EXAMINING THE IMPACT OF DIGITAL LEARNING PLATFORMS ON ENGLISH LANGUAGE PROFICIENCY OF TERTIARY INSTITUTION STUDENTS IN LAGOS

ADEBOWALE, ADERONKE A.; OMIDUN, DAVID O.; ABIAHU, NKECHI; & ODETAYO, ISAAC O.

General Studies Department, Federal College of Fisheries & Marine Technology, Victoria-Island, Lagos

Corresponding Author: adebowale@fcfmt.edu.ng

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Abstract

This study examines the impact of digital learning platforms (DLPs) on English language proficiency in tertiary institutions, focusing on students in Lagos Higher Institution. Given the increasing reliance on online education, understanding the effectiveness of DLPs in enhancing writing, listening, reading, and speaking skills is crucial. Using a mixed-methods approach, the study collected data from 200 students from surveys, pre-and post-language proficiency tests, and semi-structured interviews. Results indicate that interactive lessons, multimedia resources, and gamified learning elements significantly improve listening (4.3/5) and reading (4.1/5) skills, while writing and speaking proficiency also show notable gains. However, the study identifies major challenges, including platform instability, unreliable internet access, and limited instructor-student interaction, which hinder optimal learning outcomes. These findings highlight the need for enhanced digital infrastructure, increased real-time engagement, and adaptive learning systems to personalise educational experiences. Finding rooted in Sociocultural Theory (Vygotsky, 1978) and Cognitive Load Theory (Sweller, 1988), the study underscores the transformative potential of DLPs while addressing critical technological and pedagogical limitations. The paper advocates for policy-driven improvements in digital education, including real-time feedback mechanisms, increased instructor engagement, and locally customised content. Future research should explore the

long-term impacts and cross-cultural adaptability of DLPs in diverse educational settings. This study contributes to the ongoing discourse on digital education's role in fostering inclusive and effective language learning in higher education.

Keywords: Examining, impact, digital learning platforms**,** English language proficiency, tertiary institution students

INTRODUCTION

Digital learning platforms like Moodle, Blackboard, Canvas, and Google Classroom, as well as video conferencing and virtual classrooms like Zoom, Google Meet, and Cisco Webex, have transformed tertiary education. These platforms make instructional information easily accessible, encouraging teamwork and self-directed learning. COVID-19 expedited the global shift to online education, necessitating virtual learning environments to continue operations (Dhawan, 2020). Higher education, especially language training, relies on digital platforms to engage students and provide global access to language materials.

English proficiency is becoming more important in higher education since it is the primary medium of instruction in many foreign settings. English is essential for academic success because students must comprehend complex materials, communicate well, and participate in discussions (Graham, 2021). Online learning platforms are vital for non-native English speakers who struggle to learn. They give students dynamic exercises, immediate feedback, and tailored resources. Digital learning platforms erase geographical barriers, giving students from diverse backgrounds high-quality English language instruction. Asynchronous and synchronous tools like lecture videos, discussion forums, Duolingo, and Rosetta Stone are vital to language instruction. These systems provide interactive learning, gamification, and personalised feedback to improve language skills (Bicen & Kocakoyun, 2018).

Online resources for English language competency are becoming more important in poor nations with limited infrastructure and resources. Digital platforms have been praised throughout Africa for tackling educational gaps, especially in higher education. The effectiveness of these tactics in improving English proficiency is understudied (Asongu & Odhiambo, 2020).

Digital platforms are increasingly used in online higher education; thus, understanding how they improve English proficiency is crucial. As children utilise digital platforms more, educators and governments must find ways to improve them and address their unique issues. Technology and language learning shape global schooling.

Thus, this study examines how digital learning platforms affect English language proficiency in online higher education. It examines the pros, disadvantages, and results of these techniques to improve virtual language instruction discussions. Digital learning platforms are used in online higher education, but research on their effects on English language competency is sparse. Many studies have examined the effects of digital technologies on education, but few have examined their effects on critical language development, especially in academic settings (Wang & Tahir, 2020). This discrepancy highlights the need to study how digital platforms affect English competency, particularly for non-native speakers in different educational situations. Current research often ignores regional differences in digital platform use and efficacy. Little is known about resource-limited learners' internet connectivity and digital literacy issues. Fixing these issues ensures that digital learning platforms are appropriately used to promote English language proficiency and reduce online higher education biases. Therefore, this study focused on three research objectives: (i) to assess the impact of digital learning platforms on English language proficiency. (ii) To identify features that enhance language acquisition. (iii) To explore challenges faced by students and educators.

LITERATURE REVIEW

Digital learning platforms have transformed the teaching of languages, especially in higher education. Many research has examined how these platforms improve English language competence. Sun et al. (2020) evaluated the influence of collaborative components on digital platforms, indicating that they boosted vocabulary acquisition and grammatical accuracy in university students. Al-Mawee et al. (2021) found that Moodle and Blackboard let students practise English with interactive tasks and multimedia. These studies confirm the platforms' favourable influence, but they often ignore technological constraints and students' digital competence, leaving a vacuum in understanding their efficacy.

