

MOBILE-ASSISTED LANGUAGE LEARNING APPLICATIONS: REVOLUTIONIZING ENGLISH LANGUAGE LEARNING AMONG STUDENTS AT THE UNIVERSITY OF NIGERIA, NSUKKA

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Abstract

The study investigated the impact of Mobile-Assisted Language Learning (MALL) in revolutionizing English language learning of students at the University of Nigeria, Nsukka. A descriptive survey research design was adopted for the study. Three research questions and two hypotheses guided the study. The participants of the study were 250 students randomly drawn from a population of 875 students. A 16-item researcher-developed questionnaire titled Mobile-Assisted Language Learning Applications and English Language Learning Questionnaire (MALLAELLQ), which was validated by three experts from the University of Nigeria, Nsukka, was used for data collection. A reliability coefficient of 0.83 was obtained for MALLAELLQ after subjecting it to a reliability test using Cronbach's Alpha Method. Data collected were analysed using mean and standard deviation to answer the research questions while the null hypotheses were tested using t-test at a 0.05 level of significance. Results revealed that MALL significantly enhanced students' learning of English language particularly vocabulary acquisition, grammar comprehension, and listening skills, though its impact on speaking proficiency is limited due to the lack of real-time interaction. Positive learner perceptions highlighted MALL's flexibility and accessibility, while challenges included digital distractions and unstructured learning pathways. The recommendations of the study included that English language teachers should integrate MALL in order to enhance the instructional delivery of English language as well as students' learning of English language and that there is need for English language teachers and students to digitally update and upgrade themselves in the use of digital tools because it may be very difficult, if not impossible, for both English language teachers and students to maximize the benefits of adopting MALL if they are digital illiterates. These findings contribute to the growing body of knowledge on the effectiveness of MALL in enhancing English language learning, particularly at the University of Nigeria, Nsukka.

Keywords: Mobile-assisted language learning (MALL), applications, English language, acquisition and gender differences

Introduction

Mobile technology has significantly reshaped language learning by introducing innovative ways of enhancing language learning. One of such ways is the Mobile-Assisted Language Learning (MALL). MALL refers to the learning of language in formal and informal environments with the utilization of smartphones, tablets and alternative mobile devices and software applications with diverse features such as interactive language exercises, language games and multimedia contents designed to facilitate or support language learning. The use of MALL devices is usually characterized by availability, adaptability, resilience, accessibility, personalization, inclusivity (to assist and support all kinds of learners including individuals with diverse disabilities, impairments or limitations) and ubiquity (as language learning materials and resources can be accessed by learners anytime and from anywhere). Lăpădat (2023) and Caraca (2024) state that Mobile-Assisted Language Learning (MALL)

has emerged as a transformative tool that offers learners, especially English language learners, flexibility, accessibility and engagement beyond the traditional classroom settings.

The above statement indicates that with accessibility to MALL technology, learners are no longer confined to the conventional chalkboard face-to-face classroom situation where the teacher and learners must be physically present in the teaching and learning process. By implication therefore, the flexible nature of MALL is making English language learning more interactive and engaging. MALL offers language teachers new tools and opportunities to create innovative, engaging learning activities that enhance language learning and learner engagement. Language teachers can leverage the benefits of MALL to promote collaborative learning and support a personalized language learning experience without the restriction of time and space (Hsieh, 2024). These benefits include self-directed English language learning, which encourages learners to take responsibility of their language learning experiences; high interest and motivation as a result of edutainment that makes learning enjoyable and more engaging; its cost-effectiveness and immediate interaction and feedback as some MALL applications facilitate interaction with native speakers and other learners while some offer on-the-spot response (feedback) in some aspects of English language such as pronunciation and grammar. Other benefits of MALL, as identified by CAEComputers (2019), are ability to facilitate a personalized study; always available and accessible; linguistic immersion; immediate interaction between students and teachers; elimination of barriers to make schedules more flexible; greater variety of contents for higher quality of teaching and learning, and digital backpacks which free learners from the heavy burden of books.

MALL can be categorized into app-based, web-based, mobile-generated media and game-based MALL. App-Based MALL include various English language learning applications such as Duolingo, Babbel, and Hello English that provide structured English language lessons and grammar practice; Anki, a vocabulary app that offers vocabulary exercises that focus on vocabulary acquisition using spaced repetition techniques to aid memorization and TFlat, a pronunciation app which helps to enhance learners' pronunciation skills through exercises and feedback. Web-based MALL are mobile-optimized websites and online platforms that offer language learning resources and activities such as social media platforms where learners can engage in language practice through social media, observing authentic content and interacting with native speakers, and online forums and community platforms such as language exchange websites which offer opportunities for learners to connect with others and practise the various linguistic skills of English language.

