

Leveraging WhatsApp to Improve English Language Skills in Nigerian Secondary Education

Olusegun Oladele Jegede^{[a],*}; Patricia O. Arubuola^[b]

^[a] Department of Languages and Literature, Lead City University, Ibadan, Nigeria.

*Corresponding author.

Received 15 August 2025; accepted 16 September 2025
Published online 26 September 2025

Abstract

This study investigated the effectiveness of WhatsApp as a digital platform for improving English language skills among secondary school students in Nigeria. It was undertaken to address the research gap on how mobile messaging applications influence language learning in resource-constrained contexts. The specific objectives of the study were to assess the impact of WhatsApp on students' reading comprehension, writing, and speaking skills; to evaluate the level of engagement fostered by the platform; and to determine its influence on academic performance. Guided by the constructivist learning theory, a quasi-experimental design was employed involving 600 students from diverse socio-economic backgrounds. Participants were divided into an experimental group using WhatsApp for English learning and a control group without access to the platform. Data were collected through pre- and post-tests, surveys, and academic records, and analysed using t-tests and ANOVA. The study found that students who engaged with WhatsApp recorded significant improvement in language proficiency, demonstrated higher levels of participation and motivation, and achieved better grades compared to those in the control group. The study concluded that WhatsApp is not only a communication tool but also a valuable educational resource capable of enhancing English language learning. The study contributed to existing knowledge by providing empirical evidence of the pedagogical value of mobile messaging platforms in secondary education and recommended their structured integration into classroom instruction.

Key words: WhatsApp; English proficiency; Secondary students; Mobile learning; Student engagement

Jegede, O. O., & Arubuola, P. O. (2025). Leveraging WhatsApp to Improve English Language Skills in Nigerian Secondary Education. *Higher Education of Social Science*, 29(1), 41-52. Available from: URL: <http://www.cscanada.net/index.php/hess/article/view/13871>
DOI: <http://dx.doi.org/10.3968/13871>

I. INTRODUCTION

In recent years, the integration of digital technologies into educational practices has gained significant attention, especially with the rapid advancement and widespread use of mobile applications. Among these technologies, WhatsApp, a popular messaging platform, has emerged as a potential tool for educational purposes due to its accessibility, ease of use, and multimedia capabilities. WhatsApp allows for instant communication, sharing of diverse content formats such as text, audio, video, and images, and facilitates interactive discussions, making it a versatile platform for learning (Church & de Oliveira, 2013). In the context of language learning, especially English, which is a crucial skill for academic and professional success in Nigeria, leveraging such digital tools presents an innovative approach to overcoming traditional educational barriers (Jegede & Adesina, 2022). Traditional classroom settings often face challenges such as limited resources, large class sizes, and insufficient personalized attention, which can hinder effective language acquisition (Yusuf, 2005). Therefore, integrating WhatsApp into English language learning could potentially address these challenges by providing a more engaging, flexible, and interactive learning environment (Jegede, Yusuf, & Aliyu, 2024).

Despite the potential benefits of using WhatsApp in educational settings, there is a lack of empirical evidence on its effectiveness specifically in improving English language proficiency among secondary school students in Nigeria. Previous studies have revealed the general advantages of mobile learning, such as increased motivation and engagement (Gikas & Grant, 2013), but there remains a gap in the literature regarding the specific impacts of WhatsApp on different aspects of language skills, including reading comprehension, writing, speaking, and listening (Jegede, 2021). Furthermore, while anecdotal evidence suggests that students may benefit from the interactive and multimedia capabilities of WhatsApp, systematic research is needed to substantiate these claims and provide concrete data to guide educational practices. Therefore, the purpose of this study is to investigate the effectiveness of WhatsApp as a teaching platform in enhancing English language proficiency among secondary school students in Nigeria. Examining key variables such as student engagement, attitudes toward learning, and academic performance enables this study to provide a comprehensive assessment of WhatsApp's potential as an educational tool. Specifically, the study seeks to determine whether regular use of WhatsApp can significantly improve reading comprehension, enhance writing and speaking skills through interactive and multimedia content, and correlate high levels of engagement with better academic outcomes (Jegede, Yusuf, & Aliyu, 2024).

The research questions addressed by the study include:

- 1) How does regular use of WhatsApp as a teaching platform impact students' reading comprehension in English?
- 2) What is the effectiveness of interactive and multimedia content on WhatsApp in enhancing students' writing and speaking skills compared to traditional instructional methods?
- 3) To what extent do high engagement levels on WhatsApp correlate with improved academic performance in English, including overall grades and test scores?
- 4) What are students' attitudes towards learning English through WhatsApp, and how do these attitudes influence their motivation and learning outcomes?

The study is also guided by three hypotheses, which include:

- 1) Regular use of WhatsApp as a teaching platform significantly improves students' reading comprehension in English.
- 2) Interactive and multimedia content on WhatsApp enhances students' writing and speaking skills more effectively than traditional methods.
- 3) High levels of student engagement on WhatsApp correlate with better academic performance in English.

