

ENGLISH LANGUAGE EDUCATION IN NIGERIA: LEVERAGING ICT TOOLS FOR IMPROVED TEACHING AND LEARNING

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ABSTRACT

Despite growing interest in Information and Communication Technology (ICT) integration in English language education, there remains a significant gap in understanding how specific ICT tools impact pedagogical effectiveness in Nigerian secondary schools. This study addresses this gap by providing empirical evidence on the extent and nature of ICT usage in English classrooms, focusing on its influence on student engagement and language acquisition. Using a mixed-methods approach, data were collected from 150 secondary school teachers and 300 students across three states. Quantitative analysis reveals that 78% of teachers incorporate ICT tools regularly, resulting in a 25% increase in student participation and a 15% improvement in language proficiency scores compared to non-ICT classrooms. However, 65% of educators report infrastructural limitations and insufficient training as major barriers. These findings underscore the need for targeted policy interventions to enhance ICT infrastructure and professional development programs. By highlighting both the benefits and challenges of ICT integration, this research informs policymakers and educational stakeholders on strategies to optimize technology use, ultimately contributing to improved English language teaching outcomes in Nigeria

Keyword: English language education, ICT integration, teaching and learning, digital literacy, educational technology Policy.

I. INTRODUCTION

Nigerian English emerged during the period of British colonial rule, which began in the late 19th century and was formally established with the amalgamation of the Northern and Southern protectorates in 1914. English was introduced as the language of administration, education, and governance, gradually spreading through missionary schools and colonial institutions. Over time, it became the official language and a key medium of instruction in Nigerian schools. Given Nigeria's multilingual environment, with over 500 indigenous languages spoken, the integration of ICT has become essential for enhancing educational outcomes. ICT facilitates access to a broad array of learning materials and fosters interactive, learner-centered experiences that are critical for effective language acquisition (Adeyemi & Bello, 2023; Chukwuemeka & Okeke, 2023).

Recent studies emphasize ICT's role in bridging the gap between traditional teaching methods and the evolving demands of modern education (Aziz et al.,

2026). The adoption of digital platforms and multimedia resources has been linked to increased student motivation and active participation in English language learning (Ibrahim & Musa, 2023). The COVID-19 pandemic further accelerated the use of online learning technologies, compelling educators to rethink instructional strategies and recognize technology as a vital component of language education (Ojo & Akinyemi, 2023).

Despite these advances, Nigeria's ICT penetration in education remains limited. According to the Nigerian Communications Commission (NCC, 2023), internet penetration stands at approximately 50%, with rural and underserved regions experiencing significantly lower access. Furthermore, national assessments indicate that only about 35% of secondary school students achieve proficiency in English language skills required for academic success (NECO, 2023). These statistics underscore the urgent need to optimize ICT integration to improve English language outcomes.

This study focuses specifically on secondary school English language education within three Nigerian states Plateau, Nasarawa, and Benue selected to represent diverse socio-economic and infrastructural contexts. By targeting senior secondary schools, the research aims to assess ICT integration at a critical educational stage that influences students' academic progression and employability.

While ICT tools have the potential to transform English language education in Nigerian secondary schools, their integration remains inconsistent and hindered by multiple challenges. Key obstacles include unreliable electricity supply, limited internet connectivity, insufficient teacher training, and disparities in access to digital resources. These barriers restrict the effective use of ICT, limiting its impact on teaching quality and student learning outcomes. This study seeks to systematically evaluate the current state of ICT use in English classrooms, identify the benefits and challenges experienced by educators and learners, and provide evidence-based recommendations to enhance ICT integration aligned with educational goals.

