User Perceptions of the KEMI eLearning App: A Case Study on Self-Paced Learning for School Leaders in Kenya

Martin N. Mbogo[1*] & Timothy Gachanga[2]

[1,2]Open University of Kenya

[*]Corresponding author: njeru_martin@students.ouk.ac.ke

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Abstract

This study evaluated the KEMI eLearning app's effectiveness in enhancing self-paced online learning among initial users and addressed the research gap on its impact across various contexts. The KEMI eLearning App was developed by the Kenya Education Management Institute (KEMI). Utilizing a case study approach, the research aimed to provide an in-depth understanding of how adult learners interact with the app, highlighting both its strengths and challenges. The primary objective was to evaluate the app's effectiveness in facilitating self-paced learning among school leaders. Data was collected from 173 participants through online surveys, with a 97% response rate. The findings indicate that most users rated their experience positively, appreciating the app's content relevance, user-friendly format, and supportive facilitators. Key features such as facilitator feedback, interactive elements, and clear instructions were highly valued, while gamification elements showed room for improvement. Challenges included internet connectivity issues and technical difficulties, yet participants expressed strong motivation to continue using the app and were likely to recommend it to others. The study concludes that the KEMI eLearning app effectively supports self-paced online learning, offering a flexible and engaging educational experience. Recommendations include enhancing gamification aspects, addressing technical issues, and continuing to leverage the app's strengths to maintain high user satisfaction.

Keywords: Self-Paced Online Learning, Mobile Learning, KEMI eLearning App, Learning Management System, Effectiveness, KEMI

Introduction

Mobile devices are widely used for various purposes, including education. The global educational landscape is undergoing swift changes, with self-paced online learning being favoured as an adaptable substitute for conventional classroom environments (Wei, 2023). Adzifome and Agyei (2023) attributed the growing interest in mobile learning to the convenience, ubiquity, and accessibility of mobile devices, highlighting a significant opportunity for improving education. Timotheou et al., (2023) argued that mobile learning applications offered a convenient and accessible way to access learning materials anytime and anywhere.

The Kenyan Government has developed several policies and infrastructural frameworks to promote ICT adoption in Education. These include the National ICT Policy for Kenya which offers an e-learning framework. According to Kaliisa & Picard (2019), there have been significant initiatives for implementing mobile learning in higher education in Africa, more so, in Kenya. Mugo, Njagi, and Chemwei (2017) discovered that most of the third-year university students respondents preferred using mobile technologies over other instructional tools.

The KEMI eLearning App

The KEMI eLearning app is the first ever branded Moodle-based mobile application developed by the Kenya Education Management Institute (KEMI), a semi-autonomous government agency (SAGA) under the Ministry of Education. It is mandated to provide management training, conduct research and provide consultancy services to both the public and private sectors.

The KEMI eLearning app is designed to facilitate self-paced online learning of the *Effective School Leadership for Junior Secondary Schools* (ESL4JSS) course offered in a blended format. The course is developed and implemented by KEMI in collaboration with VVOB-*Education for Development* as part of the INCREASE Programme.

The blended approach encompasses face-to-face sessions with facilitators and self-paced online learning through the mobile application. The application provides a gateway to the Moodle-based KEMI eLearning learning management system (LMS), hosting the content and learning materials for the ESL4JSS course.

Statement of the Problem

Despite the increasing popularity of self-paced online learning and mobile learning applications like KEMI eLearning, there is still a need for research to evaluate their effectiveness across various contexts and among different student groups (Liu & Correia, 2021). While these applications offer undeniable convenience and accessibility, concerns persist regarding their capacity to truly enhance self-paced learning experiences (Manganello et al., 2019).

The KEMI eLearning app has been operational for almost a year, having launched on the Google Play Store in October 2023. Participants in this study were part of the initial group to use the app and had participated in a three-day onboarding session that provided essential training on navigating the app, accessing courses, completing assignments, taking quizzes, and reviewing materials. An assessment of the app's effectiveness had not yet been conducted. To fill this knowledge gap, this study explored users' perceptions of the KEMI eLearning app's effectiveness in promoting self-paced online learning.

Objective

The study sought to evaluate the effectiveness of the KEMI eLearning app in supporting self-paced online learning. In line with this the specific objectives included: investigate the perceived effectiveness of the KEMI eLearning mobile application for facilitating self-paced online learning among users; identify the key features and functionalities of the KEMI app that contribute to and hinder self-paced learning experiences; and assess the user perceptions on the challenges and opportunities associated with using the KEMI app for self-paced online learning.

