Evaluating the Effectiveness of Online Language Learning Platforms for Non-Native Learners' Mastery of Kiswahili: A User-Centric Perspective

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ABSTRACT

This study investigates the efficiency of Online Language Learning Platforms (OLLPs) in facilitating Kiswahili acquisition among non-native learners. Through a structured questionnaire administered to 24 participants, the research examines the key features of popular Kiswahili Online Language Learning Platforms (KOLLPs). This includes interactive exercises, gamification, pronunciation aids, and cultural content. The findings reveal that KOLLPs with engaging and dynamic content significantly enhance user satisfaction and speaking skills. However, areas for improvement include insufficient cultural integration and challenges related to accessibility and technical support. Furthermore, the study underscores the importance of user-centred design in KOLLPs. This suggests that, enhanced platform features can meet the diverse needs of learners. This would promote greater proficiency in Kiswahili. Generally, KOLLPs can transform the language acquisition experience by making it more effective and inclusive for non-native speakers (NNSs), if existing gaps would be addressed along with incorporation of user's feedbacks.

Keywords: Digital language learning, E-Learning, Kiswahili, Online Learning Platforms, non-native learners, Educational Technology.

INTRODUCTION

In today's digital age, language education has transformed significantly. For instance, Massive Open Online Courses (MOOCs), (El-Nabahany et al., 2023) and other Online Language Learning Platforms (OLLPs) have grown into essential tools for language acquisition. Kiswahili on the other side has increased its global relevance. Thus, it is one of the languages benefiting from this shift. As an official language of the African Union and widely used within East Africa and central Africa, the demand for Kiswahili has risen. This highlights the need for accessible and flexible learning solutions. Hence, online learning platforms provide non-native speakers with opportunities to learn Kiswahili at their own pace by supporting language development through interactive and user-friendly features. However, evaluating the efficiency of these learning platforms is crucial for understanding their effectiveness in Kiswahili language acquisition. This study investigates the strengths and weaknesses of online platforms in Kiswahili learning by examining user experiences, including engagement, accessibility, content quality, and the overall learning experience. Insights gathered from students and educators further illuminate how these platforms meet the needs of Kiswahili learners and where improvements can be made. In the long run, this research contributes to digital education literature by analysing Kiswahili-specific online platforms by offering recommendations for educators, policymakers, and developers to enhance the online learning environment. Through a user-centric approach, this study underscores the importance of user feedback in shaping the future of language education, guaranteeing these platforms cultivate the enriched linguistic and cultural competencies.

Study Objective

This study aims to assess the effectiveness of Kiswahili Online Language Learning Platforms (KOLLPs) in

enhancing non-native learners' mastery of key language components, including pronunciation, vocabulary development, grammar comprehension, and cultural literacy. It seeks to evaluate user satisfaction, perceived effectiveness, and overall engagement levels among non-native Kiswahili learners utilizing these platforms. Additionally, the study will identify the challenges and limitations faced by users and provide recommendations for improving the platforms based on user feedback to optimize their role in Kiswahili language acquisition.

LITERATURE REVIEWS

Education Online Platforms

Josué et al. (2023) define educational platforms as online systems designed to enhance teaching and learning by providing virtual spaces where students access resources, engage with content, participate in activities, and collaborate with peers and teachers. Similarly, Trovato (2024) describes these platforms as digital systems offering tools and resources that support structured courses, degree programs, and flexible, self-paced learning. Prominent platforms like Coursera, edX, and Udemy provide diverse courses across disciplines, often partnering with institutions such as Yale and Stanford universities to offer certifications valuable for professional growth. Platforms like LinkedIn Learning and Skillshare focus on skill acquisition, appealing to learners seeking practical skills and career advancement (Herrmann, 2024). Educational platforms frequently utilize Learning Management Systems (LMSs) to track progress, facilitate assessments, and foster community engagement (Raouna, 2024). According to Ouadoud et al. (2021), E-learning platforms encompass three main roles: learners, teachers, and administrators. Teachers are responsible for content design, tutoring, and assessments, while administrators manage educational materials and student enrolment. Platform features include course creation, document management, collaborative tools, progress tracking, evaluations, and communication tools like forums and videoconferencing. Designing effective platforms involves addressing technical requirements, pedagogical engagement strategies, administrative needs, compatibility, and user-friendly design.

Digital Language Learning (DLL)

Digital Language Learning (DLL) refers to using digital tools, platforms, and resources to facilitate the acquisition of new languages. DLL typically involves applications, online courses, virtual classrooms, and multimedia tools designed to enhance language learning through interactive, self-paced, and accessible formats. These tools leverage technology to deliver language instruction across various skills listening, speaking, reading, and writing often incorporating interactive features, such as gamification, adaptive feedback, and speech recognition, which are especially engaging for learners (Godwin-Jones, 2022). Recent studies emphasise that DLL allows for tailored, personalised learning experiences, adapting content to the learner's proficiency level and preferred learning style (Li & Lan, 2022). This customisation helps maintain learner motivation and improves retention, particularly in asynchronous learning environments where learners progress at their own pace. DLL also leverages data analytics to track user performance and provide feedback. This enables users to monitor their language progression over time (Chen, 2022). DLL is particularly effective in making language learning more accessible by breaking geographical and logistical barriers as it allows learners from diverse backgrounds to engage with language learning resources anytime and anywhere. However, researchers caution that while DLL can support vocabulary and grammar acquisition, it may be less effective for developing conversational fluency without supplementary speaking practice with native speakers (Zhou & Zhang, 2022).

Typologies of Online Learning Platforms

Ouadoud et al. (2021) highlight that transitioning from traditional instruction to E-learning involves major shifts in cultural, organizational, and educational structures, as interactions among learners, content, and instructors change. E-learning systems fall into synchronous (real-time communication in virtual classrooms) and asynchronous (offline engagement with scheduled communication) categories. Key E-learning approaches include tutored, synchronised self-learning (blending remote and in-person elements); tutored, desynchronised self-learning (limited trainer contact); self-training (learner autonomy); cooperative production (group collaboration); alternating tutored training (integrating work-study with remote support); and autonomous work (independent learning). These models address diverse educational needs and foster adaptable, engaging

environments. Furthermore, Perry (2024) categorizes online learning platforms into Learning Destination Sites (LDSs), Learning Management Systems (LMSs), and Learning Ecosystems. LMSs, such as Moodle, Blackboard, and Canvas, are used by institutions to organize courses, manage assignments, and facilitate communication. Online Learning Platforms like SwahiliPod101, Udemy, and Coursera support structured, self-paced learning (Mansaray, 2024; Liu et al., 2020). Collaboration Platforms, such as Google Classroom and Microsoft Teams, promote interactive exchanges through forums and shared workspaces (Lopes et al., 2015). Online Tutoring Platforms like Italki and Preply offer personalized learning through video tools (Seiter, 2024). Adaptive Learning Platforms, such as Duolingo, personalize learning with data analytics (Bhadoria, 2024). Moreover, Barron (2006) describes online learning ecosystems as interconnected physical or virtual spaces offering learning opportunities. The National Research Council (2015) defines these ecosystems as networks of learners, educators, technology platforms, and cultural contexts, emphasizing systemic interactions that support cohesive digital learning environments.