This study holds significant implications for educators, policymakers, and researchers. For educators, understanding the impact of WhatsApp on English language learning can inform teaching strategies and help integrate effective digital tools into the curriculum, thereby enhancing the learning experience and outcomes for students. This is particularly crucial in contexts where traditional resources are limited, and innovative solutions are needed to bridge educational gaps (UNESCO, 2012). For policymakers, the findings of this study can provide evidence-based insights to support the development and implementation of policies that promote the integration of mobile technologies in education. This aligns with global educational goals to leverage technology for inclusive and equitable quality education (UNESCO, 2015). Additionally, for researchers, this study contributes to the growing body of literature on mobile learning by providing empirical data on the specific impacts of WhatsApp, thereby filling existing research gaps and paving the way for future studies. In essence, the study aims to demonstrate that when used effectively, WhatsApp can be a powerful tool to enhance English language learning, promote student engagement, and improve academic performance, contributing to the overall goal of enhancing educational quality and accessibility in Nigeria (Jegede & Adesina, 2022).

2. LITERATURE REVIEW

2.1 Overview of the Increasing Integration of Digital Technologies in Education

The integration of digital technologies into education has rapidly increased in recent years, transforming traditional teaching methods and enhancing learning experiences. This shift is driven by the widespread availability and use of digital devices such as smartphones, tablets, and laptops, which offer new ways for students to access information, collaborate, and engage with educational content. Mobile applications, in particular, have become indispensable tools in modern education, providing flexible, accessible, and interactive learning opportunities that transcend the limitations of conventional classroom settings. Research by Jegede, Yusuf, and Aliyu (2024) indicates the importance of digital technologies in solving educational challenges, particularly in diverse and resource-limited contexts such as Nigeria. These technologies facilitate inclusive education by providing diverse learners with tailored resources and support, thereby enhancing their learning outcomes and engagement.

Mobile learning applications, or Mobile-Assisted Language Learning (MALL) tools, play a crucial role in language education by leveraging the capabilities of mobile devices to support and enhance language acquisition. Studies have shown that mobile applications

like WhatsApp can significantly improve various language skills, including reading, writing, speaking, and listening. For instance, Awada (2016) found that the use of WhatsApp positively affected students' critique writing proficiency and their perceptions toward learning. Similarly, Baleghizadeh and Oladrostam (2010) demonstrated that MALL tools could enhance grammatical accuracy among English as a Foreign Language (EFL) students. These applications provide students with continuous access to learning materials, instant feedback, and opportunities for real-time communication and collaboration, which are essential for language development. Bouhnik and Deshen (2014) revealed that WhatsApp facilitates meaningful interactions between teachers and students, fostering a more interactive and engaging learning environment. The use of mobile learning applications in language education thus offers significant pedagogical benefits, making language learning more accessible, personalized, and effective.

2.2 WhatsApp as an Educational Tool

WhatsApp is a widely used mobile messaging application that offers a range of features conducive to educational purposes. It allows users to send text messages, images, audio, and video files, as well as conduct voice and video calls. These functionalities make it a versatile tool for communication and information sharing. Additionally, WhatsApp supports group chats, which can facilitate collaborative learning among students. The application's real-time messaging capability and widespread availability make it an accessible and efficient platform for educational interactions (Goundar, 2015). The user-friendly interface and cross-platform compatibility further enhance its appeal as an educational tool, enabling seamless integration into various teaching and learning environments.

Research has shown that WhatsApp can significantly enhance educational experiences by improving communication, collaboration, and access to learning resources. Chen and Hsu (2008) discussed how personalized mobile learning systems, including those leveraging applications like WhatsApp, can support effective English learning by providing tailored feedback and resources to students. In the context of language learning, Demouy and Kukulska-Hulme (2010) found that mobile devices, such as smartphones with apps like WhatsApp, could facilitate listening and speaking practice, making language acquisition more interactive and engaging. Han and Keskin (2016) also demonstrated that using WhatsApp could reduce speaking anxiety among EFL students, revealing its potential to create a supportive and less intimidating learning environment. These studies collectively indicate that WhatsApp's features can be effectively harnessed to support various educational objectives, particularly in language learning contexts.

One of the primary benefits of using WhatsApp in education is its ability to enhance communication and collaboration among students and teachers. Cifuentes and Lents (2011) emphasized the importance of increasing student-teacher interactions, particularly in urban commuter campuses, through instant messaging and online office hours. WhatsApp facilitates immediate and direct communication, which can bridge the gap between students and educators, fostering a more connected and interactive learning experience. Desai and Graves (2006) noted that instant messaging platforms like WhatsApp could provide an effective medium for instructional support, allowing for timely feedback and assistance. This real-time communication capability is crucial in maintaining engagement and ensuring that students receive the help they need promptly. Furthermore, group chats on WhatsApp enable collaborative learning, where students can discuss assignments, share ideas, and work together on projects, thereby enhancing their learning outcomes through peer-to-peer interaction and collective problem-solving.

Another significant advantage of WhatsApp in educational settings is its ability to share multimedia content easily. Chen and Chung (2008) explored the benefits of personalized mobile English vocabulary learning systems that utilize multimedia to enhance learning effectiveness. WhatsApp's ability to send images, audio clips, and videos allows educators to diversify their teaching materials and methods. For example, teachers can send vocabulary lists, pronunciation guides, and video explanations to support language learning. This multimedia approach caters to different learning styles and can make the learning experience more engaging and interactive. Moreover, Goundar (2015) revealed that mobile devices, including WhatsApp, could facilitate the delivery of diverse educational content, making learning more dynamic and accessible. Integrating multimedia resources into the learning process through WhatsApp creates a more enriched educational environment, allowing students to interact with content in diverse formats and enhancing their understanding and retention of the material.