Research also, shows that internet platforms can improve language skills. Golonka et al. (2017) found that video courses and AI-generated feedback improved learners' listening and speaking. Saeed et al. (2018) noted that discussion forums improve writing. However, most research focuses on short-term improvements and ignores how long-term interaction with these platforms affects linguistic skills.

Recent interest has focused on gamification in digital learning environments. Chen et al. (2020) found that quizzes and leaderboards encouraged language exercises and improved retention. Duolingo and Quizlet are effective interactive language learning platforms. Luo and Yang (2021) found that low-resource students struggle with technology and internet connectivity, affecting participation. This emphasises the need for digital divide studies on education.

Digital platforms have also been studied for their function in collaborative learning, a key component of Sociocultural Theory. Lin et al. (2019) found that collaborative work and peer assessment platforms significantly increased learners' practical English confidence. Luo et al. (2022) also noted that virtual classrooms foster meaningful relationships. Teacher's presence in online learning has also been discussed. Borup et al. (2020) found that Zoom and Canvas users were more engaged and proficient in language. The study also found teacher availability inconsistencies, especially in longer sessions, which may limit platforms' efficacy.

Digital learning platforms satisfy language learners' diverse needs. González-Lloret (2020) found that personalised content addressed skill gaps in learners of different proficiency levels. However, insufficient effort has been put towards how these platforms support learners with disabilities, including auditory or visual impairments, identifying a domain for more inquiry.

Despite their growing use, platform-specific issues are understudied. Huang and Zhang (2021) found that user interface complexity and content localisation may hurt user experience. Furthermore, privacy risks related with data harvesting on platforms such as Google Classroom and Microsoft Teams have been noted (Alqahtani et al., 2022), but less study has studied the impact of these concerns on students' preparedness to utilise digital technologies.

Furthermore, research on digital platforms in Africa is rare, despite multiple studies in wealthier nations. Okeke and Nnamani (2020) evaluated e-learning technologies in Nigerian universities and found infrastructural and digital literacy issues. These

findings emphasise the need of assessing how local characteristics affect digital platforms' English proficiency benefits.

Most studies on language aptitude focus on grammar or vocabulary rather than a comprehensive strategy. Zhao et al. (2022) argue that these studies' fragmentation limits our understanding of how digital platforms affect language competency. A thorough methodology is needed to completely understand how reading, writing, speaking, and listening affect English language competency in online higher education.

Method

The study employed a mixed-methods research design to comprehensively understand how digital learning platforms impacted English language proficiency in online higher education settings. Quantitative methods were utilised to collect numerical data through surveys and pre-and post-tests of language proficiency, which measured changes in reading, writing, listening, and speaking skills. To complement this, qualitative insights were gathered through semi-structured interviews, exploring students' experiences, challenges, and perceptions of digital platforms. This approach ensured both breadth and depth in addressing the research objectives (Creswell & Creswell, 2018).

Population and Sampling

The target population comprised undergraduate students from two universities in Lagos, Lagos State University (LASU) and Lagos State University of Education (LASUED), enrolled in distance learning programmes where digital learning platforms were integral to English language instruction. The total population was 282 (200 students from LASU and 82 students from LASUED). A sample size of 200 (132 students from LASU and 68 from LASUED) was drawn using the Google survey calculator. A purposive sampling technique was adopted to select 200 students actively engaged with platforms such as Moodle, Google Classroom, or Blackboard. This criterion ensured that participants had substantial exposure to digital tools for learning English. Additionally, a sub-sample of 10 students was selected for qualitative interviews. This smaller sample size aligned with recommendations for in-

depth qualitative studies (Guest et al., 2020), ensuring the collection of rich data from diverse perspectives.

Research instrument

This study employed three primary research tools to gather data: survey questionnaires, language proficiency tests, and a semi-structured interview guide. Each tool was carefully designed and implemented to ensure the validity and reliability of the findings.

The survey consisted of structured Likert-scale items to assess students' frequency of platform usage, perceived improvements in English proficiency, and the challenges they encountered. To ensure reliability and clarity, the items were validated through expert reviews and pilot testing, following established guidelines (Dörnyei, 2020).

Pre- and post-tests were conducted to measure students' reading, writing, listening, and speaking English proficiency. The study utilised standardised frameworks, such as the Common European Framework of Reference for Languages (CEFR), to ensure consistency and comparability of results across the different language skills.

A semi-structured interview guide facilitated the collection of qualitative data. The guide included open-ended questions to explore participants' experiences with specific platform features, perceived barriers, and overall satisfaction. This flexible approach allowed for follow-up questions, eliciting detailed and narrative responses (Rubin & Rubin, 2012).

Surveys were distributed electronically using Google Forms, ensuring accessibility and convenience for participants. This method aligned with the online nature of the study population, facilitating efficient data collection (Evans & Mathur, 2018).