Related Studies

Recent studies on online language learning platforms (OLLPs) highlight both the benefits and challenges associated with these tools in language acquisition. Key advantages include accessibility and flexibility, empowering learners to engage with resources regardless of location or time constraints. Ho (2018) identifies diverse resources, such as Learning Management Systems, augmented and virtual reality (AR & VR), social networking, blogs, and dictionaries, as integral to enhancing the learning experience. For example, platforms like Speaky foster interactive environments, allowing learners to engage with native speakers, thus enhancing cultural immersion and contextual understanding vital for language mastery (Wu, 2023; Speaky, 2023). High self-efficacy is also crucial; learners who possess it benefit significantly from social interaction and community, which boosts motivation and retention (Wu, 2023). Moreover, While OLLPs offer immersive experiences for non-native Kiswahili learners, challenges such as limited resources and technological issues like connectivity and reliability persist (Safatian, 2023). To mitigate these, platforms should ensure regular interactive exchanges and provide technical support for a seamless learning experience. For Kiswahili, adaptive learning tools and live sessions with native speakers are particularly valuable, though resource availability lags behind more widely taught languages (Wu, 2023; Speaky, 2023).

Recent research further delves into digital tools' role in language learning, including Massive Open Online Courses (MOOCs), social media, mobile-assisted learning, online assessments, and language learning platforms (LLPs). El-Nabahany et al. (2023) explored MOOCs' potential in Kiswahili instruction through the Kiswahili-specific MOOC (KMOOC) initiative, which expands Kiswahili's reach as a regional and global language, promoting it as a "digital national heritage." However, challenges such as technological constraints in East Africa, pedagogical complexity, and sociocultural concerns emerged, underscoring the need for international partnerships, such as those between East African and New Zealand universities, to bolster digital African language promotion.

Haque (2023) reviewed social media's role in language acquisition, assessing platforms' potential for increased interaction and community-building through Social Constructivism and the Input Hypothesis. Strengths such as enhanced practice opportunities were noted, but gaps like limited data analysis and outdated references suggest the need for further evaluations of specific platforms' impact on learning outcomes. Mohammed et al. (2023) systematically reviewed online assessment strategies, finding benefits in personalised feedback via AI and adaptive testing but challenges with multitasking distractions and limited specialised tools. Recommendations include professional development for educators and flexible, adaptable assessment models to meet diverse learners' needs. In addition, Khan et al. (2022) investigated Mobile-Assisted Language Learning (MALL), noting its increased use during the COVID-19 pandemic due to its flexibility and accessibility. However, technological limitations, high costs, and reduced human interaction resulted in mixed effectiveness findings. Integrating the Unified Theory of Acceptance and Use of Technology (UTAUT), Khan et al. emphasised social, psychological, and technological factors' role in successful MALL adoption. Guo et al. (2024) examined Collaborative Mobile-Assisted Language Learning (C-MALL) trends, focusing on motivation, writing skills, and student engagement in Asian higher education. Despite benefits like increased motivation and collaboration, research gaps remain, requiring further exploration of C-MALL's collaborative potential.

Gu et al. (2023) proposed an innovative framework using Pythagorean Probabilistic Linguistic Term Sets (PPLTS) to evaluate OLLPs, focusing on system quality, instructional resources, social interaction, and teaching effectiveness. User feedback and policies for platform stability were highlighted as key for comprehensive assessments. Karasimos (2022) compared five major language learning platforms—Duolingo, Rosetta Stone, Memrise, LingQ, and Busuu—in asynchronous education. The study underscored each platform's strengths and limitations in user experience and pedagogical efficiency, calling for more empirical studies on LLP effectiveness. Ouadoud et al. (2021) explored E-learning in Moroccan universities, noting ongoing challenges like educator reluctance and teaching method adjustments. The study emphasised strategic e-learning integration and international examples to improve digital learning environments, underscoring e-learning's impact on critical thinking.

Theoretical Framework

This study adopts a multi-theoretical approach to evaluate the effectiveness of online platforms for Kiswahili language mastery among non-native learners. The Technology Acceptance Model (TAM) (Davis, 1989; Venkatesh & Davis, 2000) examines learners' perceptions of platform usefulness and ease of use, which are essential for understanding user intentions and satisfaction. Cognitive Load Theory (CLT) (Sweller, 1988; Sweller, Ayres, & Kalyuga, 2011) assesses the cognitive demands imposed by both the language's inherent complexity and platform design, ensuring that the user interface does not create additional strain on learners. Adding a motivational dimension, Social Cognitive Theory (SCT) (Bandura, 1986; Schunk, 2012) considers how self-efficacy and social reinforcement influence learners' behavior and engagement levels, particularly through encouragement from virtual communities. The Community of Practice (CoP) framework (Wenger, 1998; Lave & Wenger, 1991) illuminates how users build knowledge and cultural understanding within the platform by fostering a sense of community among Kiswahili learners. Finally, Technology-Enhanced Learning (TEL) (Kirkwood & Price, 2014; Laurillard, 2012) evaluates the alignment of platform features with learner-centered principles, focusing on interactivity, authentic assessment, and feedback that are essential for meaningful language acquisition. By synthesizing these frameworks, this study provides a nuanced analysis of how online platforms can enhance Kiswahili language learning for non-native speakers.