2.3 Impact of WhatsApp on the Learning of Language Skills

Reading Comprehension

The integration of WhatsApp in language learning has shown significant potential in enhancing students' reading comprehension skills. Hashemi and Abbasi (2013) found that mobile phones, including applications like WhatsApp, positively impact vocabulary retention, which is a fundamental aspect of reading comprehension. Engaging with diverse textual content shared through WhatsApp exposes students to new vocabulary and contextual usage, enhancing their comprehension and interpretation of written materials. Furthermore, Harley et al. (2007)

emphasized that texting can support students' transition to new educational environments by keeping them connected with their peers and instructors. This constant interaction can encourage students to read more frequently, thereby improving their reading skills. Text-based discussions on WhatsApp, where students are encouraged to read and respond to messages, contribute significantly to their ability to comprehend and analyze texts. Such activities simulate real-life reading scenarios, fostering critical thinking and comprehension.

WhatsApp offers various mechanisms to enhance reading skills, such as text-based discussions and reading assignments. In these discussions, students can participate in group chats where they discuss assigned readings, share their interpretations, and pose questions. This interactive environment encourages students to read carefully and think critically about the texts. Additionally, instructors can assign reading tasks and follow up with comprehension questions or quizzes shared via WhatsApp. Huang and Sun (2010) revealed that mobile technologies support multimedia learning exercises, which can include reading activities that are more engaging and accessible. These mechanisms not only promote regular reading practice but also allow for immediate feedback and support from peers and educators, thereby reinforcing students' reading skills.

Writing Skills

Research indicates that WhatsApp also positively impacts students' writing proficiency. Hayati (2013) demonstrated that using SMS (a precursor to instant messaging apps like WhatsApp) to teach English idioms significantly improved students' writing skills by providing regular practice and exposure to complex language structures. WhatsApp facilitates interactive writing tasks, where students can collaborate on writing assignments, provide peer feedback, and engage in creative writing exercises. This constant practice helps students refine their writing skills, enhance their grammatical accuracy, and expand their vocabulary. Moreover, the informal nature of WhatsApp communication allows students to write more freely and experiment with different styles and expressions without the fear of making mistakes. This practice can lead to increased confidence and proficiency in writing.

Speaking and Listening Skills

WhatsApp is particularly effective in developing speaking and listening skills through its multimedia capabilities. Han and Keskin (2016) found that using WhatsApp could reduce EFL speaking anxiety, indicating that the platform provides a comfortable space for students to practice speaking. WhatsApp allows students to send voice notes, which can be used for pronunciation practice, oral assignments, and spontaneous speech exercises. Video calls provide opportunities for real-time conversations, simulating face-to-face interactions. Additionally, audio comprehension tests can be conducted by sharing audio

files, which students can listen to and respond to via text or voice messages. These activities help students improve their listening comprehension and speaking fluency by providing regular, practical experience in a supportive environment.

The comprehensive use of WhatsApp in language learning supports the development of all four key language skills: reading, writing, speaking, and listening. According to Ison (2004), mobile technologies can support disengaged youth by providing flexible and accessible learning opportunities, which is crucial for holistic language development. WhatsApp's versatility allows educators to design a balanced curriculum that addresses each skill area effectively. For instance, reading and writing skills are enhanced through text-based interactions and assignments, while speaking and listening skills are developed through voice notes and video calls. The ability to combine these various activities within a single platform makes WhatsApp a powerful tool for integrated language learning. Fostering a collaborative and interactive learning environment through WhatsApp enables students to build confidence and competence in using English in real-life contexts.

2.4 Student Engagement and Motivation

Engagement is a crucial factor in determining learning outcomes, as it directly influences students' motivation, participation, and their academic success. Johnson and Johnson (2013) reveal that active engagement in learning activities fosters deeper understanding and retention of knowledge. When students are engaged, they are more likely to be motivated, which enhances their commitment to learning and their ability to apply new skills effectively. This engagement is not just about participation but involves emotional and cognitive investment in the learning process, which leads to better performance and higher satisfaction with the educational experience. In the context of language learning, engagement can manifest through active participation in discussions, consistent practice, and collaborative learning activities, all of which contribute to improved language proficiency and confidence.

Research has demonstrated that the use of WhatsApp in educational settings can significantly boost student engagement and motivation. Jegede, Yusuf, and Aliyu (2024) discuss the integration of digital tools in Nigerian education, emphasizing that platforms like WhatsApp can make learning more interactive and inclusive. WhatsApp facilitates immediate feedback, peer interactions, and continuous access to learning materials, all of which are critical in maintaining high levels of student engagement. Kim et al. (2013) found that students perceived mobile learning, including the use of WhatsApp, as beneficial for their learning experiences, citing increased flexibility, accessibility, and a sense of community. Furthermore, Jegede and

Adesina (2022) reveal that digitizing English language teaching through platforms like WhatsApp can cater to the digital preferences of the e-generation students, making learning more appealing and aligned with their daily communication habits. This digital alignment helps maintain student interest and motivation over time, leading to better learning outcomes.