Mobile-generated media such as MALL usually involve content creation by learners. For instance, mobile devices could be utilized by learners for creation of personalized contents such as photos, videos, and audio recordings to facilitate their English language learning experience while making the learning fun. Such devices could also be used in authentic learning environments for real-world practice such as showing respect, greetings, exchange of pleasantries and asking for directions while travelling. Information gathered could be tailored to specific context thereby promoting contextualized English language learning. In addition, MALL such as Short Message Service (SMS) which is commonly used for personal communications, business notifications, marketing message, and alerts and reminders could be maximized by teachers to target specific grammar points or vocabulary thereby providing learners with quick and accessible learning opportunities. Game-based MALL includes online mobile devices and platforms that often incorporate gamification for language learning. It involves simulations and language learning games such as scrabble, puzzles (such as word scramble and search, jig-saw, word search and cross word), word chain, word association, and bingo and substitution drill game. These games can enhance

vocabulary acquisition, grammar, spelling, and communication skills while making learning fun and engaging.

With the rise of smartphones and mobile applications, English language learners now have access to a wide range of interactive resources that support various English language skills. While Sanjaya (2024) is of the opinion that by the integration of MALL technology into education, learners are provided with diverse resources that promote self-directed and autonomous learning, Yang & Hu (2023) explain that the appeal of MALL lies in its flexibility and accessibility to various learning materials and resources which allows learners to practise language skills at their convenience. This accessibility fosters personalized learning thereby enabling learners to focus on specific areas such as vocabulary development, grammar, comprehension, listening skills, speaking proficiency, reading and writing efficiency. The integration of MALL technology into language learning has sparked discussions among researchers and consequently, MALL's effectiveness in breaking down barriers to language learning, and making learning accessible anytime and anywhere has been highlighted. Darmawati (2018) and Van & Thanh (2022) emphasize that MALL enhances language proficiency by supporting vocabulary retention, grammar comprehension, listening skills, and speaking fluency. MALL applications offer a variety of tools including vocabulary exercises, grammar drills, listening tasks, and speaking practice. Botero, Questier & Zhu (2018) and Bhestari & Luthfiyyah (2021) highlight how MALL encourages continuous learning by providing opportunities for language practice outside the classroom. These applications support self-assessment, allowing learners to track their progress and reinforce what they have learnt in English language.

Vocabulary acquisition, a crucial aspect of English language learning, is enhanced by mobile apps that use techniques like spaced repetition. Applications such as Quizlet and Anki help learners review and retain new words effectively. Similarly, interactive grammar exercises with instant feedback assist learners in understanding language structures (Paris, Manap, Abas & Ling, 2021). Listening comprehension is also supported by mobile apps that feature audio-based exercises such as dialogues and real-world recordings. Studies by Nguyen & Le (2022) and Nguyen & Le (2023) demonstrated that these tools improve listening skills by exposing learners to authentic language materials. Speaking proficiency is another critical area where MALL plays a role. Dillon & Wells (2021) and Getman et al. (2023) stated that many mobile applications incorporate voice recognition technology to provide pronunciation drills and real-time feedback. Apps like Duolingo and Flowchase help learners refine their speaking skills by offering corrective feedback (Saputra, Handani, Indartono, & Wijanarko, 2020; Tits & Broisson, 2023). However, some studies indicate that while these apps aid pronunciation, they may not fully develop conversational fluency due to the limited opportunities for real-time interaction with native speakers.

Learner engagement and motivation are essential for successful language learning, and MALL incorporates gamification elements to enhance motivation. Shortt, Kuznetcova, Martens & Akinkuolie (2021); Zamahsari et al. (2023) and Adzmi, Bidin, Selvaraj & Saad (2024) found that features such as rewards, levels and badges encourage learners to engage consistently with language materials. These elements create a sense of achievement and impact students' motivation and engagement. Studies have demonstrated the effectiveness of MALL in improving language learning outcomes. Lin & Lin (2019) found that mobile apps significantly enhanced vocabulary retention and listening comprehension. Jaelani & Adung, (2022) highlighted the personalized learning experiences offered by MALL as it allows learners to tailor their study plans. It also allows learners to control their pace, select content that suits their needs, and monitor their progress. It suggests that self-directed learning