Literature Review

Various attempts have been made to define mobile learning: Qiu (2019) defines it as the use of "mobile" computer devices and ICT (information and communication technologies) to access information, resources, and participate in learning activities at any time and place, which is postulated as an extension of digital learning. Schuler, Winters, & West (2012) further define mobile learning as learning facilitated by mobile devices, including smartphones and tablet computers.

Ansari and Tripathi (2017) indicated that mobile learning applications have become increasingly important in today's education due to the rapid advancements in mobile-based applications and online open educational resources. They further added that learning can occur anywhere, at any time, for learners using mobile learning applications and meeting their needs for personalized learning (Pechenkina et al., 2017).

A study by Macharia, Kamau, & Gikandi (2023) on the Mount Kenya University Teacher Professional Development App (MKU TPD App) postulated that mobile learning apps should prioritize the user in their design to create interfaces that facilitate easier learning and user comfort. They recommended that when designing these interfaces, mobile learning developers need to consider various features such as icons, touch gestures, navigation menus, buttons, tutorial pop-ups, and the presentation of instructional content.

Soko, Nabwire, and Gachanga (2024) found that a mobile application introduced by the Open University of Kenya for cohort one, first-semester students in the Postgraduate Diploma in Learning Design program facilitated seamless access to educational materials. This application eliminated the need for students to navigate multiple platforms by serving as a direct gateway to the university's SOMAS learning management system. Hamidi and Chavoshi (2018) investigated and posited that there were several key factors influencing mobile learning adoption. These included usability, individual characteristics, and perceived usefulness.

Theoretical Underpinnings of the Research

The study was grounded in the Self-Determination Theory (SDT) developed by Deci & Ryan (2008), focusing on intrinsic and extrinsic motivation. The two psychologists postulated that when people felt competent, independent, and connected to the material they were learning, they were more likely to participate and engage continuously with learning activities. Deci and Ryan (2008) further argued that human motivation is grounded in inherent psychological needs for autonomy, competence, and relatedness. These needs served as the driving force that shape the quality of an individual's motivation, which in turn affects personal growth, well-being, and overall life satisfaction.

This theoretical framework was crucial for exploring how these needs were met within the eLearning environment, thereby affecting learners' persistence and overall satisfaction. The insights gained from applying SDT could inform the development of strategies to enhance user engagement, making the learning experience more effective and fulfilling.

Methodology

This study employed a case study approach to evaluate the effectiveness of the KEMI eLearning mobile application in facilitating self-paced online learning. The research was conducted across five counties in Kenya: Kisumu (urban), Kakamega (rural), Machakos (peri-urban), Taita-Taveta (ASAL), and Turkana (ASAL), chosen to represent diverse geographical and socio-economic strata (KNBS, 2016).

The target population consisted of 577 public and private primary school headteachers from the five (5) counties. A sample size of 173 headteachers was selected through simple random sampling to ensure representativeness and minimize selection bias.

Data was collected using online survey questionnaires administered through the KEMI eLearning App. These surveys were designed to capture user perceptions, opinions on the app's effectiveness, challenges, and opportunities. This method was chosen for its cost-effectiveness and ability to provide a comprehensive understanding of the research subject. The collected data was downloaded in MS Excel format for initial sorting, cleaning, and coding. Descriptive statistical analyses were then performed using SPSS version 26.0 to interpret the data.

Ethical considerations were strictly adhered to, ensuring the anonymity of participants by anonymizing all surveys. Consent forms were provided and signed by each participant, with an option to opt out of the study.

This methodology allowed for an in-depth examination of the KEMI eLearning app's features, functionalities, and user experiences, providing valuable insights into its effectiveness as a tool for self-paced online learning.

Results

The online questionnaires were administered to all the 173 participants through the survey feature of the KEMI eLearning mobile application, yielding a 97 % response rate (168 participants).