When comparing WhatsApp-based learning to traditional teaching methods, the former often demonstrates superior outcomes in terms of student engagement and motivation. Traditional methods, while effective in certain contexts, often lack the immediacy and interactivity that digital platforms provide. Ke and Grabowski (2007) argue that cooperative learning, which can be effectively facilitated through WhatsApp, enhances engagement more than individualistic learning approaches typically used in traditional classrooms. WhatsApp allows for constant communication and collaboration, enabling students to work together on assignments, share resources, and support each other, which fosters a more engaging and dynamic learning environment. Jegede (2021) discusses the merits of mobile-assisted language learning, noting that it offers a more flexible and interactive approach compared to conventional methods. This flexibility allows students to learn at their own pace and convenience, making education more accessible and less rigid. Moreover, the real-time nature of WhatsApp helps sustain student interest and motivation by providing instant feedback and maintaining a continuous learning dialogue, unlike the delayed feedback often experienced in traditional settings.

2.5 Attitudes towards Learning English with WhatsApp

Student attitudes towards learning English with WhatsApp have been explored through surveys and qualitative studies, revealing insights into how this platform influences their perceptions and engagement. Surveys, such as those conducted by Kim, Rueckert, Kim, and Seo (2013), have shown that students generally hold positive attitudes towards mobile learning tools like WhatsApp. These attitudes are shaped by several factors, including the platform's accessibility, ease of use, and perceived effectiveness in supporting language learning activities. For instance, WhatsApp's widespread availability on smartphones and its intuitive interface make it convenient for students to access learning materials and interact with peers and educators, thereby fostering positive attitudes towards its use in educational contexts (Kim et al., 2013).

Qualitative studies have further explored the subtle aspects of student attitudes towards learning English with WhatsApp. These studies reveal the role of interactivity and engagement in shaping positive perceptions. According to Jegede, Yusuf, and Aliyu (2024), students appreciate WhatsApp's interactive features, such as group

chats and multimedia sharing capabilities, which facilitate collaborative learning and peer interaction. The platform allows for real-time communication and feedback, which enhances student engagement and promotes active participation in language learning tasks. Such interactive elements are instrumental in creating a dynamic and supportive learning environment that aligns positively with students, thereby influencing their attitudes towards using WhatsApp for educational purposes.

Several factors contribute to fostering positive attitudes among students towards learning English with WhatsApp. Accessibility plays a crucial role, as revealed by Kim et al. (2013), who found that the ease of access to learning materials and the ability to engage with educational content anytime, anywhere, contribute significantly to students' favourable perceptions. WhatsApp's mobile nature allows students to integrate language learning into their daily routines, making it a seamless part of their digital lives. Moreover, the platform's user-friendly interface and familiarity contribute to its appeal, as students find it intuitive and easy to explore, which reduces barriers to engagement.

Interactivity is another key factor that influences positive attitudes towards learning English with WhatsApp. The platform enables collaborative learning activities, such as group discussions, peer feedback on assignments, and interactive quizzes, which promote active learning and social interaction among students (Jegede, Yusuf, & Aliyu, 2024). These interactive features not only enhance engagement but also foster a sense of community and mutual support among learners. Students appreciate the opportunity to communicate in real time, share multimedia content related to language learning, and collaborate with peers, which enriches their learning experiences and motivates them to participate more actively in language learning tasks.

Despite the benefits, students also perceive challenges and limitations associated with learning English via WhatsApp. One common concern is the potential for distractions and interruptions from non-academic messages or notifications, which can detract from focused learning activities (Kim et al., 2013). Maintaining discipline and setting boundaries between personal and educational use of WhatsApp can be challenging for some students, affecting their concentration and productivity in language learning tasks. Moreover, technological limitations, such as connectivity issues or device compatibility, may hinder students' access to learning materials or participation in synchronous activities, impacting their overall learning experience (Jegede, 2021).

Furthermore, privacy and security concerns related to sharing personal information or educational content on WhatsApp may influence students' willingness to fully engage with the platform. Some students may feel

uncomfortable with the idea of using a personal messaging app for educational purposes, particularly when it involves interactions with teachers and peers. Addressing these concerns through clear guidelines on data privacy and security measures can help alleviate student apprehensions and promote a more supportive learning environment conducive to positive attitudes towards using WhatsApp for learning English.

2.6 Implications for Educators and Policymakers

The implications drawn from research on mobile technologies like WhatsApp in education offer valuable insights for educators and policymakers alike. Educators can use findings to refine teaching strategies and enhance curriculum development by leveraging the interactive and collaborative features of platforms such as WhatsApp. For instance, integrating WhatsApp into language learning can encourage more dynamic and participatory classroom activities, facilitating real-time feedback and fostering peer-to-peer learning. This approach not only caters to diverse learning styles but also promotes active engagement among students, thereby potentially improving learning outcomes in language proficiency and communication skills.

From a policy perspective, the research indicates the importance of embracing mobile technologies to modernize educational practices. Policymakers can consider implementing guidelines and frameworks that support the responsible integration of WhatsApp and similar tools into the curriculum. This may involve providing professional development opportunities for educators to effectively utilize mobile technologies in teaching and learning. Additionally, policies can focus on ensuring equitable access to digital resources among students, addressing disparities in technology availability and connectivity that may hinder widespread adoption in certain regions or communities.

However, the widespread adoption of mobile technologies in education also presents challenges that need careful consideration. One potential challenge is ensuring the security and privacy of student data when using platforms like WhatsApp for educational purposes.

Policymakers must establish robust data protection measures and guidelines to safeguard student information and mitigate risks associated with digital communication tools. Moreover, integrating mobile technologies requires ongoing investment in infrastructure and technical support to maintain reliable connectivity and access to digital resources for all students. Addressing these challenges proactively can maximize the benefits of mobile learning while minimizing potential drawbacks, ensuring that educational initiatives remain effective, inclusive, and sustainable in the digital age.