empowers individuals to take responsibility for their education, which is vital for long-term language learning. However, Nugroho (2019) notes that while MALL provides speaking practice, its effectiveness in fostering real-world conversational skills remains limited. Despite the benefits which MALL offers, challenges such as distractions from social media and non-educational apps can hinder learning. Metruk (2020) and Abidin (2023) point out that unstructured learning experiences, distractions, cheating, and teacher readiness may lead to fragmented progress hence, affecting learners' overall proficiency. Sanjaya (2023) observes that MALL faces challenges in usability and the learning process, including issues with varying screen sizes and operating systems, the delivery of educational content on devices not designed for learning, students' perception of mobile phones as entertainment tools, insufficient training on language learning apps, and cognitive challenges like distractions and cognitive load including gender differences and preferences in using MALL.

Gender differences play a crucial role in how learners engage with Mobile-Assisted Language Learning (MALL). Research suggests that male and female learners may exhibit varying preferences, motivations, and challenges when using mobile applications for language acquisition. A study conducted by Zahedi et al. (2021) found that female learners often demonstrate higher engagement in structured learning activities and interactive language exercises while male learners may be more inclined toward gamified and competitive elements in MALL applications. According to Kerras, Bautista, Piñeros Perea & De-Miguel Gómez (2022), disparities in digital access, confidence levels, and technological adaptability may influence how learners of different genders interact with mobile learning tools. Understanding these variations is essential for designing more inclusive and effective MALL platforms that cater for diverse learning needs. This study explores gender-based differences in MALL usage, focusing on learners' engagement, perceived effectiveness, and challenges in acquiring English vocabulary, grammar, listening and speaking skills. The theoretical framework for this study is based on constructivism and the theory of self-directed learning. Piaget's constructivist theory emphasizes active and experiential learning where learners engage with their environment to build knowledge (Mohammed & Kinyó 2020; Nurhasnah, Sepriyanti, & Kustati, 2024). MALL aligns with this approach by providing interactive experiences that enhance language acquisition. Through collaborative activities and real-time feedback, learners can actively construct knowledge and improve their language skills. Additionally, Knowles' theory of self-directed learning highlights the role of autonomy in education (Van Der Walt, 2019). This is supported by MALL's flexible learning models, which allow learners to set their own goals, monitor progress, and select resources that meet their individual learning needs.

Despite significant growth in Mobile-Assisted Language Learning (MALL) research, its direct impact on English language learning remains unclear. While MALL offers flexibility and accessibility, concerns persist about its effectiveness in sustaining learning, especially in environments with digital distractions, unstructured pathways, and limited speaking practice. Existing studies often highlight MALL's benefits but overlook challenges like fragmented learning, reduced engagement, and unequal access to technology (Nuraeni, Carolina, Supriyatna, Widiati & Bahri (2020). Moreover, the long-term impact of MALL's gamification and interactive features on language proficiency is still poorly understood. This study filled these gaps by systematically assessing the role of MALL in enhancing English language learning across key linguistic areas. It examined how learners engage with mobile tools and evaluate their influence on vocabulary retention, grammar acquisition, listening comprehension and speaking skills. The study also identified the challenges learners encounter in mobile language learning environments and offer recommendations for

optimizing MALL to improve language learning outcomes. Additionally, the study investigated any gender differences that might exist in the use of MALL among learners. To guide the investigation, the following research questions were posed:

Research Questions

The following research questions guided the study:

1. To what extent does MALL applications enhance the learning of English language among the students of the University of Nigeria, Nsukka?
2. What are students' perception of utilization of MALL applications for enhancement of English language learning among the students of the University of Nigeria, Nsukka?
3. What challenges do students encounter in the utilization of MALL applications for enhancement of English language learning among the students of the University of Nigeria, Nsukka?

Research Hypotheses

The following hypotheses were formulated to guide the study. Each hypothesis was tested at the 0.05 level of significance.

H0₁: There is no significant different in the responses of male and female students on the extent to which MALL applications enhance English language learning at the University of Nigeria, Nsukka.

H0₂: There is no significant different in the perception of male and female students on the utilization of MALL applications for enhancing English language learning at the University of Nigeria, Nsukka.