METHODOLOGY

The study employs a quantitative research design to evaluate the efficiency of Kiswahili Online Language Learning Platforms (KOLLPs) among non-native learners. It was conducted at the Pan-African University of Translation, Interpretation, Transborder Language, and Intercultural Communication (PAUTRAIN) within the Advanced School of Translators and Interpreters (ASTI) at the University of Buea, Cameroon. A purposive sample of 24 non-native Kiswahili learners from PAUTRAIN was selected to provide relevant insights into the effectiveness of KOLLPs. Data were collected using a structured questionnaire administered via Microsoft Forms, comprising multiple-choice and Likert-scale items to assess user satisfaction, platform features, and the impact of cultural content on learning outcomes. Quantitative methods were applied to analyze the data, identify patterns, determine effective platform features, compile best practices, and pinpoint areas for improvement. Ethical considerations were observed by focusing on learners actively engaged with KOLLPs and ensuring anonymity to encourage candid responses.

FINDINGS AND DISCUSSION

Demographic Characteristics of the Sample

Table 1: Demographic characteristics of the sample

		Count	%
Age	18–24	4	16.7%
	25–34	16	66.7%

	35–44	4	16.7%
Gender	Female	13	54.2%
	Male	11	45.8%
Educational Background	Bachelor's Degree	14	58.3%
	Master's Degree	10	41.7%
Proficiency Level	Advanced	4	16.7%
	Beginner	12	50.0%
	Fluent	3	12.5%
	Intermediate	5	20.8%
Length of learning Kiswahili	1 to 2 years	5	20.8%
	6 months to 1 year	11	45.8%
	Less than 6 months	5	20.8%
	More than 2 years	3	12.5%

The demographic data reveals that the majority of users are between the ages of 25–34 (66.7%), indicating that the platform appeals primarily to young adults. There is a relatively balanced gender distribution, with 54.2% female and 45.8% male users. Most users are well-educated, with 58.3% holding a Bachelor's degree and 41.7% possessing a Master's degree. In terms of Kiswahili proficiency, half of the respondents (50%) are beginners, suggesting that the platform is particularly attractive to those just starting to learn the language. Intermediate learners account for 20.8%, while advanced and fluent speakers make up 16.7% and 12.5%, respectively. This suggests a broad range of language skills among users, but with a notable focus on early-stage learners.
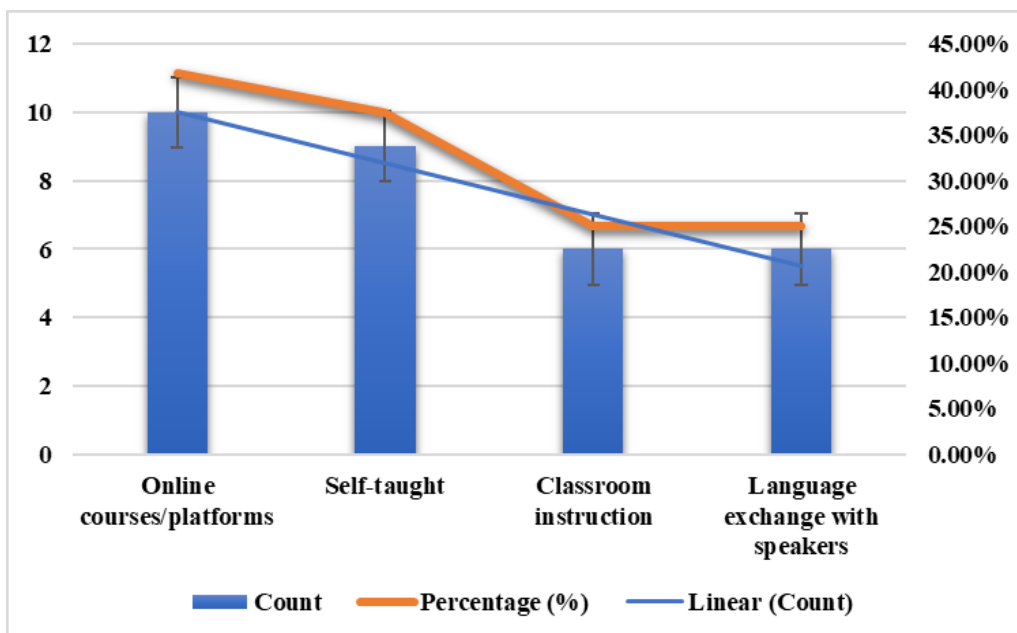
Overview of Platforms' usage
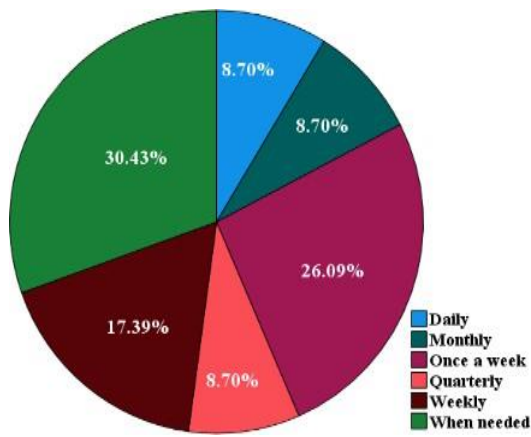

Figure 1: Learning method

Figure 2: Frequency of use of Platforms

Analysis reveals a strong preference for flexible, self-directed learning methods, particularly online platforms. Among the 24 respondents, 41.7% primarily use online courses, underscoring the importance of accessibility, while 37.5% rely on self-study. Classroom learning is less favored (25.0%), indicating a shift toward modern learning approaches, with 25.0% also valuing language exchanges for real-life practice. For Kiswahili, 69.6% of respondents engage with online platforms at least weekly, with 30.4% using them as needed and 26.1% once a week, highlighting the increasing role of online platforms over traditional classroom settings.