3. METHODOLOGY

The research design for this study was a quasi-experimental design with a non-equivalent control group. This design allowed for comparisons between students who utilised WhatsApp as a teaching platform and those who did not, ensuring a structured approach to evaluating its impact on English language learning outcomes. The study employed both qualitative and quantitative methods to gather comprehensive data on students' proficiency, engagement levels, attitudes, and academic performance. The sample for this study comprised secondary school students in Nigeria, selected to ensure representation across various socio-economic backgrounds. A total of 600 students were included, with 300 students in the experimental group using WhatsApp for English language learning activities and 300 students in the control group following traditional instructional methods. Participants were selected from multiple schools to enhance the generalizability of findings. Informed consent was obtained from schools, parents, and students prior to their participation in the study. The sample size was determined based on statistical power considerations to detect meaningful differences in language proficiency and academic performance between the two groups. This diverse sample allowed for robust analysis and insights into the effectiveness of WhatsApp as a supplementary educational tool in the Nigerian secondary school context. Data collection involved diverse approaches: pre- and post-tests were administered to assess students' proficiency in English before and after the intervention using WhatsApp. Surveys and questionnaires were distributed to find out student engagement levels with the platform and their attitudes towards learning English through WhatsApp. Additionally, academic records, including overall grades in English and improvement in test scores over a specified period, were gathered from school records. These methods collectively provided a comprehensive evaluation of the impact of WhatsApp on students' language skills and academic performance. Statistical analysis techniques such as t-tests and ANOVA were employed to compare the proficiency and performance outcomes between students using WhatsApp and a control group who did not use it, ensuring rigorous evaluation of the platform's effectiveness.

4. RESULTS

The results of this study reveal significant findings. Through comprehensive data analysis, including pre- and post-tests, surveys, and academic records, the study evaluates the influence of WhatsApp on students' reading comprehension, writing, speaking skills, engagement

levels, and overall academic performance. Key outcomes indicate marked improvements in language proficiency and academic achievements among students who regularly used WhatsApp for learning activities.

4.1 Frequency of WhatsApp Use

Table 1
Frequency of WhatsApp Use and Student Numbers

Frequency of Use	Number of Students	Average Score Increase (%)
Daily	150	15
Weekly	100	10
Monthly	50	5

Table 1 illustrates the distribution of students based on their usage frequency of WhatsApp for learning English and the corresponding average score increases, revealing the correlation between frequent use and improved academic performance. In our study, we categorized the usage into three groups: daily, weekly, and monthly. Daily users are those who engage with WhatsApp educational content every day, weekly users engage once or twice a week, and monthly users engage a few times within a month. The data collected showed that 150 students used WhatsApp daily, 100 students used it weekly, and 50 students used it monthly. Analysis revealed that daily users exhibited the highest improvement in English proficiency, with an average score increase of 15%, compared to 10% for weekly users and 5% for monthly users. This suggests that more frequent interaction with the platform leads to better learning outcomes. Daily users also showed higher engagement and participation rates, contributing to their improved proficiency. Therefore, integrating regular WhatsApp-based activities into the curriculum could enhance students' language skills more effectively than sporadic use.

4.2 Type of Content Shared and Student Performance

The type of content shared on WhatsApp as a teaching platform plays a crucial role in enhancing students' learning experiences and outcomes. In this study, the content was categorized into four types: text, audio, video, and quizzes. Each type of content was assessed based on its effectiveness in improving students' English proficiency.

Table 2
Type of Content Shared and Student Performance

Content Type	Number of Students	Average Score Increase (%)	Engagement Level (High/Medium/Low)
Text	80	5	Medium
Audio	70	8	High
Video	90	12	High
Quizzes	60	10	High

Table 2 shows that video content had the highest impact on students' proficiency, with an average score increase of 12%, followed by quizzes at 10%, audio at 8%, and text at 5%. Videos were found to be highly engaging, as they combine visual and auditory learning, catering to different learning styles and enhancing comprehension and retention. Quizzes also had a significant impact, as they promote active recall and provide immediate feedback, which is crucial for learning reinforcement. Audio content, such as podcasts and recorded lectures, was effective in improving listening and comprehension skills, leading to an 8% increase in scores. Text-based content, although less impactful, still contributed to vocabulary building and reading comprehension, resulting in a 5% increase. The findings suggest that incorporating a mix of multimedia content, particularly videos and interactive quizzes, can greatly enhance the effectiveness of WhatsApp as a teaching tool for English language learners.

4.3 Interaction Style and Student Performance

The interaction style on WhatsApp as a teaching platform is crucial in influencing students' engagement and learning outcomes. We examined three primary interaction styles: one-way communication, interactive discussions, and group work. Each style's effectiveness was measured by the improvement in students' English proficiency and their engagement levels.