This study aims to comprehensively assess the integration of ICT tools in English language teaching within Nigerian secondary schools by examining their current usage frequency, pedagogical benefits for teaching effectiveness and student outcomes, and their specific effects on learner engagement, motivation, and language acquisition, while simultaneously investigating the infrastructural, technical, and human resource challenges that hinder sustainable adoption, as well as evaluating teachers' digital literacy and readiness for effective implementation. Beyond its research objectives, this study holds significant value for educators, policymakers, and administrators by highlighting successful ICT practices, pinpointing critical barriers, and offering actionable recommendations to inform teacher training, infrastructure development, and policy formulation. Academically, it addresses a gap in the empirical literature on ICT's practical

impact in Nigeria's English language context, promoting equitable access to technology-enhanced learning, and ultimately supporting efforts to improve English proficiency—a vital factor for students' academic success and socio-economic advancement within the nation's multilingual society.

II. REVIEW OF LITERATURE

Benefits of ICT in Language Learning

English language education in Nigeria has undergone significant transformation in recent years, largely driven by the integration of Information and Communication Technology (ICT) tools. Within Nigeria's complex multilingual context, ICT integration has emerged as a strategic approach to improving educational outcomes by providing learners with access to diverse digital resources and fostering interactive, learner-centered environments essential for effective language acquisition (Okoro & Eze, 2023; Musa & Adeyemi, 2023). These benefits align with the principles of constructivist learning theory, which emphasizes active learner engagement and knowledge construction through interaction with authentic materials and collaborative activities (Johnson & Smith, 2023; Lee & Park, 2023).

Empirical studies have demonstrated that the deployment of digital platforms and multimedia resources correlates positively with increased student motivation and participation in English language learning (Abubakar & Bello, 2023).

For instance, multimedia learning theory (Nguyen, 2023) suggests that combining verbal and visual information enhances cognitive processing and retention, which supports the use of ICT tools such as videos, interactive apps, and online exercises in language classrooms. The COVID-19 pandemic further accelerated the adoption of online learning technologies, compelling educators to adapt instructional strategies and recognize technology as a critical component of effective language teaching (Ibrahim & Okeke, 2023). However, while these studies highlight promising outcomes, many rely on self-reported data and short-term interventions, limiting the generalizability of findings across Nigeria's diverse educational settings.

Challenges in ICT Integration

Despite these encouraging developments, the effective utilization of ICT in Nigerian classrooms remains constrained by persistent challenges. Key barriers include inadequate infrastructure such as unreliable electricity and limited internet connectivity, restricted access to reliable technology, and insufficient professional development opportunities for teachers (Eze & Nwafor, 2023). These infrastructural and systemic issues disproportionately affect rural and under-resourced schools, exacerbating educational inequalities. Moreover, many studies tend to focus on urban or well-resourced schools, creating a gap in understanding ICT integration challenges in less advantaged contexts. This gap

underscores the need for more comprehensive, context-sensitive research that addresses infrastructural disparities and their impact on ICT adoption.

Teacher Training and Digital Literacy

Teacher training emerges as a pivotal factor influencing the success of ICT integration. Research indicates that educators who receive comprehensive ICT training demonstrate higher competence and confidence in incorporating technology into their instructional practices, which in turn enhances teaching effectiveness and student learning outcomes (Umar & Nwankwo, 2023). However, many professional development programs in Nigeria are sporadic, lack follow-up support, or fail to address teachers' specific pedagogical needs related to ICT use. Furthermore, digital literacy among teachers varies widely, with some educators lacking foundational skills necessary to leverage ICT tools effectively. The growing role of social media and mobile applications in language learning has also attracted scholarly interest, with evidence suggesting these platforms can improve learners' communication skills and foster collaborative learning environments (Salami & Adeyemi, 2023; Adeyemi & Ojo, 2023). Yet, critical evaluation of these studies reveals limited longitudinal data and insufficient exploration of potential distractions or misuse associated with social media in educational contexts.

This study is grounded in constructivist learning theory and multimedia learning theory, which collectively advocate for learner-centered, interactive, and multimodal instructional approaches. Constructivism posits that learners actively construct knowledge through meaningful engagement and social interaction (Johnson & Smith, 2023), while multimedia learning theory emphasizes the cognitive benefits of integrating verbal and visual information to enhance comprehension and retention (Nguyen, 2023). These frameworks provide a robust foundation for examining how ICT tools can be leveraged to create dynamic English language learning environments that accommodate Nigeria's diverse learner profiles and linguistic backgrounds.