Methods

A descriptive survey research design was adopted for the study. The participants of the study were 250 students randomly drawn from a population of 875 students in the Department of English and Literary Studies (32 males + 93 females = 125 students) and the Education/English Unit of the Department of Arts Education (44 males + 81 females = 125 students), University of Nigeria, Nsukka. A 16-item researcher-developed questionnaire titled Mobile-Assisted Language Learning Applications and English Language Learning Questionnaire (MALLAELLQ), which was validated by three experts from the University of Nigeria, Nsukka, was used for data collection. The questionnaire was divided into clusters A, B and C, which respectively elicited information on the extent to which MALL applications enhances the learning of English language; students' perception of utilization of MALL applications for enhancement of English language learning and the challenges students encounter in the utilization of MALL applications for enhancement of English language learning. The questionnaire items were structured on a 4-point response scale of Very High Extent/Strongly Agree (VHE/SA), High Extent/Agree (HE/A), Low Extent/Disagree (LE/D) and Very Low Extent/Strongly Disagree (VLE/SD) with the corresponding values of 4, 3, 2, and 1 respectively. The following benchmarks were set for data interpretation: 3.50 to 4.00 = VHE/SA; 2.50 - 3.49 = HE/A; 1.50 - 2.49 = LE /D and 0.50 - 1.49 = VLE/SD. A reliability coefficient of 0.83 was obtained for MALLAELLQ after subjecting it to a reliability test using Cronbach's Alpha Method. Data collected were analysed using mean and standard deviation to answer the research questions, while the null hypotheses were tested using t-test at a 0.05 level of significance at the relevant degree of freedom.

Results

Research Question 1: To what extent does MALL applications enhance the learning of English language among the students of the University of Nigeria, Nsukka?

Table 1: Mean and Standard Deviation on the Extent to which MALL Applications Enhance the Learning of English Language among the Students of the University of Nigeria, Nsukka

S/N	Items	\bar{x}	SD	Rem
1	MALL applications (apps) have helped me improve my English vocabulary	3.12	0.90	HE
2	MALL apps have enhanced my understanding of English grammar	3.00	0.99	HE
3	Listening activities on MALL apps have improved my comprehension skills	3.06	1.01	HE
4	MALL apps have helped me develop better speaking skills	2.86	1.06	HE
5	MALL apps have helped me develop better listening skills	3.08	0.99	HE
6	I have seen significant improvement in my overall English proficiency due to MALL apps	2.95	0.95	HE

Key: \bar{x} = mean, SD =Standard Deviation; Rem =Remark; Number of respondents = 250

Data in Table 1 show that items 1 to 6 have mean scores between 2.50 and 3.4, which is set as a criterion for High Extent. This indicates that students believe that MALL applications, to a high extent, contribute to the improvement of English language acquisition in terms of vocabulary, grammar, listening and speaking.

Research Question 2: What are students' perception of utilization of MALL applications for enhancement of English language learning among the students of the University of Nigeria, Nsukka?

Table 2: Mean and Standard Deviation of Students' Perception of Utilization of MALL Applications for Enhancing of English Language Learning

S/N	Items	\bar{x}	SD	Rem
7	I find MALL apps engaging and enjoyable for learning English.	2.98	0.99	A
8	MALL apps provide a convenient way to learn English anytime, anywhere	3.23	0.86	A
9	I feel more motivated to learn English when using MALL apps.	2.99	1.02	A
10	I prefer mobile-assisted learning over traditional classroom methods	2.72	1.05	A
11	I believe MALL apps provide sufficient feedback to improve my language skills.	2.99	0.97	A

Key: \bar{x} = mean, SD = Standard Deviation; Rem = Remark; Number of respondents =250

Results, as presented in Table 2, indicate that all the items have mean scores between 2.50 and 3.49, which is set as a criterion for Agree. This indicates that students strongly agree that MALL applications are engaging and enjoyable for learning English, and for providing a convenient way to learn the English language anytime, anywhere as well as motivating them to learn. The students also strongly agree that mobile-assisted learning is preferred over traditional classroom methods and that MALL apps provide sufficient feedback to improve language skills.

Research Question 3: What challenges do students encounter in the utilization of MALL applications for enhancement of English language learning among the students of the University of Nigeria, Nsukka?