Table 3
Interaction Style and Student Performance

Interaction Style	Number of Students	Average Score Increase (%)	Engagement Level (High/Medium/Low)
One-way Communication	80	5	Low
Interactive Discussions	90	12	High
Group Work	70	10	High

Table 3 reveals that interactive discussions had the highest impact on students' English proficiency, with an average score increase of 12%. This style fosters a high level of engagement by allowing students to actively participate, ask questions, and clarify doubts in real-time, which enhances their understanding and retention of the material. Interactive discussions also encourage peer-to-peer learning, where students can benefit from each other's insights and explanations. Group work, involving collaborative projects and assignments, resulted in a 10% increase in average scores. This style promotes teamwork and communication skills, enabling students to learn from collective efforts and diverse perspectives. Group work also enhances critical thinking and problem-solving abilities, as students collaborate to achieve common goals. One-way communication, where teachers broadcast information without interactive elements, showed the

least impact, with only a 5% increase in scores. This style tends to have lower engagement levels, as students are passive recipients of information and lack opportunities for active involvement and feedback. Incorporating interactive discussions and group work into WhatsApp-based teaching can significantly enhance students' learning outcomes and engagement. These interactive styles facilitate a dynamic learning environment that supports active participation, collaboration, and deeper comprehension of the English language.

4.4 Students' English Proficiency

The proficiency of students in English was evaluated using four key variables: reading comprehension scores, writing skills, listening skills, and speaking skills. These variables collectively measure the comprehensive language abilities of the students, providing a holistic view of their proficiency levels. Reading comprehension was assessed through standardized tests, where students answered questions based on provided texts. Out of 300 students, 240 (80%) demonstrated significant improvement in their scores, reflecting their enhanced ability to understand and interpret written material. Writing skills were measured by evaluating essays and written assignments on various topics. 210 students (70%) showed marked improvement in their writing, indicated by better structure, grammar, and vocabulary usage. This suggests that consistent practice and feedback via WhatsApp contributed positively to their writing abilities. Listening skills were gauged through audio comprehension tests, where students listened to recordings and answered related questions. A total of 195 students (65%) improved their scores, demonstrating better understanding and interpretation of spoken English. This improvement is attributed to the frequent exposure to audio content like podcasts and recorded lessons shared on WhatsApp. Speaking skills were evaluated through recorded oral exams, where students spoke on given topics. 180 students (60%) exhibited noticeable progress in their speaking abilities, such as pronunciation, fluency, and coherence. This was likely due to the interactive discussions and voice note exchanges on the platform, which provided ample practice opportunities.

Table 4
Students' English Proficiency

Proficiency Variable	Number of Students Improved	Percentage of Students Improved (%)
Reading Comprehension	240	80%
Writing Skills	210	70%
Listening Skills	195	65%
Speaking Skills	180	60%

Table 4 indicates that using WhatsApp as a teaching platform significantly enhances various aspects of students' English proficiency, with the highest improvement observed in reading comprehension and the lowest in speaking skills. This reveals the platform's effectiveness in supporting diverse learning needs and facilitating comprehensive language development.

4.5 Student Engagement

Student engagement on WhatsApp as a teaching platform was evaluated through participation rates, specifically the number of messages sent/received and the frequency of active participation. High engagement levels are crucial for effective learning, as they indicate active involvement and interest in the learning process.

Table 5
Student Engagement Metrics

Engagement Metric	High Engagement (150 students)	Medium Engagement (100 students)	Low Engagement (50 students)
Messages Sent/Received (per week)	>50	20-50	<20
Frequency of Active Participation	Daily	Weekly	Monthly

Table 5 shows that out of 300 students, 150 (50%) demonstrated high engagement levels, sending and receiving more than 50 messages per week and participating daily. These students actively interacted with peers and teachers, asked questions, and contributed to discussions. High engagement was associated with higher academic performance and proficiency improvements, as these students were more immersed in the learning process. 100 students (33.3%) showed medium engagement, with 20-50 messages exchanged per week and participation occurring weekly. These students were moderately active, engaging primarily during scheduled sessions or when prompted by teachers. Although their proficiency and performance improved, the gains were less pronounced compared to highly engaged students. The remaining 50 students (16.7%) had low engagement levels, sending and receiving fewer than 20 messages per week and participating monthly. These students were less involved, often missing out on interactive learning opportunities. Consequently, their proficiency improvements were minimal, revealing the importance of frequent and active participation in achieving better learning outcomes. The analysis indicates that higher participation rates and frequent active participation are strongly correlated with improved English proficiency and academic performance. Encouraging students to engage regularly and interactively on WhatsApp can enhance their learning experience and outcomes significantly.

4.6 Student Attitudes Towards Learning English

To assess students' attitudes towards learning English using WhatsApp, surveys and questionnaires were administered. The surveys included questions about students' enjoyment of learning English, their perceived improvement, the ease of using WhatsApp for learning, and their overall motivation and confidence in using English. The responses were categorized into three levels: Positive, Neutral, and Negative.

Table 6
Student Attitudes Towards Learning English

Attitude Level	Number of Students	Percentage of Students (%)
Positive	180	60
Neutral	80	26.7
Negative	40	13.3

Table 6 shows a significant majority, 180 students (60%), expressed positive attitudes towards learning English through WhatsApp. These students reported enjoying the interactive and multimedia elements of the platform, which made learning more engaging and less monotonous. They felt more confident in their English skills and appreciated the flexibility and accessibility of learning via WhatsApp. Positive attitudes were strongly correlated with higher engagement levels and better proficiency outcomes. 80 students (26.7%) had neutral attitudes. These students were indifferent, neither particularly enthusiastic nor dissatisfied with using WhatsApp for learning. They acknowledged some benefits but did not feel it significantly enhanced their learning experience compared to traditional methods. Neutral attitudes were often linked to medium engagement levels and moderate improvements in proficiency. A minority, 40 students (13.3%), expressed negative attitudes. These students found it challenging to adapt to the digital platform, citing issues such as technical difficulties, lack of personal interaction, and distractions. They felt less motivated and less confident in their English skills. Negative attitudes were associated with low engagement and minimal proficiency gains. The data indicates that the majority of students hold positive attitudes towards learning English through WhatsApp, which correlates with higher engagement and better learning outcomes. Addressing the concerns of those with neutral or negative attitudes by providing additional support and training could further enhance the effectiveness of WhatsApp as a teaching platform.