Standardised tests were administered twice: once at the beginning of the semester and again at its conclusion. During these tests, students actively used digital platforms to learn English. These tests were conducted online, reflecting the digital environment of the educational setting.

In-depth interviews were conducted with a sub-sample of 10 students via Zoom or Microsoft Teams. These sessions were audio-recorded with the participants' consent and later transcribed verbatim. This approach enabled a comprehensive exploration of participants' experiences and provided qualitative data for further thematic analysis.

Data Analysis Techniques

Quantitative data from the surveys and proficiency tests were analysed using descriptive and inferential statistics. Descriptive statistics, such as frequencies, percentages, and mean scores, were used to summarise survey responses on platform usage and challenges. Inferential statistics, including paired t-tests, were conducted to assess differences in pre-and post-test scores, indicating changes in language proficiency.

Interview transcripts were analysed using thematic analysis to identify patterns and themes within qualitative data (Braun & Clarke, 2019). By integrating these research tools, data collection methods, and analysis techniques, the study provided robust evidence of the effectiveness of digital learning platforms in enhancing English language proficiency. Additionally, the findings addressed contextual challenges and captured individual experiences, offering a comprehensive understanding of the subject matter.

Results and discussions

Table 1: Demographic Information

Variable	Frequency (n)	Percentage (%)
Age		
16–20	31	15.5
21–25	78	39.0
26–30	54	27.0
Above 30	37	18.5
Gender		
Male	94	47.0
Female	100	50.0
I prefer not to say	6	3.0
Institution		
Lagos State University (LASU)	132	66.0
Lagos State University of Education (LASUED)	68	34.0
Year of Study		
1st Year	49	24.5
2nd Year	52	26.0
3rd Year	61	30.5
4th Year or above	38	19.0

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The demographic data reveals that most respondents, 39%, were within the 21–25 age group, followed by those aged 26–30 (27%). Gender distribution is nearly equal, with females at 50% and males at 47%, while 3% preferred not to disclose their gender. The majority are students from Lagos State University (LASU), accounting for 66%, with the remaining 34% from Lagos State University of Education (LASUED). In terms of academic level, third-year students are the largest group (30.5%), followed by second-year (26%), first-year (24.5%), and fourth-year or above (19%).

Digital platforms are used frequently for English instruction, with 41% of respondents accessing them daily. Usage decreases with less frequent intervals, as 29.5% use them 2–3 times a week, 20.5% weekly, and only 9% less frequently. These figures suggest high overall engagement with digital platforms among the participants.

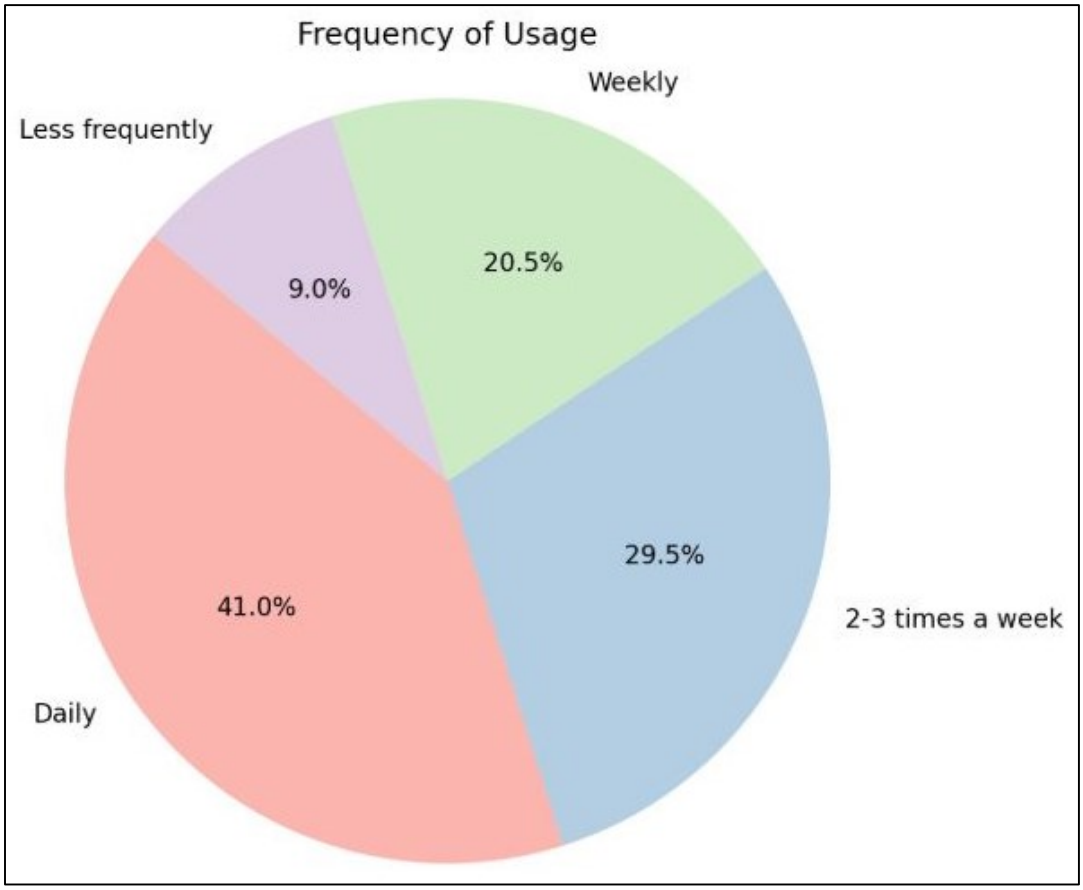

Figure 1: Frequency of Usage

Improvements in English Language Skills (Mean Scores)