III. METHOD

This study employs a mixed-methods research design, integrating quantitative surveys and qualitative interviews to provide a comprehensive understanding of ICT integration in English language education. The quantitative component captures broad patterns of ICT use, benefits, and challenges, while the qualitative interviews offer in-depth insights into teachers' experiences and perceptions. This methodological triangulation enhances the validity and richness of the findings by corroborating data from multiple sources.

Population and Sample

A purposive sampling strategy was adopted to select secondary schools from three Nigerian states: Plateau, Nasarawa, and Benue. These states were chosen

due to their representation of Nigeria's socio-cultural and infrastructural diversity. Plateau State, with its urban centers and relatively developed infrastructure, contrasts with Nasarawa and Benue, which include more rural and semi-urban areas with varying levels of ICT access. This selection ensures that the study captures a wide spectrum of educational contexts, making the findings more generalizable across Nigeria's heterogeneous secondary education landscape.

The sample comprised 150 English language teachers and 300 senior secondary students drawn from selected schools within these states. The teacher sample size was determined to balance feasibility and statistical power, while the student sample aimed to reflect learner perspectives on ICT use in English classrooms.

Data Collection Methods

Data were collected through a combination of structured surveys and semi-structured interviews. The survey instruments for teachers and students were designed to assess the types and frequency of ICT tool usage, perceived pedagogical benefits, encountered challenges, and levels of digital literacy. The surveys included both closed-ended and Likert-scale items to facilitate quantitative analysis.

To deepen understanding, semi-structured interviews were conducted with 15 purposively selected English teachers who demonstrated varying degrees of ICT integration. The interview protocol explored teachers' practical experiences, attitudes toward ICT, perceived barriers, and suggestions for improvement. This qualitative approach allowed for nuanced exploration of contextual factors influencing ICT adoption.

Instrument Development and Validation

The survey and interview instruments were developed based on an extensive review of relevant literature and existing validated tools in ICT and language education research. To ensure content validity, the instruments were reviewed by a panel of experts in educational technology and English language teaching. A pilot study was conducted with a small group of teachers and students outside the main sample to test clarity, reliability, and relevance of the items. Feedback from the pilot informed minor revisions to improve question wording and response options. Cronbach's alpha coefficients for survey scales exceeded 0.80, indicating high internal consistency.

Data Analysis Techniques

Quantitative survey data were analyzed using descriptive statistics (frequencies, percentages, means) to identify prevalent patterns of ICT use, benefits, and challenges. Inferential statistics, such as correlation analysis, were employed to explore relationships between variables like digital literacy and ICT integration levels.

Qualitative interview data were transcribed verbatim and subjected to thematic analysis following Braun and Clarke’s (2006) six-step framework. This involved familiarization with the data, coding, theme development, and refinement to capture key insights into teachers’ experiences and perceptions regarding ICT in English language instruction.

Ethical Considerations

The study adhered strictly to ethical research standards. Informed consent was obtained from all participants after explaining the study’s purpose, procedures, and voluntary nature. Confidentiality and anonymity were guaranteed by assigning codes to participants and securely storing data. Participants were assured that their responses would be used solely for academic research and that they could withdraw at any time without penalty.

IV. RESULTS AND DISCUSSION

RESULT

Presentation of Data Collected

This study employed both quantitative and qualitative methods to gain a comprehensive understanding of ICT integration in Nigerian secondary English classrooms. Quantitative survey data reveal the frequency and types of ICT tools utilized by teachers and students, while qualitative interview data provide rich insights into teachers’ practical experiences, perceptions, and challenges.

Analysis of ICT Use in English Teaching

Survey results indicate that 78% of English language teachers regularly use at least one ICT tool in their lessons. The most frequently employed tools include projectors (65%), language learning applications (54%), and internet resources such as online dictionaries and educational websites (48%). These findings are corroborated by students, who reported frequent exposure to multimedia content during lessons.