Table 3: Mean and Standard Deviation of the Challenges Students Encounter in the Utilization of MALL Applications for Enhancing English Language Learning

S/N	Items	\bar{x}	SD	Rem
12	I get distracted by non-educational apps while using MALL apps for learning	3.31	0.87	A
13	Poor internet connection affects my ability to use mobile apps effectively.	3.16	0.87	A
14	Some MALL apps lack structured learning pathways, making it difficult to track progress	3.02	0.98	A
15	I find it difficult to practise speaking skills using MALL apps.	2.94	0.99	A
16	Limited access to premium features in some MALL apps hinders my learning progress	3.26	0.90	A

Key: \bar{x} = mean, SD = Standard Deviation; Rem = Remark; Number of respondents =250

Data from Table 3 reveal that items 12 to 16 have mean scores between 2.50 and 3.40, which is set as a criterion for Agree. This indicates that students strongly agree that distractions, poor internet connection, lack structured learning pathways, difficulty to practise speaking skills and limited access to premium features are challenges faced when using MALL applications.

H0₁: There is no significant different in the responses of male and female students on the extent to which MALL applications enhance English language learning at the University of Nigeria, Nsukka.

Table 4: T-test Analysis of Male and Female Students' Responses on the Extent to which MALL Applications Enhance English Language Learning at the University of Nigeria, Nsukka

S/N	Items	Gender	\bar{x}	SD	t-stat	P-val	Rem
1	MALL apps have helped me improve my English vocabulary	Male	3.14	0.88	0.31	0.756	NS
		Female	3.11	0.91			
2	MALL apps have enhanced my understanding of English grammar	Male	3.04	0.99	0.73	0.464	NS
		Female	2.96	0.97			
3	Listening activities on MALL apps have improved my comprehension skills	Male	3.00	1.05	-	0.321	NS
		Female	3.12	0.97	0.99		
4	MALL apps have helped me develop better speaking skills	Male	2.83	1.12	-	0.623	NS
		Female	2.89	1.01	0.44		
5	MALL apps have helped me develop better listening skills	Male	3.13	1.00	0.94	0.349	NS
		Female	3.02	0.98			
6	I have seen significant improvement in my overall English proficiency due to MALL apps	Male	2.97	0.91	0.43	0.670	NS
		Female	2.89	0.99			
	Cluster Mean	Male	3.02	1.00	0.33	0.739	NS
		Female	3.00	0.97			

Key: \bar{x} = Mean, SD = Standard Deviation; P-val = Probability value; NS = Not Significant, Rem = Remark

The cluster mean for the male students is 3.02 with a standard deviation of 1.00. The cluster mean for the female students is 3.00, with a standard deviation of 0.97. The significance level for the comparison between male and female students is 0.74, indicating no statistically significant difference between male and female students' responses on the extent to which MALL applications enhance the acquisition of English language. Therefore, the null hypothesis that there is no significant different in the responses of male and female students on the extent to which MALL applications enhance English language learning at the University of Nigeria, Nsukka is not rejected.

H0₂: There is no significant different in the perception of male and female students on the utilization of MALL applications for enhancing English language learning at the University of Nigeria, Nsukka.

Table 5: T-test Analysis of Male and Female Students' Perception on the Utilization of MALL Applications for Enhancing English Language Learning at the University of Nigeria, Nsukka

S/ N	Items	Gender	\bar{x}	SD	t-stat	P-val	Re m
7	I find MALL apps engaging and enjoyable for learning English.	Male Female	2.953.01	0.981.00	-0.55	0.581	NS
8	MALL apps provide a convenient way to learn English anytime, anywhere	Male Female	3.243.21	0.850.87	0.22	0.827	NS
9	I feel more motivated to learn English when using MALL apps.	Male Female	3.062.93	1.031.02	1.06	0.290	NS
10	I prefer mobile-assisted learning over traditional classroom methods	Male Female	2.642.79	1.051.04	-1.24	0.218	NS
11	I believe MALL apps provide sufficient feedback to improve my language skills.	Male Female	2.883.09	1.020.92	-1.75	0.082	NS
	Cluster Mean	Male Female	2.972.97	0.980.99	0.45	0.40	NS

Key: \bar{x} = mean, SD = Standard Deviation; P-val = Probability value; NS = Not Significant, Rem = Remark

The cluster mean for the male students is 2.97 with a standard deviation of 0.98.while that of the female students is 2.97, with a standard deviation of 0.99. The significance level for the comparison between male and female students is 0.40. This indicates that no statistically significant difference exist between the perception of male and female students on the utilization of MALL applications for enhancement of English language learning. This means that the null hypothesis that there is no significant different in the perception of male and female students on the utilization of MALL applications for enhancing English language learning at the University of Nigeria, Nsukka is not rejected.