Participants reported the highest improvements in listening skills, with a mean score of 4.3 (SD = 0.8), followed by reading skills at 4.1 (SD = 0.9). Speaking skills (mean = 3.9, SD = 1.1) and writing skills (mean = 3.8, SD = 1.0) also showed notable improvements. The results suggest that digital platforms are particularly effective in enhancing auditory and reading capabilities.

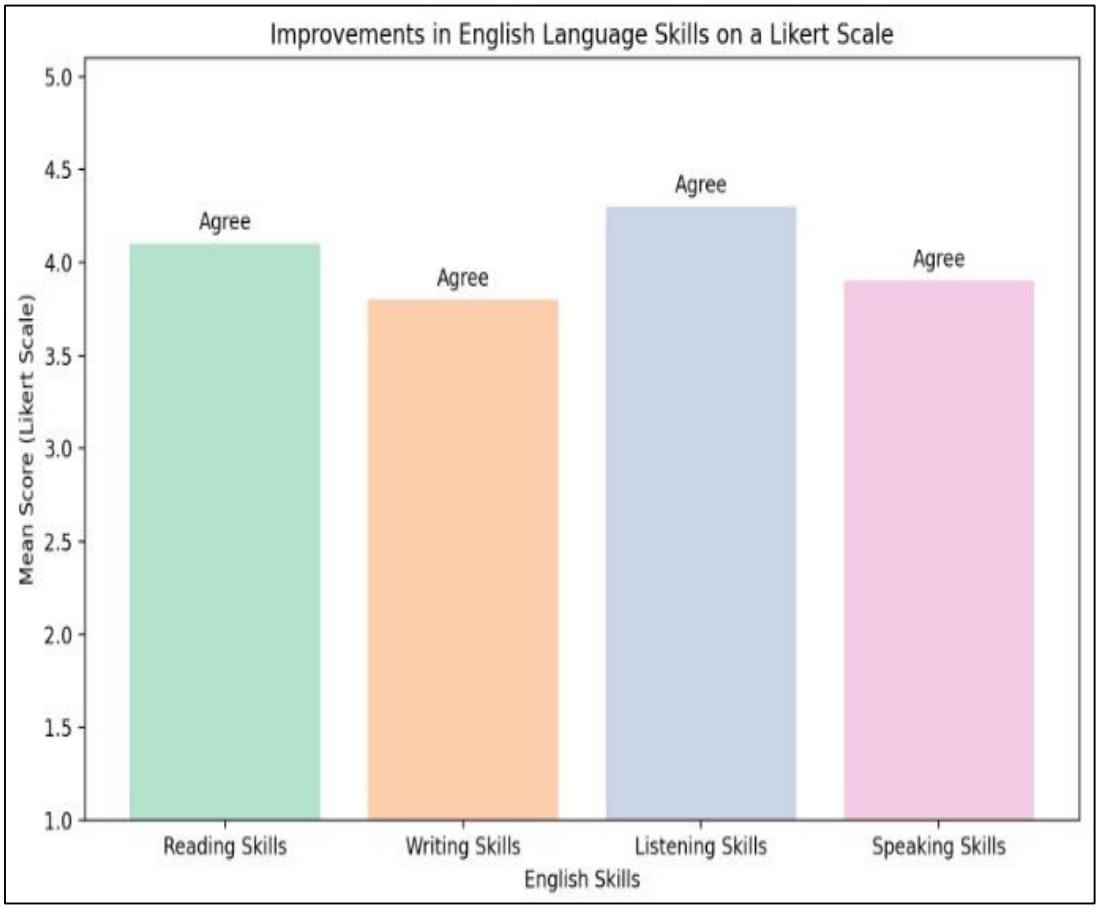

Figure 2: Improvements in English language skills

Effectiveness of Digital Platforms

Perceptions of digital platforms' effectiveness were overwhelmingly positive, with 82% of respondents rating them as moderately effective (37%) or very effective (45%). Only a small percentage found them ineffective (4.5%) or slightly effective (13.5%), demonstrating the platforms' utility for English language instruction.