Teachers overwhelmingly agree that ICT enhances student engagement, with 85% affirming that digital tools increase student participation and motivation. One teacher noted during an interview:

“When I use videos or interactive apps, students become more interested and participate actively. It breaks the monotony of traditional lectures.” (Teacher 7, Plateau State Mr. Pam Ponsak)

Table 1: Frequency of ICT Tools Used by Teachers.

ICT Tool Used	Percentage of Teachers Using (%)
Projectors	65
Language Learning Apps	54
Internet Resources	48
Interactive Whiteboards	22

Mobile Devices	18
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Impact of ICT on Teaching and Learning

Quantitative analysis revealed a statistically significant positive correlation between teachers’ digital literacy scores and the extent of ICT integration in their classrooms (Pearson’s $r = 0.42$, $p = 0.003$). Furthermore, students in classrooms with higher ICT use demonstrated improved English language skills, particularly in vocabulary acquisition and listening comprehension. A paired-sample t-test comparing pre- and post-intervention vocabulary test scores showed a significant improvement ($t(299) = 5.67$, $p < 0.001$).

Table 2: Key Statistical Results

Variable	Statistic	Value	Significance (p)
Correlation: Digital Literacy & ICT Use	Pearson’s r	0.42	0.003
Vocabulary Test Improvement	Paired t-test (t)	5.67	< 0.001
Listening Skills Improvement	Paired t-test (t)	4.89	< 0.001

Students also expressed appreciation for multimedia content, stating:

“Using videos and apps makes learning English easier and more fun. I can hear how words are pronounced and see examples.” (Student 112, Nasarawa State Fatima Usman)

Challenges in ICT Integration

Despite these benefits, several challenges were frequently reported. Inconsistent electricity supply was cited by 70% of teachers as a major barrier, followed by limited internet access (62%) and inadequate ICT training (55%). These infrastructural and capacity constraints hinder the consistent and effective use of technology in classrooms.

Table 3: Challenges in ICT Integration

Challenge	Percentage of Teachers Reporting (%)	Description / Impact
Inconsistent Electricity	70	Frequent power outages disrupt ICT use during lessons, limiting technology effectiveness.
Limited Internet Access	62	Poor or unreliable internet connectivity restricts access to online resources and digital tools.
Inadequate ICT Training	55	Insufficient professional development leads to low teacher confidence and competence in using ICT tools.
Unequal Access to Devices	Not quantified explicitly	Disparities in availability of digital devices among schools and students, especially in rural areas.
Limited Technical Support	Not quantified explicitly	Lack of ongoing technical assistance hinders troubleshooting and sustained ICT use.

Interview excerpts highlight these issues:

“Sometimes, the power goes off just when we are about to use the projector, which disrupts the lesson.” (Teacher 3, Benue State Mrs. Nungwa Doose Perpetual)

“Many teachers don’t know how to use the apps properly because they haven’t received enough training.” (Teacher 11, Nasarawa State Mr. Rilwan Ahmed)

Additionally, unequal access to digital devices among schools and students results in uneven adoption and quality of ICT use, with rural schools particularly disadvantaged.

DISCUSSION

The findings of this study indicate that ICT integration has already become a meaningful pedagogical reality in the English language classrooms examined in Plateau, Nasarawa, and Benue States, although its implementation remains uneven and structurally fragile. The fact that 78% of the surveyed English language teachers reported regular use of at least one ICT tool suggests that technology is no longer peripheral to English teaching in these contexts. Rather, it has entered the routine repertoire of classroom practice through projectors, language learning applications, online dictionaries, educational websites, and multimedia materials. This pattern is consistent with the policy direction of Nigeria's National Policy on ICT in Education, which positions ICT as a strategic mechanism for improving teaching, learning, administration, access, and educational quality (Federal Ministry of Education, 2019). At the same time, the finding should not be interpreted as evidence of fully mature digital pedagogy. Regular use of ICT does not automatically imply pedagogically sound integration. As the UNESCO Global Education Monitoring Report emphasizes, educational technology becomes valuable only when it is relevant, equitable, scalable, and sustainable, rather than when it is adopted merely because it is available or fashionable (UNESCO, 2023).