4.7 Academic Performance

To evaluate the impact of WhatsApp as a teaching platform on students' academic performance in English, we examined two key metrics: overall grades in English and improvement in test scores over a term. These metrics

provide a comprehensive view of the students' academic progress and the effectiveness of WhatsApp-based learning.

Table 7
Academic Performance Metrics

Metric	High Engagement (150 students)	Medium Engagement (100 students)	Low Engagement (50 students)
Average Overall Grades	85	75	65
Improvement in Test Scores (%)	20	10	5

Table 7 shows that students with high engagement in WhatsApp-based learning had significantly better overall grades in English, with an average grade of 85 out of 100. These students benefited from frequent interactions, diverse content, and continuous feedback, which contributed to their higher academic achievement. Students with medium engagement had an average grade of 75, indicating moderate benefits from using WhatsApp. Those with low engagement had the lowest average grade of 65, revealing the minimal impact of sporadic use of the platform on their academic performance. Improvement in test scores over a term was another crucial metric. High engagement students showed a 20% improvement in their test scores, reflecting the substantial impact of regular and active participation on their learning progress. Medium engagement students exhibited a 10% improvement, indicating that even moderate use of WhatsApp can enhance academic performance. Low engagement students had only a 5% improvement, suggesting that infrequent use of the platform does not significantly affect test scores. The analysis indicates that higher levels of engagement with WhatsApp as a teaching platform are strongly correlated with better academic performance and greater improvement in test scores. Encouraging consistent and active use of WhatsApp for English learning can lead to substantial gains in students' overall grades and continuous academic improvement. Addressing barriers to engagement for less active students could further optimize the platform's effectiveness.

4.8 Hypothesis

Hypothesis 1: Regular use of WhatsApp as a teaching platform significantly improves students' reading comprehension in English.

The hypothesis posits that consistent and frequent use of WhatsApp as an educational tool leads to substantial improvements in students' reading comprehension skills. Drawing from the analyses above, this assertion is supported by data showing that students who engaged daily with WhatsApp exhibited a notable increase in their reading comprehension scores. Specifically, 80% of students (240 out of 300) who used WhatsApp regularly

demonstrated significant progress in understanding and interpreting written material. This improvement can be attributed to the diverse range of content shared on the platform, such as text-based lessons, reading assignments, and interactive discussions that encourage deeper engagement with the material. For instance, students exposed to a mix of multimedia content, including text and video, were able to comprehend complex texts more effectively, as evidenced by their higher average score increases. Moreover, the interactive nature of WhatsApp, which allows for real-time discussions and immediate feedback, fosters a more engaging and dynamic learning environment. This environment helps students clarify doubts promptly and enhances their overall reading comprehension abilities. The positive attitudes towards learning English reported by 60% of the students further underline the motivational boost provided by WhatsApp, leading to more dedicated and effective reading practice. Thus, the consistent and interactive use of WhatsApp as a teaching platform plays a crucial role in improving students' reading comprehension in English, validating the hypothesis.

Hypothesis 2: Interactive and multimedia content on WhatsApp enhances students' writing and speaking skills more effectively than traditional methods.

This hypothesis suggests that utilizing interactive and multimedia content on WhatsApp as a teaching tool leads to superior improvements in students' writing and speaking skills compared to conventional instructional approaches. The analysis supports this hypothesis by revealing the significant impact of various content types on students' language proficiency. For instance, students exposed to video lessons and interactive quizzes on WhatsApp showed a substantial average score increase in writing skills by 10%, while those engaged in interactive discussions demonstrated a 12% improvement in speaking skills. These findings indicate how multimedia elements, such as visual aids and interactive exercises, stimulate different learning modalities, thereby reinforcing language acquisition. Unlike traditional methods that may primarily rely on textbooks and lectures, WhatsApp facilitates dynamic and personalized learning experiences. For example, the use of voice notes and video messages allows students to practice speaking in a conversational context, enhancing fluency and pronunciation through real-time interactions. Moreover, the immediate feedback provided through WhatsApp fosters a supportive learning environment where students can refine their writing and speaking abilities iteratively. This interactive approach not only sustains engagement but also promotes self-directed learning as students actively participate in creating and sharing content. Thus, leveraging interactive and multimedia content on WhatsApp aligns with contemporary educational trends that emphasize learner-centered approaches and digital literacy, positioning it as a

potent tool for enhancing both writing and speaking skills effectively.

Hypothesis 3: High levels of student engagement on WhatsApp correlate with better academic performance in English.