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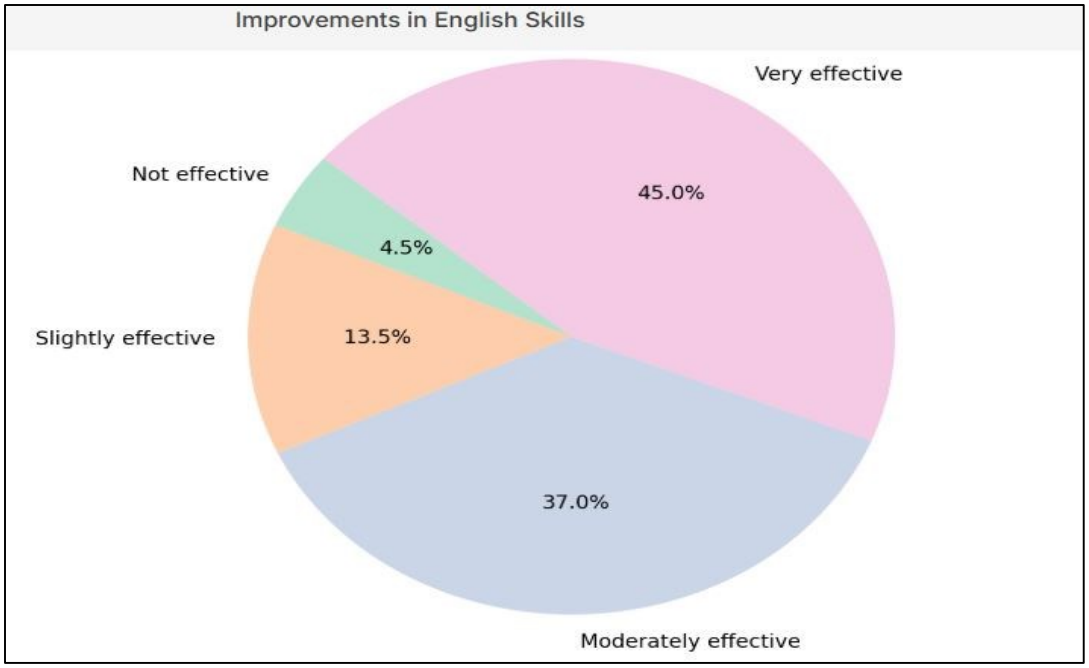

Figure 3: Effectiveness of digital platforms

Key Features Contributing to Learning Experience

The most valued features of digital platforms were interactive lessons (70.5%) and video/audio content (65%). Other significant features included quizzes and assignments (58.5%), feedback from instructors (51%), and discussion forums (44%). These results highlight the importance of engaging and varied content in enhancing the learning experience.

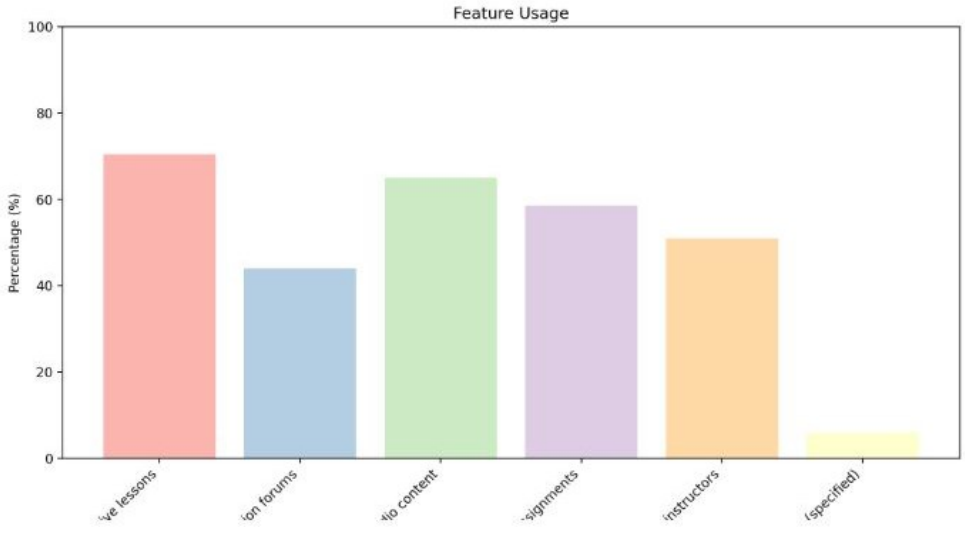

Figure 4: Features Usage

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Challenges in Using Digital Platforms for Learning English

The most frequently reported challenge was Internet connectivity issues (74.5%), followed by limited interaction with instructors (61.5%) and lack of technical skills (50.5%). Poor user interface (44.5%) and insufficient feedback (49%) were also notable barriers. These challenges indicate the need for improved infrastructure and user-friendly platforms