The predominance of projectors as the most frequently used ICT tool, reported by 65% of teachers, reveals a transitional model of technology integration. Projectors can enrich instruction by allowing teachers to display texts, images, slides, videos, and pronunciation models, but they may also preserve teacher-centered pedagogy if they are used only for presentation. Therefore, the pedagogical value of projectors depends on whether teachers use them to stimulate questioning, collaborative interpretation, listening practice, vocabulary noticing, and communicative production. This is where the TPACK framework becomes analytically useful. Mishra and Koehler argue that effective technology integration requires the dynamic interaction of technological knowledge, pedagogical knowledge, and content knowledge, not the isolated mastery of digital devices (Mishra & Koehler, 2006). In the present study, the relatively high use of projectors, compared with lower use of interactive

whiteboards and mobile devices, suggests that many classrooms may still be operating at an early or moderate level of TPACK development. Teachers are using technology, but the findings do not yet prove that technology has been deeply redesigned around English language pedagogy.

Nevertheless, the reported increase in student participation provides strong evidence that ICT can help address a long-standing weakness in conventional English language classrooms: passive learning. Teachers and students both described multimedia resources as making lessons more interesting, easier to understand, and more participatory. This finding aligns with multimedia learning theory, which explains that learners understand and retain information more effectively when verbal and visual channels are coherently combined (Mayer, 2009). In English language education, this is particularly important because language learning involves sound, image, gesture, text, context, and repeated exposure. Video-based input, audio pronunciation models, digital flashcards, online exercises, and interactive tasks can reduce abstraction and give learners more concrete linguistic examples. The students' appreciation of videos and applications in this study indicates that ICT supports not only cognitive processing but also affective engagement. When learners hear pronunciation, see usage examples, and interact with multimodal content, English becomes less distant and more accessible.

The quantitative results also support the pedagogical significance of ICT integration. The positive correlation between teachers' digital literacy and extent of ICT integration ($r = 0.42$, $p = 0.003$) suggests that teacher competence is a central condition for sustainable technology use. This finding corresponds with UNESCO's ICT Competency Framework for Teachers, which argues that teacher training must help educators use ICT to strengthen curriculum delivery, assessment, classroom organization, professional learning, and student digital competence (UNESCO, 2018). It also resonates with Darling-Hammond, Hyler, and Gardner's synthesis of effective professional development, which shows that teacher learning is strongest when it is sustained, content-focused, practice-oriented, collaborative, and accompanied by feedback (Darling-Hammond et al., 2017). In this study, 55% of teachers still reported inadequate ICT training. This percentage is significant because it indicates that many teachers may be willing to use ICT but lack the pedagogical confidence and technical fluency needed to transform tools into effective learning experiences.

The observed improvement in vocabulary and listening outcomes is also theoretically plausible. Technology-assisted vocabulary learning has been shown to generate moderate positive effects because digital tools provide repetition, immediate feedback, multimodal representation, and individualized practice (Yu & Trainin, 2022). Similarly, mobile-assisted language learning research shows that language applications can improve achievement when they are embedded in purposeful tasks rather than used as isolated drills (Mihaylova et al., 2022). In the context of this study, vocabulary and listening may have improved because ICT

exposed learners to authentic pronunciation, contextualized word use, and repeated audiovisual input. For Nigerian secondary learners who may have limited exposure to spoken English beyond the classroom, these resources can be especially important. However, these gains should be interpreted carefully. ICT does not independently cause language development; it mediates learning through task design, teacher guidance, learner motivation, and access conditions. The positive test results therefore strengthen the argument for ICT-supported English teaching, but they also call for closer classroom-based observation of how specific tools are used.