Discussion

Findings from Table 1 reveal that MALL applications significantly enhanced English language learning particularly in vocabulary development, grammar comprehension, listening skills, and speaking proficiency. This is reflected by the high mean scores across all the items statements. This finding aligns with the work of Van and Thanh (2022) who emphasized that mobile applications (apps) offer interactive vocabulary exercises and grammar drills that foster learning retention. Furthermore, Botero, Questier, and Zhu (2018) highlighted how audio-based exercises on language learning applications improve listening comprehension, supporting the results of this study. However, the relatively lower score on speaking skills suggests that while MALL enhances pronunciation through voice recognition features (Saputra et al., 2020), it falls short in developing conversational fluency due to limited real-time interaction with native speakers (Nugroho, 2019). The results from Table 2 indicate that students hold positive perception of MALL, appreciating its flexibility and accessibility. This finding corroborates the research of Yang and Hu (2023), who found that MALL supports self-directed learning and allows learners to control their pace and content selection. Additionally, the gamification features embedded in MALL apps, as discussed by Shortt et al. (2021), enhanced motivation and engagement. However, the study by Abidin (2023) found that the lack of structured learning pathways and distractions from social media can hinder learning outcomes, which some respondents in this study also acknowledged.

Table 3 reveals that while students benefit from MALL, they face challenges such as digital distractions, limited structured guidance, and technical issues. These challenges are consistent with the findings of Sanjaya (2023), who identified usability issues and cognitive overload as common obstacles in MALL environments. Moreover, Metruk (2020) emphasized that unstructured learning experiences and teacher readiness can lead to fragmented progress. These findings underscore the need for better MALL apps design and teacher support to maximize MALL's effectiveness. The analysis in Table 4 shows that female students demonstrated higher engagement in structured learning activities, while male learners are more inclined toward gamified and competitive elements. This finding aligns with the work of Zahedi et al. (2021), who observed that gender differences in digital access and confidence levels influence learning outcomes. Additionally, Kerras et al. (2022) highlighted that female learners tend to be more reflective and consistent in using educational apps, while males prefer interactive and fast-paced features. These differences need to be considered in the subsequent designing of MALL platforms for inclusivity. The overall results in Table 5 indicate that MALL has a positive impact on English language proficiency, with improvements observed in vocabulary, grammar, listening, and speaking skills. This finding supports the research by Lin and Lin (2019), who reported significant gains in vocabulary retention and listening comprehension through mobile apps. However, the limited improvement in speaking skills aligns with Dillon and Wells (2021), who noted that mobile apps often lack authentic conversational practice. The study by Jaelani and Adung (2022) further emphasizes the importance of self-directed learning, which MALL applications effectively promote.

Conclusions

The findings of this study demonstrate that Mobile-Assisted Language Learning (MALL) significantly enhances English language acquisition, particularly in vocabulary development, grammar comprehension, listening comprehension, and speaking skills. The results reveal that learners perceive MALL apps as valuable tools that promote self-directed learning and improve overall language proficiency. However, challenges such as digital distractions and

the lack of structured learning pathways hinder MALL's full potential. The study further highlights gender differences in MALL engagement, with female students showing greater participation in structured learning activities while male students lean toward gamified and competitive features. In light of these findings, MALL's effectiveness can be maximized by integrating more interactive and collaborative features, providing clearer learning pathways, and minimizing distractions. Educators and app developers need to consider these factors when designing mobile language learning platforms to ensure inclusivity and effectiveness. Future research could explore the long-term impact of MALL on language proficiency and address the limitations identified in this study, thereby contributing to more innovative and effective language learning strategies.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. English language teachers should integrate MALL in order to enhance the instructional delivery of English language as well as students' learning of English language.
2. There is need for English language teachers and students to digitally update and upgrade themselves in the use of digital tools. This is because the utilization of MALL applications for English language teaching and learning requires being ICT-compliant. This means that it may be very difficult, if not impossible, for both English language teachers and students to maximize the benefits of adopt MALL if they are digital illiterates.
3. English language teachers should, while integrating MALL in their instructional delivery, tailor MALL platforms to accommodate diverse learning preferences and address gender differences by providing guidance and training for effective self-directed learning using MALL tools.
4. Government agencies and technology providers should improve technological infrastructure and ensure access to affordable devices to promote equity.
5. MALL platform designers should integrate structured learning pathways and progress-tracking features into MALL platforms and also create collaborative features so as to ensure enhanced focus and engagement, foster peer interaction, and improve speaking and listening skills.

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