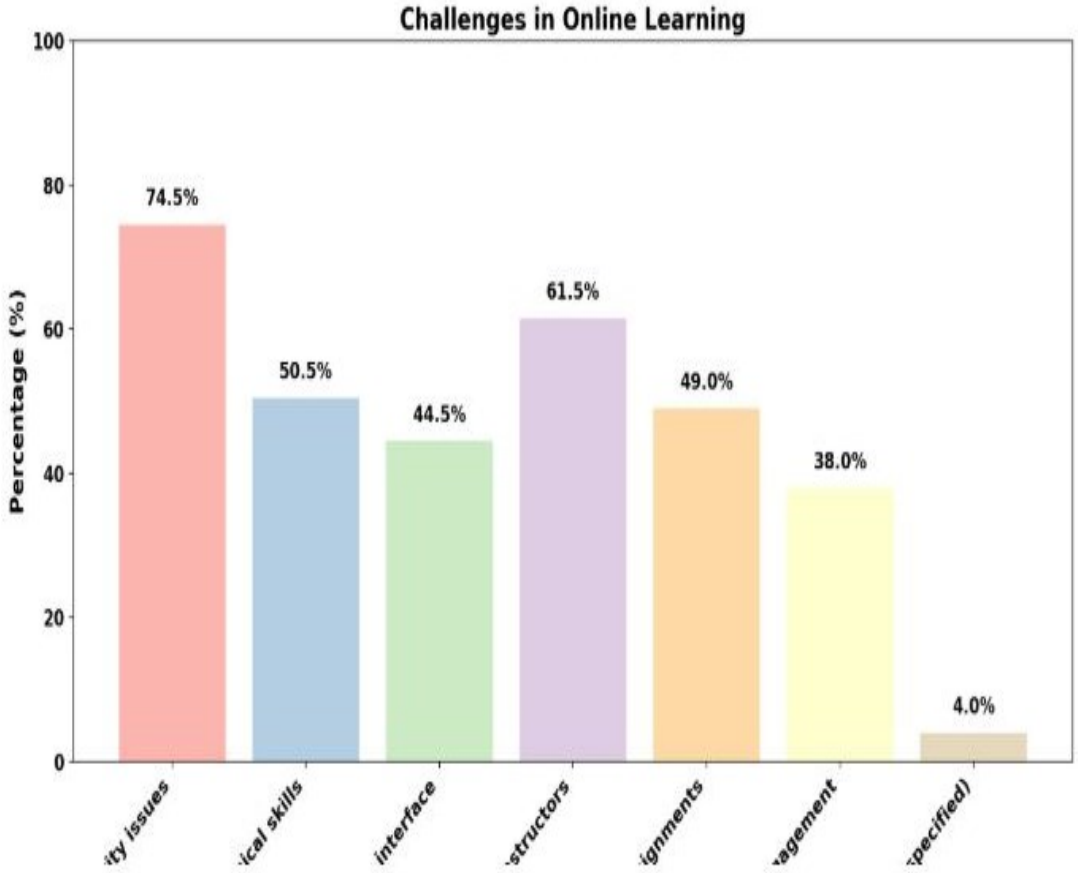

Figure 5: Challenges in Online learning

Extent of Challenges Impacting English Proficiency

Challenges moderately or significantly impacted English proficiency for most respondents (68.5%), with 39% reporting moderate impacts and 29.5% significant impacts. Meanwhile, 21% experienced slight impacts, and only 10.5% reported no impact, underscoring the challenges' influence on learning outcomes.

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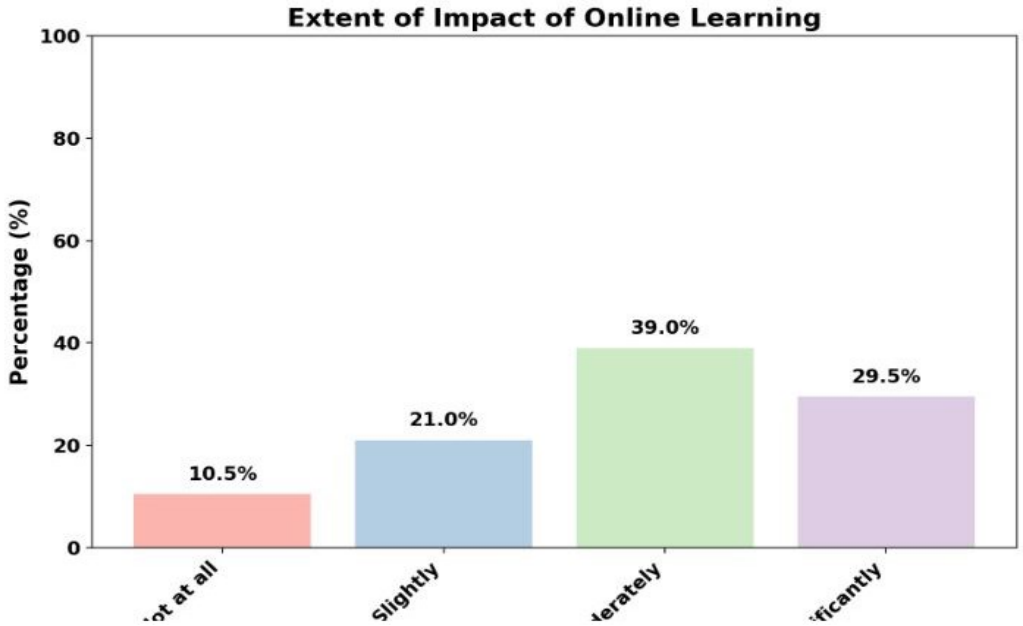

Figure 6: Extent of impact on online learning

Methods for Addressing Challenges

To overcome challenges, 66% of respondents used additional resources, and 55.5% sought help from peers or instructors. Improving technical skills was also common (44.5%), while only 4.5% employed other methods. These strategies demonstrate the proactive measures taken by learners to enhance their experience.