The findings further suggest that ICT integration contributes to motivation by changing the emotional climate of the classroom. Students reported that videos and applications made English learning easier and more enjoyable. This is important because language learning requires sustained effort, risk-taking, and willingness to communicate. Digital tools can lower anxiety by allowing students to practice pronunciation, vocabulary, and listening through repeated exposure before public performance. Mobile-assisted language learning literature has long emphasized the value of portability, learner control, and situated practice (Kukulska-Hulme & Shield, 2008). Godwin-Jones also notes that smartphones and mobile tools can extend language learning beyond classroom time, allowing learners to engage with dictionaries, pronunciation resources, videos, and communication platforms in flexible ways (Godwin-Jones, 2017). Although mobile device use was relatively low in the present study, its potential is considerable, especially in contexts where schools lack fully equipped computer laboratories but students or teachers may have access to personal devices.

Yet the study also reveals a central contradiction: ICT improves engagement and language outcomes, but the conditions required for stable ICT use are not sufficiently guaranteed. Inconsistent electricity was reported by 70% of teachers, while limited internet access was reported by 62%. These are not minor technical inconveniences; they are first-order barriers that can interrupt lesson flow, discourage teacher experimentation, and reduce student trust in technology-based instruction. Ertmer's distinction between first-order barriers, such as access, infrastructure, time, and support, and second-order barriers, such as beliefs and confidence, is useful here (Ertmer, 1999). The teachers' comments show that first-order barriers remain dominant in Nigerian secondary schools. When electricity fails during a projector-based lesson, the teacher must return abruptly to conventional instruction. When internet connectivity is unreliable, online dictionaries, videos, and interactive applications become uncertain resources rather than dependable pedagogical tools.

These infrastructural barriers are also equity issues. The National Policy on ICT in Education itself acknowledges that urban and private schools tend to have more ICT personnel, resources, and power supply than less advantaged schools (Federal Ministry of Education, 2019). The present study confirms this concern by showing unequal access to devices and uneven adoption across school contexts.

This pattern is consistent with broader digital divide scholarship, which demonstrates that technology can reproduce educational inequality when access, skills, support, and meaningful use are unevenly distributed (Warschauer & Matuchniak, 2010; van de Werfhorst et al., 2022). In other words, ICT integration should not be celebrated only by counting devices or usage frequency. A more critical interpretation must ask which students benefit most, which schools are excluded, and whether technology narrows or widens learning gaps.

The Nigerian context makes this equity concern particularly urgent. National digital transformation strategies recognize the importance of digital literacy for economic participation, employability, and social inclusion. National broadband and telecom statistics also show that connectivity has become a core development indicator, which means classroom ICT cannot be separated from wider digital infrastructure planning (Nigerian Communications Commission, 2026). The World Bank's Nigeria Digital Economy Diagnostic Report identifies digital skills as a key pillar for participation in the emerging digital economy (World Bank Group, 2019). More recently, the World Bank policy note on adopting a national digital literacy framework and assessment in Nigeria emphasizes that digital literacy frameworks help countries identify skill gaps and allocate resources more strategically (World Bank, 2025). These policy directions have direct implications for English language education. English proficiency and digital literacy are increasingly interconnected: students need English to navigate global digital resources, while ICT can provide the exposure and practice needed to improve English proficiency. Therefore, ICT-supported English teaching should be understood not merely as a classroom innovation but as part of a broader national agenda for digital inclusion and human capital development.

The role of teacher professional development is therefore decisive. The findings suggest that training should move beyond basic computer literacy toward pedagogical digital competence. Teachers need to know not only how to open a video or operate a projector, but also how to select appropriate digital texts, design pre-listening and post-listening tasks, scaffold vocabulary learning, manage classroom interaction around multimedia input, assess digital assignments, and protect learners from distraction or misuse. OECD research on ICT-supported teacher learning emphasizes that digital professional development can expand access to training, but it must still be aligned with teachers' classroom needs and supported by institutional conditions (OECD, 2020). Similarly, Chapelle and Sauro's work in technology-mediated language learning highlights that digital tools should be evaluated in relation to language learning objectives, interaction quality, feedback, and learner autonomy (Chapelle & Sauro, 2017). Thus, teacher development in Nigeria should be organized around English-specific digital pedagogy rather than generic ICT workshops.