Kiswahili Online Learning Platforms

Table 2: Mentioned Kiswahili learning platforms

Learning Platform	Mentions	Percentage (%)
Duolingo	13	54.2%
SwahiliPod101	10	41.7%
Memrise	8	33.3%
Pimsleur	6	25.0%
Talkpal.ai	7	29.2%
Ling app	6	25.0%
Glossika	6	25.0%
Lugha Swahili School (LSS)	6	25.0%
Udemy	8	33.3%
LingQ	6	25.0%
Swahili plus	5	20.8%
Preply	4	16.7%
Lingo play	4	16.7%

Kiswahili.net	7	29.2%
Duocards	3	12.5%
Kiswahili International Institute	1	1.5%

This table summarises the frequency of usage for various online learning platforms among the respondents. Duolingo stands out as the most popular choice, with 54.2% of participants utilising it for their Kiswahili learning. Following closely, SwahiliPod101 is used by 41.7% of respondents, demonstrating its significance as a resource. Memrise and Udemy each have a usage rate of 33.3%, indicating they are also well-regarded options among learners. Other platforms, such as Pimsleur, Talkpal.ai, Ling app, Glossika, Lugha Swahili School, LingQ, and Swahiliplus, each garner 20.8% to 25.0% of usage, suggesting they are valuable, though not as commonly chosen as the top platforms. Overall, the findings illustrate a strong preference for a select few platforms, while a broader range of resources is also utilised by the learners.
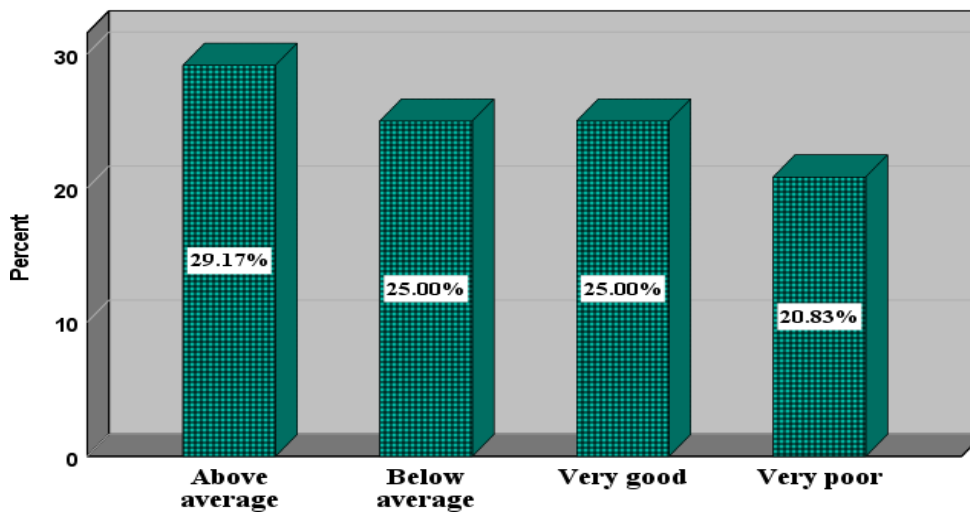
User Experience and Engagement

Figure 3: Rate on the overall experience with the Kiswahili learning platform (s)

The analysis of user experience and engagement with the platform for Kiswahili learning reveals a mixed response among the 24 participants. While 54.2% of respondents rated their experience positively, with 29.2% rating it "above average" and 25.0% rating it "very good", a significant portion of users expressed dissatisfaction. Specifically, 25.0% rated their experience as "below average", and 20.8% rated it "very poor", indicating that nearly half of the respondents had a less favorable experience. This suggests that while the platform works well for many users, there are areas where improvements could enhance the overall experience for those who found it lacking.

Table 3;Potential identified aspects of the platform (s) that keep one's engaged

Element	Gamification elements (e.g. points, badges)	Interactive exercises	Peer/community interaction	Cultural elements	Real-life application examples
Count	17	18	12	13	10
(%)	70.8%	75.0%	50.0%	54.2%	41.7%

The most frequently mentioned elements are interactive exercises, with 75.0% of respondents highlighting this

feature, and gamification elements like points and badges, chosen by 70.8%. This suggests that these features are particularly valued for engagement in Kiswahili learning. Cultural elements were noted by 54.2% of respondents, reflecting a strong interest in learning the cultural context along with the language. Peer/community interaction was chosen by 50.0%, indicating that half of the learners find interaction with others beneficial. Real-life application examples were selected by 41.7%, showing a preference for practical, real-world language usage.

Table 4: Proposed additional features that would enhance one's engagement with the platform(s)

Feature	Count	Percentage (%)
Interactive lessons with gamification	18	75.0%
AI-powered chatbots for conversational practice	16	66.7%
Live classes and group discussions	15	62.5%
Flashcards and spaced repetition systems	13	54.2%
Progress tracking and analytics	16	66.7%
Speech recognition for pronunciation practice	12	50.0%
Cultural immersion content	13	54.2%
Personalised learning pathways	8	33.3%
Mobile app integration	12	50.0%
Community features	8	33.3%

The most popular feature among respondents is interactive lessons with gamification, with 75.0% of learners favouring this element. This is followed closely by AI-powered chatbots for conversational practice and progress tracking and analytics, both of which are favoured by 66.7% of respondents. Live classes and group discussions are also highly appreciated, being selected by 62.5%. Other notable features include flashcards and spaced repetition systems and cultural immersion content, each chosen by 54.2% of respondents. Speech recognition for pronunciation practice and Mobile app integration are moderately used by half of the respondents (50%). Less commonly selected features include personalised learning pathways and community features, each selected by 33.3%, indicating that while valued, they are not as crucial to most respondents as the top features.

Table 5: Overall motivation to continue using the platform (s)

	Neither motivated nor unmotivated	Somewhat motivated	Somewhat unmotivated	Very motivated	Very unmotivated	Total
Frequency	4	9	3	6	2	24
Percent	16.7	37.5	12.5	25.0	8.3	100.0

The data on motivation to continue using the platform shows that a majority of respondents are motivated, with 37.5% feeling "somewhat motivated" and 25.0% feeling "very motivated", making up a combined 62.5%. On the other hand, 12.5% are "somewhat unmotivated", and 8.3% are "very unmotivated", indicating a smaller portion of less motivated users. Notably, 16.7% feel neutral, reporting they are "neither motivated nor unmotivated". Overall, most respondents demonstrate at least some level of motivation to continue using the platform.

Content Quality and Accessibility

Table 6: Perceived quality and relevance of the content provided in platform(s)

Rate on the quality of content provided by this platform for Kiswahili language learning					Relevance of the content to real-life language use.				
	Average	Excellent	Fair	Good	Poor	Highly relevant	Moderately relevant	Not relevant	Slightly relevant	Very relevant
Count	12	6	2	2	2	1	2	2	12	7
(%)	50.0	25.0	8.3	8.3	8.3	4.2	8.3	8.3	50.0	29.2

The majority of users rate the content quality of the Kiswahili learning platform as average (50%), with 25% considering it excellent, though a smaller portion finds it fair, good, or poor (8.3% each). In terms of relevance to real-life language use, half of the respondents (50%) find the content very relevant, while 29.2% rate it moderately relevant, suggesting that while the platform is effective for practical language application, there is room for improvement in both content quality and real-world relevance to meet the needs of a broader range of learners.

