economy, while trading and small-scale entrepreneurship are common in urban areas.

The district faces typical challenges of semi-urban areas in Zambia, including unemployment, limited access to services in rural areas, and infrastructure deficits. These socio-economic factors have implications for mobile learning, as household income affects ability to purchase data and devices.

Educational Infrastructure

Kapiri Mposhi District has approximately 25 secondary schools, spread across the district. These include government schools, grant-aided schools (often run by religious organisations), and private schools. The distribution of schools reflects the population distribution, with a higher concentration in urban areas and fewer schools in rural areas, requiring many rural students to travel long distances.

Based on mapping data from OpenStreetMap, schools in the district include Paramedes School (private), Prince Of Peace School, Kalulu School, John Paul II Secondary, and Kapiri Modern School (public), among others . These schools vary in terms of infrastructure, resources, and access to electricity and internet connectivity.

Target Population

The target population for this study comprised all secondary school students in grades 10-12, all secondary school teachers, and all head teachers or their deputies in the government and grant-aided secondary schools within Kapiri Mposhi District. This group was chosen because students in these senior grades are more likely to own personal mobile devices and use them for academic purposes, and teachers and administrators are the key decision-makers regarding pedagogical practices and school policies. The total number of secondary school students in grades 10-12 across the district is estimated.

Sampling Procedure

Stratified and purposive sampling techniques were used to ensure representation from different school types.

Sample Size

The study included 300 students, 15 teachers, and 10 administrators.

Sources of Data

Both primary (questionnaires, interviews) and secondary data (reports, literature) were used.

Methods of Data Collection

Data was collected through questionnaires, interviews, and focus group discussions.

Data Collection Procedures

ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

1. Permission and Ethics: Before commencing fieldwork, a formal research permit was obtained from the District Education Board Secretary (DEBS) for Kapiri Mposhi. The researcher then visited each selected school to seek permission from the head teacher and schedule data collection dates.
2. Questionnaire Administration: On the scheduled dates, the researcher, with the help of trained research assistants, administered the questionnaires to the sampled students in a quiet classroom setting. The purpose of the study was explained, and informed consent was obtained from each student (and their parents/guardians, as required). Questionnaires were collected immediately upon completion to maximise response rates.
3. Conducting Interviews: Interviews with teachers and administrators were conducted in their offices or a private location at a time convenient for them. With permission from the participants, interviews were audio-recorded to ensure accurate transcription. Each interview lasted approximately 45-60 minutes.
4. Classroom Observations: Where possible and with prior arrangement with the teacher, the researcher sat in on selected lessons to observe and complete the observation checklist. Observations were conducted in a non-intrusive manner to minimise disruption to normal classroom activities.

Methods of Data Analysis

1. Quantitative Data: Data from the questionnaires were coded and entered into the Statistical Package for Social Sciences (SPSS) version 26. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarise the data on device ownership, awareness, usage, and perceived challenges. Cross-tabulations were used to compare responses across school locations (urban, peri-urban, rural). The findings were presented in tables and charts to facilitate interpretation.
2. Qualitative Data: Audio-recorded interviews were transcribed verbatim. The transcripts, along with notes from classroom observations, were analysed using thematic analysis following the six-phase framework of Braun and Clarke (2006). This involved: familiarisation with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. Direct quotes from participants were used to illustrate key findings, providing rich, contextualised evidence.
3. Triangulation: The quantitative and qualitative findings were then compared and contrasted to provide a holistic and nuanced answer to each research question. This triangulation process enhanced the credibility and validity of the findings by cross-verifying evidence from multiple sources (Lincoln & Guba, 1985).

4. CONCLUSION

In conclusion, this study set out to examine the effectiveness of mobile learning platforms in selected secondary schools in Kapiri Mposhi District, Zambia, within the context of increasing global and national emphasis on digital education. The findings reveal that while mobile learning holds significant potential to transform teaching and learning processes, its current implementation remains limited and uneven across different school environments.The study established that a high proportion of students own mobile devices, particularly smartphones, which provides a strong foundation for the adoption of mobile learning. However, this potential is not fully realized due to low awareness and limited use of structured educational platforms such as Learning Passport Zambia. Instead, mobile devices are primarily used for basic communication and informal learning activities, indicating a gap between access to technology and its effective educational use..

ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

The findings also highlight disparities between urban and rural schools, with students in urban areas experiencing better access and usage of mobile learning platforms compared to their rural counterparts. This suggests that socio-economic and geographical factors significantly influence the effectiveness of digital learning initiatives.Overall, the study concludes that mobile learning platforms in Kapiri Mposhi District are not yet being utilized to their full potential. While they offer clear benefits in terms of flexibility, accessibility, and student engagement, their effectiveness is constrained by a lack of coordinated implementation strategies and supportive infrastructure.

Therefore, for mobile learning to become a meaningful and transformative tool in education, there is a need for a comprehensive and collaborative approach. This should involve the Ministry of Education, school administrators, teachers, and other stakeholders working together to improve infrastructure, provide targeted training, develop clear policies, and promote awareness of educational platforms. By addressing these challenges, mobile learning can be effectively harnessed to enhance educational outcomes and contribute to the broader goal of improving quality education in Zambia.