This hypothesis proposes that increased engagement levels among students using WhatsApp as an educational platform correspond with improved academic performance in English. The analysis supports this hypothesis by demonstrating a clear relationship between engagement metrics and academic outcomes. For instance, students categorized as highly engaged, participating actively with frequent messages sent/received and daily interaction, achieved higher overall grades in English with an average score of 85 out of 100. Conversely, students with low engagement levels, characterized by sporadic participation and minimal message exchanges, attained lower average grades of 65. This disparity reveals the impact of active involvement and regular interaction on academic achievement. Furthermore, students exhibiting high engagement also showed a significant improvement of 20% in test scores over a term, compared to 5% improvement among their less engaged counterparts. This finding indicates the role of consistent engagement in fostering continuous learning and skill development. The positive attitudes towards learning English reported by 60% of highly engaged students further validate the motivational benefits of WhatsApp, enhancing their commitment to academic success. Thus, the hypothesis posits that fostering high levels of student engagement on WhatsApp correlates positively with enhanced academic performance in English, reflecting the platform's efficacy in promoting active learning and reinforcing educational outcomes.

5. DISCUSSION OF FINDINGS

The results indicate that WhatsApp served as an effective platform for enhancing English language proficiency among secondary school students in Nigeria. The data suggest that the application significantly improved reading comprehension, writing, and speaking skills while also promoting high engagement levels and better academic outcomes. These findings directly address the study's objectives, which were to evaluate the impact of WhatsApp on students' language learning, engagement, and overall academic performance. In relation to reading comprehension, the results indicate that students who consistently interacted with text-based materials on WhatsApp showed marked improvement in their ability to interpret and understand passages. This finding aligns with Jegede and Adesina (2022), who argued that digital technologies can provide e-generation learners with wider exposure to authentic texts, thereby enhancing comprehension. However, the present study goes further

by demonstrating empirically that sustained interaction with WhatsApp content produces measurable gains in comprehension, confirming the platform's pedagogical value in literacy development.

With regard to writing and speaking skills, the data suggest that the integration of multimedia and interactive activities such as voice notes, quizzes, and discussion threads contributed significantly to students' fluency and confidence. This corroborates Awada (2016), who found that WhatsApp improved students' critique writing and attitudes towards language learning. Similarly, Kim et al. (2013) revealed that mobile learning promotes active practice and authentic communication opportunities, which this study also confirmed. However, while Awada emphasised writing proficiency, the present study extends the discussion by showing improvement in both written and oral expression, broadening the evidence base on mobile-assisted language learning.

The results also indicate a strong positive correlation between student engagement on WhatsApp and overall academic performance. Students who participated actively recorded higher grades and improved test scores. This finding aligns with Bouhnik and Deshen (2014), who noted that WhatsApp strengthens teacher-student interaction and promotes continuous learning outside the classroom. It also aligns with Jegede (2021), who observed that mobile-assisted cooperative learning fosters participation and collaboration among learners. The significance of this result lies in showing that WhatsApp can move beyond being a supplementary tool to becoming an integral part of structured language instruction.

An important contribution of the study lies in documenting students' attitudes towards the platform. The data suggest that learners viewed WhatsApp as accessible, interactive, and motivating. This finding mirrors Church and de Oliveira (2013), who reported high user satisfaction with mobile instant messaging due to its ease and flexibility. It also supports Ke and Grabowski (2007), who demonstrated that interactive and cooperative digital learning environments promote motivation and performance. The implication is that students' positive dispositions towards WhatsApp can sustain long-term engagement and language development, a crucial insight for resource-constrained contexts where motivation often declines due to limited instructional resources.

Unexpectedly, some students in the control group who were initially high achievers did not maintain their advantage, suggesting that traditional methods alone may not sustain engagement and performance in the same way digital platforms can. This observation supports Jegede, Yusuf, and Aliyu (2024), who argued that relying solely on conventional classroom strategies limits inclusivity and access in Nigerian schools. The divergence emphasises the necessity of hybrid models that combine traditional and digital approaches for equitable and sustainable outcomes.

Thus, the study found that WhatsApp enhanced comprehension, strengthened writing and speaking proficiency, and boosted engagement and academic performance. These results are consistent with and extend prior scholarship, offering robust empirical evidence of the pedagogical significance of mobile instant messaging in language education. The findings are significant because they not only validate the effectiveness of WhatsApp as a learning tool but also demonstrate its capacity to address systemic challenges in resource-limited environments. The study therefore contributes to existing knowledge by showing that WhatsApp is not merely a communication tool but a reliable, scalable, and contextually appropriate platform for enhancing English language learning in secondary education.

6. CONCLUSION

The study concludes that WhatsApp is an effective and reliable platform for improving English language skills among secondary school students in Nigeria, addressing the identified gap of limited empirical evidence on the pedagogical value of mobile messaging applications in resource-constrained contexts. The findings showed that consistent and interactive use of WhatsApp significantly enhanced students' reading comprehension, writing, and speaking skills while also improving their academic performance. The results further demonstrated that engagement levels and positive attitudes towards learning English were strongly linked to better outcomes, emphasising the platform's ability to motivate learners through accessible, interactive, and multimedia-rich content. These findings are valuable because they demonstrate that digital platforms can complement traditional teaching methods, offering flexible and personalised learning experiences that cater to different student needs. The study provides robust and valid conclusions that can inform both educational theory and practice. The contribution of this study lies in extending the body of knowledge on mobile-assisted language learning by providing empirical evidence from a developing country context, where access to digital resources is often limited. In practical terms, it shows educators and policymakers how WhatsApp can be structured into language instruction to foster inclusivity, collaboration, and sustained engagement. The study therefore contributes both theoretically, by reinforcing constructivist views of learning through digital interaction, and practically, by offering a cost-effective strategy to strengthen English language education in secondary schools. These insights are significant for advancing sustainable and innovative approaches to language teaching in Nigeria and similar contexts.

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