Table 7: Identified barriers encountered regarding quality and accessibility when utilising online platforms

Challenge	Count	Percentage (%)
Inaccessible design for users with disabilities (e.g. no screen reader support)	13	54.17%
Lack of support for mobile devices or tablets	12	50.00%
Limited device compatibility	11	45.83%
Slow or unstable internet connections	11	45.83%
Lack of offline access to content	11	45.83%
Inconsistent or unclear instructions	10	41.67%
Difficulty in navigating complex interfaces	10	41.67%
Lack of subtitles or captions for audio/video content	10	41.67%
High data usage for video or interactive content	9	37.50%
Language barrier for non-English speakers	6	25.00%

Analysis of accessibility challenges on the Kiswahili language learning platform reveals several key areas for improvement. The most common issues include inaccessible design for users with disabilities (54.17%) and lack of mobile or tablet support (50%), limiting access for many learners. Technical barriers are prevalent, with limited device compatibility (45.83%), slow or unstable internet (45.83%), and no offline content (45.83%) reported frequently. Usability concerns—such as unclear instructions (41.67%) and complex navigation (41.67%)—also impact the user experience. High data usage for videos (37.5%) and lack of subtitles (41.67%) further challenge users with limited data or accessibility needs. Addressing these issues is essential for improving engagement and inclusivity on the platform.

Table 8: Contribution of platforms to the development of listening, speaking, reading, and writing skills in Kiswahili among learners

	Listening					Speaking				
	Above average	Below average	Excellent	Exceptional	Very good	Above average	Below average	Excellent	Exceptional	Very good
Count	6	7	4	4	3	11	5	3	3	2
%	25.0%	29.2%	16.7%	16.7%	12.5%	45.8%	20.8%	12.5%	12.5%	8.3%

Table 9: Reading and writing

	Reading					Writing				
	Above average	Below average	Excellent	Exceptional	Very good	Above average	Below average	Excellent	Exceptional	Very good
Count	4	3	6	6	5	4	3	6	6	5
%	16.7%	12.5%	25.0%	25.0%	20.8%	16.7%	12.5%	25.0%	25.0%	20.8%

Analysis of learning outcomes across the four language skills—listening, speaking, reading, and writingreveals significant performance variations. Listening skills are rated the lowest, with 29.2% of respondents identifying them as "below average," compared to 25.0% who rate them as "above average." Only 16.7% consider their listening skills "excellent" or "exceptional," while 12.5% rate them as "very good." In contrast, speaking skills are stronger overall, with 45.8% rating themselves as "above average" and only 20.8% as "below average." Twelve and a half percent report "excellent" or "exceptional" speaking abilities, while 8.3% consider themselves "very good." Reading skills show a more balanced distribution, with 25.0% rating themselves as both "above average" and "below average," and another 25.0% identifying as "excellent" or "exceptional." Additionally, 20.8% consider themselves "very good" readers. Writing skills mirror this pattern, with 25.0% rating their writing as "above average" and "below average," while 20.8% rate it as "excellent" or "exceptional," and 16.7% as "very good." Overall, these findings suggest that speaking is the strongest skill for most learners, while listening has the most potential for improvement, and reading and writing exhibit balanced performance patterns.

Table 8: Perception and confidence on the effectiveness of online platforms in achieving the language learning goals in Kiswahili

	How confident do you feel in using Kiswahili in everyday situations after learning on this platform?					To what extent has this platform helped you achieve your language learning goals in Kiswahili?				
	Extremely confident	Extremely not confident	Neutral	Somewhat confident	Somewhat not confident	completely	moderately	not at all	Slightly	very much
Count	3	2	3	6	10	2	5	3	9	5
%	12.5%	8.3%	12.5%	25.0%	41.7%	8.3%	20.8%	12.5%	37.5%	20.8%

Survey results reveal varying confidence levels among respondents in using Kiswahili in everyday contexts and in achieving their language goals. Confidence is mixed, with 12.5% feeling "extremely confident" and 8.3% "extremely not confident." The largest group, 41.7%, feels "somewhat not confident," while 25.0% are "somewhat confident," and 12.5% are neutral. As for goal achievement, only 8.3% feel the platform has helped them "completely," while 20.8% say "moderately." Notably, 37.5% report it has helped "very much," though

12.5% say "slightly," and 20.8% say "not at all." Overall, while some users feel confident, many see room for improvement in their Kiswahili skills.

Comparative Analysis

Table 9: Learning outcomes of users of online platforms compared to those of traditional classroom-based Kiswahili learners

Response	About the same	Better in the classroom	Better on the platform	no prior classroom experience	Total
Frequency	3	8	2	11	24
Percent	12.5%	33.3%	8.3%	45.8%	100.0%

The data indicates that while 45.8% of users have no prior classroom experience, among those who do, the majority (33.3%) feel classroom-based Kiswahili learning offers better outcomes compared to 8.3% who prefer the platform. A smaller group (12.5%) finds the outcomes about the same in both settings. This suggests that while the platform is a primary learning environment for many, users with classroom experience tend to favour traditional learning due to perceived advantages like structured interaction and immediate feedback. Improving the platform to incorporate these classroom-like elements could enhance its effectiveness for a broader range of learners.

Table 10: differences existing in user satisfaction between various online platforms offering Kiswahili language courses

Reasons for Satisfaction	Count	(%)	Reasons for Dissatisfaction	Count	(%)
Comprehensive lesson content	14	58.3%	Limited or repetitive content	7	29.2%
High-quality instructional materials (e.g., videos, quizzes)	10	41.7%	Technical issues or bugs	8	33.3%
User-friendly interface	8	33.3%	Lack of interactive or engaging features	6	25.0%
Engaging and interactive features	11	45.8%	Unclear or overly complex instructions	7	29.2%
Personalised learning experience	9	37.5%	Inconsistent quality of lessons or materials	6	25.0%
Effective pronunciation and speaking practice tools	11	45.8%	Poor pronunciation or speaking practice tools	7	29.2%
Clear progress tracking and feedback	8	33.3%	Difficult navigation or confusing interface	4	16.7%
Accessible on various devices (mobile, desktop)	7	29.2%	Slow or unresponsive customer support	8	33.3%
Affordable pricing or value for money	8	33.3%	High-cost relative to the value provided	4	16.7%
Responsive customer support	5	20.8%	Lack of progress tracking or personalised feedback	7	29.2%

From the data, the most common reasons for satisfaction include comprehensive lesson content (58.3%) and engaging and interactive features (45.8%), highlighting the importance of engaging content and user involvement. Effective pronunciation and speaking practice tools (45.8%) also ranked high, indicating the importance of speaking skills. For dissatisfaction, technical issues or bugs (33.3%) and slow or unresponsive customer support (33.3%) were frequent complaints. Limited or repetitive content (29.2%) and poor pronunciation tools (29.2%) were also significant reasons for dissatisfaction. These insights highlight areas for improvement such as technical support and content variety.