5. REFERENCES

1. Ajiboye, S. I., & Ajiboye, H. O. (2025). The use of Google Classroom and WhatsApp as Motivation to Enhance Learning among Secondary School Students in Nigeria. ATBU Journal of Science, Technology and Education.
2. Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101.
3. Carter, S., et al. (2025). From distraction to dedication: Commitment and incentives against phone use in the classroom. Journal of Economic Behavior & Organization.
4. Cochrane, T. (2013). A summary and synthesis of "critical success factors" of mobile learning. In Proceedings of the International Conference on Mobile Learning.
5. Creswell, J. W. (2014). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.). SAGE Publications.
6. Dube-Matutu, S. (2024). First-time typing! UNDP initiative brings computers and electricity to Binga school. The Chronicle.
7. Fu, H., & Cai, C. (2026). Technology empowers educational transformation: International practices for enhancing teacher digital literacy. Guangming Daily.
8. Galimova, E. G., Sergeeva, O. V., Zheltukhina, M. R., Sokolova, N. L., Zakharova, V. L., & Drobysheva, N. N. (2025). Mobile learning in science education to improve higher-order thinking skills and communication skills: A scoping review. Frontiers in Communication.
9. Garzón, J., Burgos, D., Kinshuk, & Tlili, A. (2025). Mobile learning significantly enhances student learning gains: A meta-analysis and research synthesis. Computers & Education, 238, 105415.
10. Kabeta, R. M., Chilinga, G., & Sakakombe, L. (2022). Perceptions of Teachers and Learners of the Effects of COVID-19 on the Teaching and Learning process in Selected Secondary Schools in Kapiri-Mposhi District, Zambia. African Journal of Education and Practice, 8(6), 30-48.
11. Kyza, E. A. (2023). Constructivist learning theory and mobile technologies. In Handbook of Mobile Learning.
12. Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic Inquiry. SAGE Publications.
13. Ly, C., & Kearney, M. (2023). Learning on the move: A pedagogical framework for state-of-the-art mobile learning. Springer.

ISSN: 2945-4565 VOL 05, ISSUE 02, 2026

14. mEducation Alliance & Spix Foundation. (2025). Digital courseware in low-resource environments: Voices from eight African countries.
15. Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers College Record, 108(6), 1017–1054.
16. Moya, S., & Camacho, M. (2024). Leveraging AI-powered mobile learning: A pedagogically informed framework. Computers and Education: Artificial Intelligence.
17. Mwela, N. N. (2025). Learning Passport Zambia: Empowering Classrooms Through Youth Advocacy in Kabwe. UNICEF Zambia.
18. Naveed, Q. N., et al. (2023). Features, barriers, and influencing factors of mobile learning in higher education: A systematic review. Heliyon, 9(5).
19. Nwachukwu, P. O., & Okonkwo, C. A. (2025). Mobile Learning as a Tool for Secondary School Teachers' Professional Development in Rural South-East Nigeria. Zenodo.
20. Salimi, F. (2025). The World Bank and EdTech in Sub-Saharan Africa: Evolving Priorities, Persistent Gaps. NORRAG Blog.
21. Spiesberger, P., Muchiri, A., Vallon, R., Grimus, M., Zimmermann, C., Slany, W., & Grechenig, T. (2025). A Decade Later - Revisiting the Untapped Potential of Mobile Learning with Smartphones in Ghana's Higher Secondary Education. In ICTD '24: Proceedings of the 13th International Conference on Information & Communication Technologies and Development, 299–309.
22. Supermaniam, M., Samsudin, N. A., & Ates, E. (2026). Nurturing Sustainable Learning: Implementing an Interactive Mobile Multimedia Applications (IMMAS) Training Program for Special Education Teachers to Enhance Inclusive Pedagogical Innovation. *Asia-Pacific Journal of Educators and Education, 40*(2).
23. Thelma, C. C., Sylvester, C., Pedzisai, D. R., Mony, N., Kabombo, K., & Sain, Z. H. (2025). Online Learning and Educational Outcomes in Zambia: Perspectives from Selected Learning Institutions. Asian Journal of Education and Social Studies, 51(12), 707–720.
24. Tingir, S., Cavlazoglu, B., Caliskan, O., Koklu, O., & Intepe-Tingir, S. (2017). Effects of mobile devices on K–12 students' achievement: A meta-analysis. Journal of Computer Assisted Learning, 33(4), 355–369.
25. UNGA (United Nations General Assembly). (2015). Transforming our world: The 2030 Agenda for Sustainable Development. A/RES/70/1.
26. US Department of Education. (2024). National Educational Technology Plan.
27. Wang, J., Tigelaar, D. E. H., Zhou, T., & Admiraal, W. (2023). The Effects of Mobile Technology Usage on Cognitive, Affective, and Behavioural Learning Outcomes in Primary and Secondary Education: A Systematic Review with Meta-Analysis. Journal of Computer Assisted Learning, 39(2), 301–328.
28. West, M., & Vosloo, S. (2013). UNESCO Policy Guidelines for Mobile Learning. UNESCO.
29. Widora, I., Armanda, M. L., Yulia, Y., & Manullang, A. C. (2025). Enhancing Secondary Education Viewing Skills Through Differentiated Mobile Learning: A Lesson Learned from Teachers' Perspective. Journal of Languages and Language Teaching, 13(2).
30. Zambia Statistics Agency. (2022). 2022 Census of Population and Housing: Preliminary Report. Lusaka: Zambia Statistics Agency.
31. Zuo, M., Zhong, Q., Wang, Q., Yan, Y., Liang, L., Gao, W., & Luo, H. (2024). The implementation of home-based learning for secondary school students faces challenges such as weakened supervision... Sustainability, 16(3), 1199.