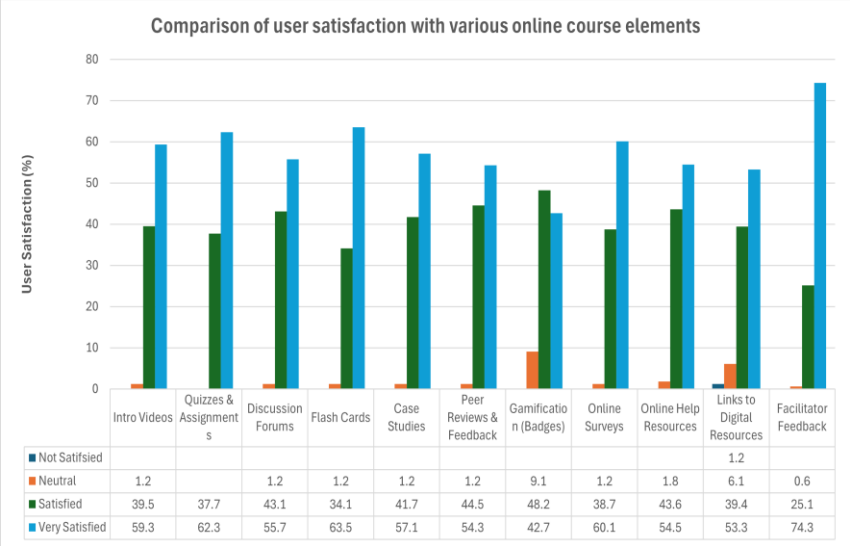
Objective 1: The Perceived Effectiveness of The KEMI Elearning Mobile Application for Facilitating Self-Paced Online Learning Among Users.

A significant majority of participants (99%) rated their overall experience with self-paced online learning as either "good" or "very good." Additionally, 98% of participants reported that the self-paced online learning met both their expectations and needs. The topics covered were deemed highly relevant to their roles as school leaders, with 84% strongly agreeing on their relevance.

The format and presentation of the online course content were also well-received, with 99% of participants expressing satisfaction. The ease of navigation through the online course was highlighted, indicating that the course design facilitated a smooth and user-friendly learning experience. These results collectively demonstrate that the KEMI eLearning mobile application effectively met the educational needs and expectations of its users, providing a well-perceived and effective self-paced online learning program.

Objective 2: The Key Features and Functionalities of the KEMI App That Contribute to and Hinder Self-Paced Learning Experiences

In terms of the key features and functionalities of the KEMI eLearning app that contributed to and hinder self-paced learning experiences, revealed several noteworthy trends. According to figure 1 below, facilitator feedback emerged as the most positively received element, with 74.3% of users reporting high satisfaction. Other elements such as flashcards, quizzes, assignments, and online surveys also showed high levels of satisfaction, with no users reporting dissatisfaction. Discussion forums, case studies, and peer reviews & feedback were moderately well-received, with around 54-57% of users being very satisfied.



	Intro Videos	Quizzes & Assignments	Discussion Forums	Flash Cards	Case Studies	Peer Reviews & Feedback	Gamification (Badges)	Online Surveys	Online Help Resources	Links to Digital Resources	Facilitator Feedback
Not Satifsied										1.2	
Neutral	1.2		1.2	1.2	1.2	1.2	9.1	1.2	1.8	6.1	0.6
Satisfied	39.5	37.7	43.1	34.1	41.7	44.5	48.2	38.7	43.6	39.4	25.1
Very Satisfied	59.3	62.3	55.7	63.5	57.1	54.3	42.7	60.1	54.5	53.3	74.3

Figure 1: User satisfaction with various online course elements

However, gamification elements like badges had the highest neutral rate at 9.1%, indicating room for improvement. Links to digital resources, introduction videos, and online help resources were generally well-received, with 92-98% of users expressing satisfaction.

The data underscores the importance of facilitator feedback and interactive elements, while suggesting that gamification may need re-evaluation to enhance user satisfaction. Martin, Wang, & Sadaf, (2020) posited that online course facilitation by instructors played a vital role in the effectiveness of online education and was rated highly students undertaking online courses.

In general, the study highlighted that clear explanations, useful activities, and opportunities for interaction were crucial for a positive learning experience.

Objective 3: User Perceptions on the Challenges and Opportunities Associated with Using the KEMI App for Self-Paced Online Learning

The study participants appreciated the flexibility of self-paced online learning, which allowed them to study anytime and anywhere, balancing their learning with other activities. This is corroborated by the finding of a study by Ansari and Tripathi (2017), where they concluded that mobile learning applications enable learners to engage in educational activities at any location and time.