Support and Interaction

Table 11: Rate on the level of support and interaction from instructors and peers and the role do social interaction (e.g. discussion forums, group activities) play in enhancing the learning experience for Kiswahili learners on online platforms

		Count	**%**
The rate on the support provided by instructors on the platform (s)	Average	11	45.8%
	Excellent	3	12.5%
	Fair	2	8.3%
	Good	4	16.7%
	Poor	4	16.7%
The rate on the support provided by peers and community members on the platform(s)	Average	8	33.3%
	Excellent	3	12.5%
	Fair	2	8.3%
	Good	4	16.7%
	Poor	7	29.2%
Frequency of engagement in social interaction (e.g., discussion forums, group activities) on the platform (s)	Never	2	8.3%
	Once a month	2	8.3%
	Once a week	4	16.7%
	Rarely	3	12.5%
	When needed	13	54.2%
The extent to which social interaction enhance one's learning experience on the platform(s)	extremely	5	20.8%
	moderately	2	8.3%
	not at all	3	12.5%
	slightly	6	25.0%
	very much	8	33.3%

The data reveals mixed perceptions of support and interaction on the platform. For instructor support, 45.8% rated it average, 12.5% excellent, 16.7% good, and another 16.7% poor, indicating room for enhanced engagement. Peer support ratings were similarly varied, with 33.3% marking it as average and 29.2% as poor, highlighting a need for better community involvement. Social interaction appears sporadic, as 54.2% engage only "when needed" and just 16.7% participate weekly. Although 33.3% felt social interactions significantly enhance learning, 12.5% saw no benefit. Overall, the feedback suggests a need to foster a more supportive and interactive learning environment.

Adaptability and Personalisation

Table 12: extent to which online platforms accommodate different learning styles and paces among users learning Kiswahili

	Platform's accommodation to one's learning pace and style					Benefits of the platform's personalisation features (e.g., tailored lessons, adaptive quizzes)				
	Extremely not well	Extremely well	Neutral	Somewhat not well	Somewhat well	extremely beneficial	moderately beneficial	not beneficial	slightly beneficial	very beneficial
Count	2	3	2	10	6	2	8	3	8	2
%	8.7%	13.0%	8.7%	43.5%	26.1%	8.7%	34.8%	13.0%	34.8%	8.7%

The data on adaptability and personalization indicates mixed user experiences regarding the platform's accommodation of individual learning needs. Notably, 43.5% feel it does not meet their needs well, while only 21.7% rate it as "extremely well" or "well." For personalization features, 34.8% find them slightly or very beneficial, and another 34.8% rate them as moderately beneficial, reflecting limited satisfaction. Additionally, 8.7% find these features not beneficial at all, suggesting that while some learners appreciate the tailored aspects, others do not find them effective. Overall, the findings highlight a need for improvement in adaptability and personalization to enhance the learning experience.

Table 13: Perception on the personalisation features of online platforms as beneficial or limiting to one's language acquisition process

Limitation	Count	Percentage
No adaptation based on learning style (visual, auditory, etc.)	12	50.0%
No ability to set personal goals or milestones	11	45.8%
No tracking of preferred learning times for tailored suggestions	10	41.7%
Inability to reset or revisit specific parts of the learning path	10	41.7%
Few features for tailoring vocabulary list to learner's needs	10	41.7%
No option to adjust lesson format (e.g., text vs. video)	9	37.5%
No personalised feedback or progress reports	9	37.5%
Limited customisation of lesson difficulty	9	37.5%
Lack of adaptive learning paths	8	33.3%

Generic content not tailored to individual goals	8	33.3%
Inability to focus on specific language skills (e.g., listening, speaking)	7	29.2%
No personalised feedback or progress reports (duplicate)	7	29.2%
Inability to choose topics of interest	6	25.0%
Limited options for customising lesson pace	6	25.0%
Lack of localised content for specific dialects or regions	5	20.8%
Lack of integration with other tools or apps used by the learner	5	20.8%
Limited practice with personalised conversational scenarios	5	20.8%
Lack of flexibility in quiz or test formats	4	16.7%
Few options to adjust content for cultural relevance	4	16.7%
Inflexibility in choosing preferred study time or reminders	4	16.7%

The analysis of the platform's personalisation features reveals several significant limitations as identified by the 24 respondents. Notably, half of the participants (50%) highlighted the lack of adaptation based on individual learning styles, such as visual or auditory preferences, indicating a one-size-fits-all approach that may hinder effective learning. Additionally, 45.8% expressed dissatisfaction with the absence of personal goal-setting and milestone tracking, which can be crucial for maintaining motivation and measuring progress. The inability to reset or revisit specific learning sections was noted by 41.7% of users, alongside similar percentages for the lack of vocabulary customisation and lesson format adjustments. Furthermore, 33.3% of respondents pointed to the absence of adaptive learning paths and the generic nature of the content, which is not tailored to individual learning objectives. Overall, the feedback suggests that enhancing personalisation features could significantly improve user satisfaction and learning outcomes on the platform.

Long-term Engagement

Table 14: factors influencing the long-term engagement and retention of users on online platforms for Kiswahili language learning

Factors Influencing Long-term Engagement	Count	Percentage
Engaging and interactive content	10	37.0%
Effective language practice tools (e.g., pronunciation, conversation)	10	37.0%
Regular updates or new content	10	37.0%
Personalised learning experience	8	29.6%
Platform features (e.g., quizzes, practice tests)	9	33.3%
Clear progress tracking and milestones	8	29.6%
User-friendly interface and ease of use	8	29.6%

Sense of community or peer interaction	7	25.9%
Affordable pricing or good value	7	25.9%
Community support	7	25.9%

The analysis highlights key factors for user retention: engaging and interactive content, effective practice tools, and regular updates, each valued by 37.0% of respondents, reflecting a strong preference for dynamic learning resources. Quizzes and practice tests, important to 33.3% of users, also enhance the learning experience by providing structured practice. Additionally, 29.6% of respondents prioritize personalized learning, progress tracking, and a user-friendly interface, which support customized learning journeys and progress monitoring. Although the sense of community, affordability, and community support received lower emphasis (25.9%), they remain important for user engagement. Overall, enhancing content quality, practice tools, and updates could boost user satisfaction and engagement significantly.