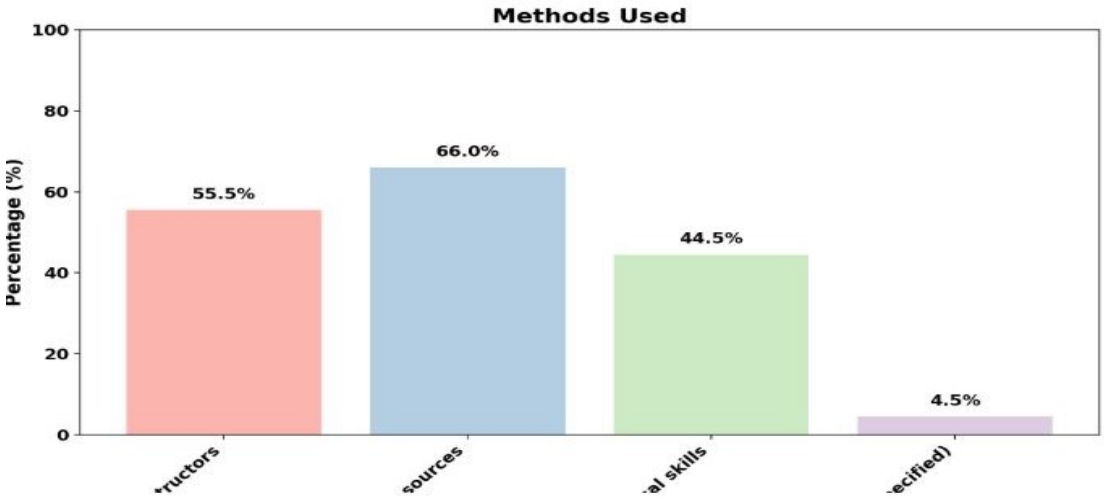

Figure 7: Methods used

Satisfaction with Digital Platforms for Learning English

Most respondents expressed moderate to high satisfaction, with 39% moderately satisfied and 30.5% very satisfied. However, 21% were slightly satisfied, and 9.5% were not satisfied. This suggests that while digital platforms are generally well-received, there is room for improvement in addressing user needs and expectations.