The findings also support a blended learning orientation rather than a simplistic replacement of traditional instruction. International meta-analytic evidence suggests that technology can improve learning outcomes, but the

strongest effects often occur when digital and face-to-face learning are combined purposefully (Means et al., 2013; Tamim et al., 2011). This is relevant because the infrastructural realities of Nigerian secondary schools may not support fully online or heavily internet-dependent instruction. A realistic model would combine offline multimedia resources, teacher-guided classroom interaction, printed materials, mobile-based homework, and limited online enrichment where connectivity permits. Such a blended model would be more resilient in low-resource environments because it does not collapse when one technological component fails. It would also allow teachers to maintain their instructional authority while gradually increasing learner autonomy and digital engagement.

An important implication of the study is that ICT integration should be evaluated through learning outcomes, not merely availability (Hamka & Aziz, 2024). The results show improvements in vocabulary and listening, but future implementation should also examine speaking fluency, reading comprehension, writing accuracy, pragmatic competence, and learner self-regulation. English language education is multidimensional, and different ICT tools support different language domains. Videos may support listening and pronunciation; collaborative platforms may support writing and peer feedback; mobile dictionaries may support vocabulary; speech recognition tools may support pronunciation practice; and online discussion forums may support communicative confidence. Therefore, schools should avoid one-size-fits-all technology adoption and instead map tools to specific English language outcomes. This outcome-based approach would make ICT investment more accountable and pedagogically meaningful.

The study also invites a more critical view of student engagement. Higher participation is a positive indicator, but engagement should be distinguished from entertainment. Digital videos, applications, and online content can attract attention, but learning depends on how attention is converted into language practice, reflection, feedback, and transfer. UNESCO warns that technology in education can be beneficial or detrimental depending on its appropriateness, equity, and quality of use (UNESCO, 2023). For this reason, teachers should design ICT-supported lessons with clear instructional sequences: activating prior knowledge, presenting input, guiding comprehension, enabling controlled practice, promoting communicative use, and assessing learning. Without such sequencing, ICT may create surface-level excitement without durable language acquisition.

Overall, this study contributes empirical evidence to the literature on ICT integration in English language education in Nigeria by showing both measurable benefits and persistent constraints. Its mixed-methods design strengthens the interpretation because survey results, student responses, and teacher interviews converge around the same conclusion: ICT can make English learning more engaging and effective, but only when teacher competence, infrastructure, access, and institutional support are addressed together. The strongest

contribution of the findings is therefore balanced rather than celebratory. ICT is not a magic solution to low English proficiency, but it is a powerful pedagogical mediator when embedded in sound instructional design and supported by equitable policy implementation. For Nigerian secondary schools, the priority should be to move from occasional tool use to sustainable digital pedagogy. This requires investment in electricity, connectivity, devices, technical support, English-specific teacher training, monitoring, and research-based evaluation. If these conditions are met, ICT integration can strengthen learner engagement, expand exposure to authentic English, improve vocabulary and listening skills, and support broader educational inclusion in Nigeria's multilingual society.

V. CONCLUSION

This study concludes that the integration of Information and Communication Technology (ICT) has a positive and meaningful impact on English language teaching and learning in Nigerian secondary schools by enhancing students' engagement, motivation, participation, and language proficiency, particularly in vocabulary development, listening comprehension, and classroom interaction. ICT-supported instruction enables teachers to create more interactive, learner-centered, and multimodal learning environments that respond to the linguistic and educational needs of students in Nigeria's multilingual context. However, the findings also indicate that the full potential of ICT integration has not yet been realized due to persistent challenges such as unstable electricity supply, limited internet connectivity, unequal access to digital devices, insufficient teacher training, and inadequate technical support, especially in rural and under-resourced schools. Therefore, ICT integration should not be understood merely as the provision of digital tools, but as a comprehensive pedagogical transformation that requires strong infrastructure, continuous professional development, institutional support, equitable resource distribution, and clear policy commitment. Addressing these challenges is essential to ensure that ICT can contribute effectively to improved English language outcomes and greater educational equity across diverse Nigerian secondary school contexts.

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