Table 15: Other factors that would be reinforced for long-term engagement

Other factors that would be reinforced for long-term engagement	Count	%
Effective language practice tools (e.g., pronunciation, conversation)	12	50.0%
Engaging and interactive content	15	62.5%
Regular updates or new content	12	50.0%
Personalised learning experience	10	41.7%
Platform features (e.g., quizzes, practice tests)	10	41.7%
Clear progress tracking and milestones	10	41.7%
User-friendly interface and ease of use	9	37.5%
Sense of community or peer interaction	9	37.5%
Affordable pricing or good value	7	29.2%
Community support	8	33.3%
Responsive customer support and feedback mechanisms	7	29.2%
Access to live tutoring or native speaker conversations	6	25.0%
Improved interactive tools and gamification	6	25.0%
Integration with other learning resources or tools	5	20.8%
Flexible learning schedules and reminders	5	20.8%
Community-building features for peer support and interaction	5	20.8%

The analysis of user responses indicates that engaging and interactive content are the most influential factor for long-term engagement, with 62.5% of respondents highlighting its importance. Effective language practice tools and regular updates or new content are also significant, both at 50%. Personalised learning experience, platform features, and progress tracking received a notable 41.7%, emphasising the value of tailored learning experiences.

Additionally, factors such as a user-friendly interface and a sense of community garnered a 37.5% response rate, indicating that ease of use and peer interaction are also vital for user retention. However, aspects like affordability, community support, and access to tutoring received lower percentages, suggesting that while they are appreciated, they may not be as critical to users as the more engaging content and effective tools. This analysis points to areas for potential improvement and development to enhance user satisfaction and retention on the platform.
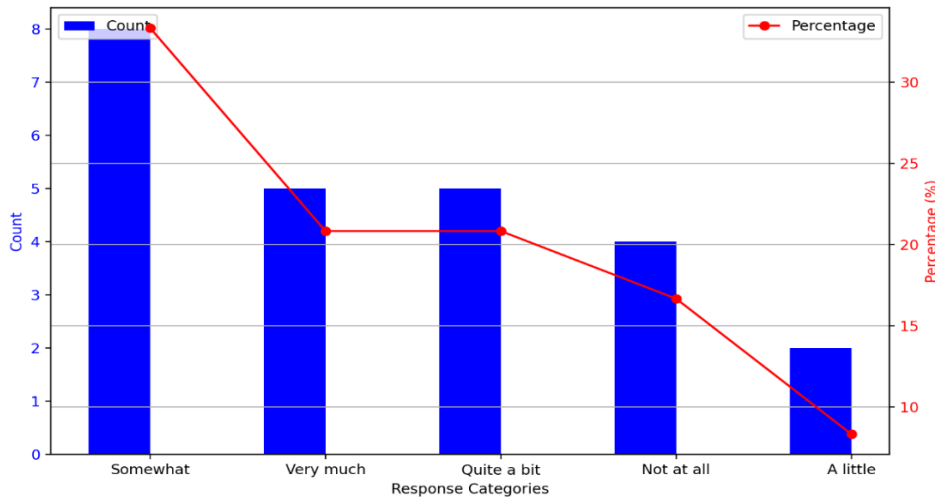
Figure 4: Impacts of users' backgrounds (e.g., prior knowledge of Kiswahili, learning environment) to one's ongoing commitment to using online platforms for language acquisition.

The data indicates that 33.33% of users show a "somewhat" strong commitment to online language learning, reflecting moderate engagement and motivation. Meanwhile, 41.66% report "quite a bit" or "very much" commitment, demonstrating a strong inclination toward online learning. However, 25% express only "a little" or "not at all" commitment, signaling possible disengagement or barriers. These commitment levels may be shaped by factors like prior Kiswahili knowledge, access to supportive environments, and individual learning styles. Understanding these influences is essential for customizing online platforms to better support language learners and encourage sustained engagement.

DISCUSSION

This analysis examines key features and challenges of online Kiswahili learning platforms, focusing on their role in supporting self-paced language acquisition among non-native speakers. Platforms like Duolingo and SwahiliPod101, favoured by 54.2% and 41.7% of respondents, respectively, demonstrate effectiveness in facilitating vocabulary and grammar acquisition. However, it is the integration of interactive exercises (75%) and gamification elements (70.8%) that particularly enhances engagement, underscoring the appeal of active participation tools in promoting learning retention. Additionally, culturally embedded content (54.2%) emerged as an influential factor, aiding comprehension and application, and highlighting the importance of cultural integration for a well-rounded language learning experience. Although these platforms successfully introduce Kiswahili, the limited cultural immersion and authentic language exposure reflect a gap in practical fluency development. Expanding features that allow learners to immerse themselves culturally, akin to traditional classroom environments, could bridge this gap by reinforcing communication skills and enhancing the contextual relevance of online Kiswahili learning.

The analysis further reveals that pronunciation and listening tools, such as speech recognition (50%) and AI-powered conversational chatbots (66.7%), positively impact listening and speaking skills, supporting learners' pronunciation development. This is particularly notable as 45.8% of respondents rated their speaking skills as "above average," suggesting that interactive pronunciation tools effectively facilitate this skill area. However, the inconsistent availability of these tools across platforms presents a challenge, indicating the need for more uniform integration of listening and pronunciation aids to promote comprehensive language development across

learning platforms. Enhanced auditory resources, such as speech recognition and improved listening exercises, would strengthen these tools' effectiveness and address the reported deficiency in listening skills, as indicated by 29.2% of respondents rating their listening abilities as "below average."

Several technical and pedagogical challenges were also identified as barriers to user engagement and learning consistency. Accessibility issues, notably lack of support for users with disabilities (54.17%) and limited mobile compatibility (50%), restrict flexibility and diminish the inclusivity of these platforms, especially in regions where mobile access predominates. Usability challenges, such as unclear instructions and complex interfaces, cited by 41.67% of users, further hinder learning experiences, suggesting the need for clearer instructional design and simplified navigation to enhance user satisfaction. Additional improvements, such as reducing multimedia data demands, offering offline access, and expanding accessibility features, could make these platforms more feasible for users with limited connectivity or specific accessibility needs.