The study participants found the online courses to be user-friendly, well-structured, and relevant to their daily lives, with an easy-to-navigate app interface. The learning experience was described as engaging and highly motivating, with participants commending the course facilitators for their support and valuing the opportunity to interact with peers and facilitators through discussion forums.

Additionally, the participants noted that they could utilize their ICT and digital skills effectively in their learning process. This finding is similar to Liu and Correia's (2021), who identified the following as key factors that influenced learners' engagement in mobile learning applications: features that facilitated learning, accessibility to learning opportunities, perceived ease of use, social interaction opportunities, and incentives for task completion.

Conversely, challenges such as internet connectivity issues, technical difficulties, and limited ICT support were noted. The participants often learned at their own pace at odd hours, limiting immediate support and feedback.

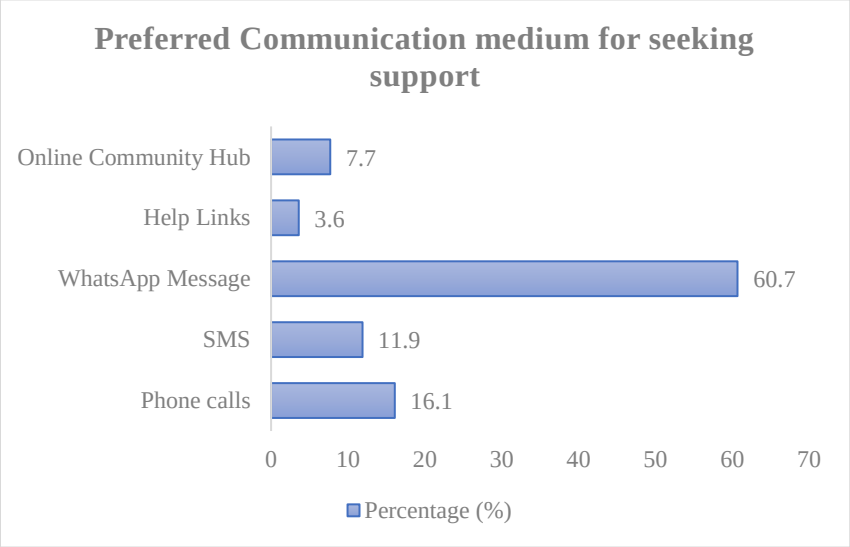


Figure 2: Preferred mode of seeking support during self-paced online learning

It is worth noting that WhatsApp messages (Figure 2) were the most preferred mode of seeking support, followed by phone calls and SMS. A systematic review study investigating the educational use of WhatsApp found out that one of the main uses of the social media application was to offer support to students during the teaching and learning processes. (Suárez-Lantarón, Deocano-Ruíz, García-Perales, & Castillo-Reche, 2022)

Despite these challenges, 98% of participants indicated strong motivation to continue online learning, with 91% very likely to recommend the course to others. These findings suggest that while the KEMI app provides significant opportunities for flexible and engaging learning, addressing technical and support challenges could further enhance the user experience.

Conclusion

The findings from this study demonstrate that the KEMI eLearning mobile application effectively facilitated self-paced online learning among users. Participants reported a highly positive experience with the application, expressing satisfaction with its content, format, and ease of use. The application's ability to meet learners' expectations and needs, coupled with its relevance to participants' roles as school leaders, highlights its effectiveness as an educational tool.

Furthermore, the study identified key features and functionalities of the KEMI eLearning app that contribute to positive learning experiences. Facilitator feedback, interactive elements like discussion forums and flashcards, and clear explanations of course activities emerged as particularly valuable. While gamification and certain resource elements showed potential for improvement, overall, participants were satisfied with their learning experience.

The study also revealed challenges faced by users, such as internet connectivity issues and technical difficulties. However, participants expressed a strong motivation to continue using the application for self-paced online learning and were enthusiastic about recommending it to others.

The KEMI eLearning mobile application offers a promising solution for self-paced online learning, providing a flexible, engaging, and effective educational experience for school leaders.

Recommendations

The study makes the following recommendations:

- There is need to continue to leverage and promote the KEMI eLearning mobile application as an effective tool for self-paced online learning, ensuring ongoing updates and improvements to maintain high user satisfaction.
- Enhance the gamification aspects and resource elements of the KEMI eLearning application to further enrich the learning experience. This can be done by maintaining and possibly expanding the interactive features and facilitator feedback mechanisms that users find valuable.
- Address technical difficulties and improve the app’s performance under varying internet conditions.

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