In terms of platform design and user interface, gamification (75%) and clear progress tracking significantly boost user motivation, enhancing engagement by supporting a sense of accomplishment and personalisation in the learning process. Adaptive pathways and real-time feedback allow users to tailor their learning experiences, accommodating diverse learner needs. However, challenges remain, with 33.3% of users reporting technical support issues, indicating a need for responsive customer service to improve long-term engagement and user satisfaction. Addressing these issues could enhance the overall learning experience, ensuring learners feel supported and encouraged to continue their Kiswahili studies.

Usage patterns reveal a preference for flexible, self-directed learning, with respondents typically using platforms weekly (69.6%) or as needed (30.4%). However, while 54.2% rated their overall experience positively, 45.8% expressed dissatisfaction, underscoring the duality in user experiences. This indicates that retention and user satisfaction are highly dependent on the platform's ability to meet both learning and usability needs, including content quality, design, and interactive features. Enhanced multimedia and personalised feedback tools could address this duality, particularly for learners seeking a balanced focus on listening and speaking skills, which currently present disparities in user-reported outcomes.

When examining learning outcomes across listening, speaking, reading, and writing skills, speaking emerged as the highest-performing skill, with 45.8% of respondents reporting "above average" performance. In contrast, listening was identified as the weakest skill, with 29.2% of respondents rating it "below average". This discrepancy suggests that while verbal and written skills benefit from current platform exercises, more robust development of listening tools is necessary to address gaps in conversational and listening comprehension. Enhanced listening and pronunciation resources, as well as multimedia features that encourage interactive, real-time feedback, could bridge these skill gaps and provide a more holistic learning experience.

Comparing the effectiveness of online and classroom-based learning, mixed results emerged. A notable 45.8% of respondents had no experience with classroom-based Kiswahili learning; however, of those with experience, 33.3% found traditional classes more effective, potentially due to structured interaction, immediate feedback, and cultural immersion that online platforms often lack. This preference for classroom settings suggests that online platforms could replicate some of the benefits of traditional learning by incorporating interactive support features and culturally immersive content, which could enhance user satisfaction and perceived effectiveness.

Long-term engagement analysis further highlights the significance of dynamic content in sustaining interest and motivation. Engaging content, effective practice tools, and regular updates each emerged as essential factors, with 37% of respondents citing their importance. Structured practice elements like quizzes (33.3%) and features supporting personalisation and progress tracking (29.6%) help learners maintain autonomy and monitor their learning trajectory, reinforcing motivation and retention. While social interaction aspects, such as community support, received slightly lower importance (25.9%), they remain relevant for users seeking a sense of peer support. Moreover, 62.5% of respondents highlighted engaging content as a priority for sustained interest, followed closely by practice tools and regular updates, both at 50%, indicating that consistent, interactive resources significantly contribute to long-term user satisfaction and commitment.

In conclusion, this analysis indicates that online Kiswahili learning platforms effectively support self-paced

learning, particularly in vocabulary and grammar acquisition. However, user satisfaction and retention largely depend on the presence of interactive, culturally embedded content, and strong technical support. To optimise these platforms' effectiveness, it is essential to prioritise accessibility, address usability challenges, and expand on features that foster cultural immersion, listening skills, and pronunciation tools. By addressing these gaps and enhancing the user experience, online Kiswahili platforms can better meet the needs of non-native learners and foster long-term commitment to language acquisition and cultural understanding.

RECOMMENDATION

To optimise Kiswahili online learning platforms, emphasis should be placed on delivering dynamic, interactive content, alongside expanded pronunciation and cultural tools, as these elements are integral to fostering user engagement and language mastery. Regular updates, gamified exercises, and quizzes, identified as motivating by 75% of users, should be consistently integrated to sustain user interest and reinforce vocabulary and grammar skills. Pronunciation tools and listening comprehension resources, such as AI-powered chatbots, emerged as crucial aids in enhancing speaking and listening skills. To deepen cultural understanding, platforms would benefit from incorporating immersive content such as real-world scenarios or video dialogues with native speakers to create a more authentic learning experience. This aligns with the needs of 54.2% of users who valued culturally relevant content for practical fluency. Addressing the identified skill gaps, particularly in listening and pronunciation, through structured exercises would provide users with practical, context-driven learning. Additionally, resolving technical and design challenges is essential for inclusive access and usability. Enhanced mobile compatibility, offline accessibility, and an intuitive, user-friendly interface would significantly aid user retention, especially for the 54.17% of respondents who experienced usability barriers. Offering customisable learning paths with clear progress tracking and milestones would further support learner autonomy and motivation, allowing users to tailor their study plans and monitor their progress. Platforms could also encourage community engagement through interactive peer spaces; while less emphasised, community support remains an influential factor in long-term engagement. To improve satisfaction, reliable technical and customer support should be prioritised, enabling prompt assistance and issue resolution. By integrating these improvements, Kiswahili learning platforms can support sustained user commitment and effective language acquisition, ultimately enhancing the educational value and reach of these resources.

CONCLUSION

In conclusion, this study has illustrated the pivotal role those online platforms play in facilitating Kiswahili language acquisition among non-native learners, highlighting both their advantages and areas for enhancement. The analysis underscores that platforms incorporating interactive and gamified features, along with regular content updates, are particularly well-received, indicating that learners thrive in engaging, self-directed environments. Additionally, tools designed for pronunciation practice and listening comprehension especially those utilising AI-driven functionalities are highly valued, effectively addressing the need for active language practice and contributing to improve speaking skills. Despite these strengths, the findings reveal that many platforms still fall short in providing sufficient cultural content and contextual depth. Such elements are vital for creating a comprehensive language learning experience that aligns with traditional educational settings. The study also emphasises the significance of accessibility, platform design, and personalisation as critical factors influencing long-term user engagement. Technical challenges including limited mobile support, a lack of offline access, and usability issues impede some users from fully leveraging the platform's offerings, particularly those in regions facing connectivity constraints. To foster sustainable learner engagement, online platforms must prioritise improvements in these technical aspects while simultaneously nurturing community interactions and ensuring responsive customer support. By enhancing user-centred features especially regarding accessibility and culturally immersive content, Kiswahili language platforms would address the diverse needs of non-native learners. This approach will not only support broader accessibility but also enhance proficiency in Kiswahili, ultimately contributing to the language's growth and relevance in a global context.

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