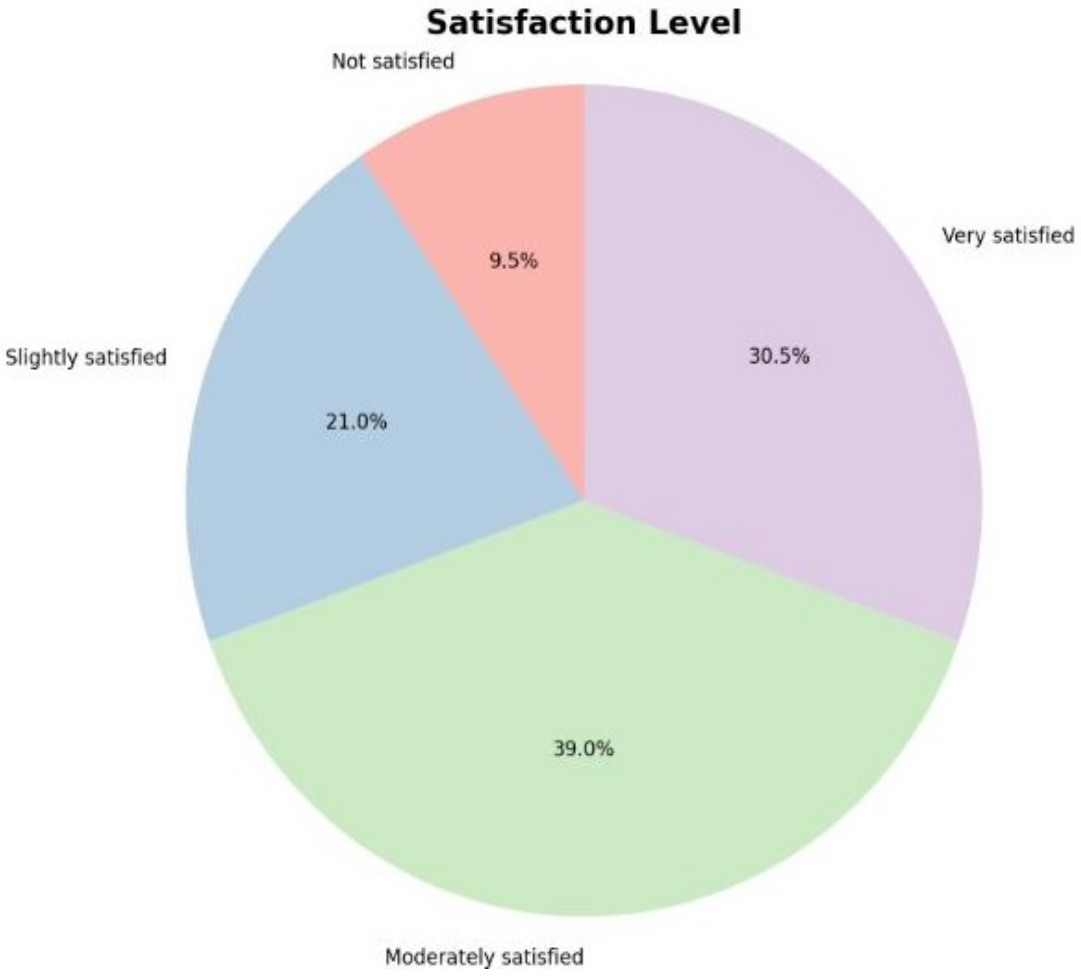

Figure 8: Satisfaction level

Pre-Test and Post-Test Results

The pre-test and post-test scores for the four core language skills (reading, writing, listening, and speaking) were compared using paired t-tests to determine the statistical significance of the observed changes. The results indicate that the use of digital learning platforms significantly improved English proficiency across all skills.

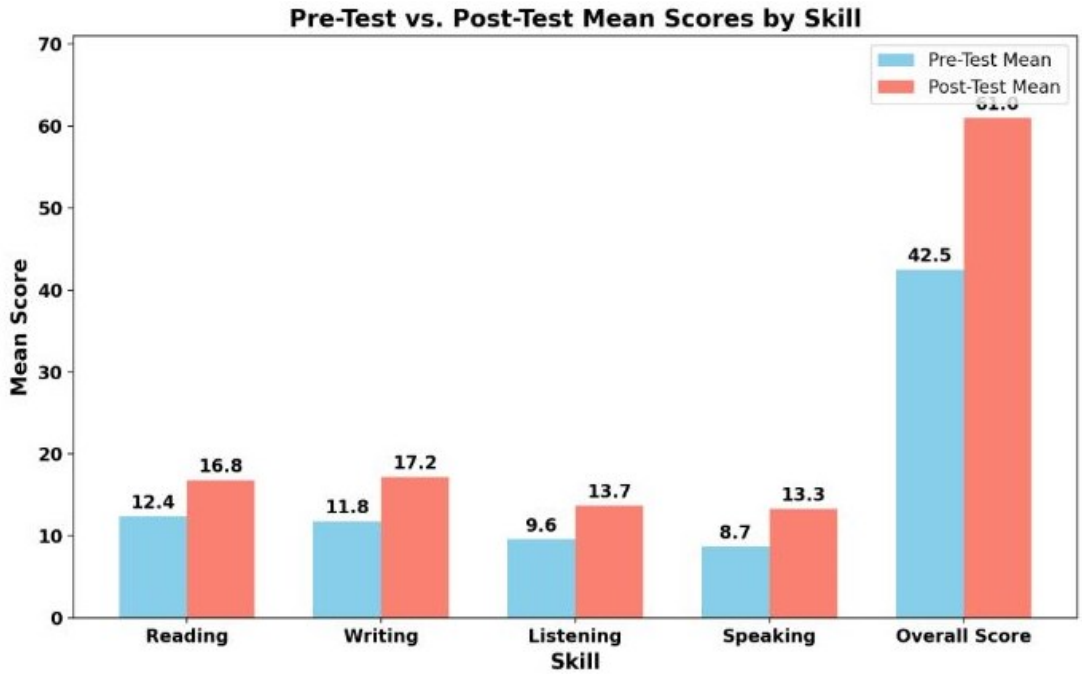

Figure 9: Pre-test VS Post-test mean scores by skill

QUALITATIVE ANALYSIS

Thematic Analysis

A thematic analysis of the semi-structured interviews conducted for this study uncovered several recurring themes that highlighted digital learning platforms' strengths and limitations in facilitating English language acquisition. These themes, enriched with participant quotations, provide an in-depth understanding of the user experience and suggest areas for improvement. For easy identification, descriptive identifiers ST 1, ST 2, ST 3… will be used to identify participants in the qualitative study

Effective Features of Digital Learning Platforms

Participants highlighted several digital learning platform features that greatly helped their English language acquisition. Students liked gamification, which used point systems, leaderboards, and badges to maintain engagement and foster competition. ST 1 said, "The gamified quizzes rendered grammar learning enjoyable and competitive." This sense of accomplishment motivated students to review and engage with knowledge.

Multimedia tools, such as video and audio, were used to improve listening and speaking. ST 3, on the other hand, asserted that "The video lessons enhanced my comprehension of pronunciation, and I could replay them until I mastered it." Repeated reviews helped students understand complicated subjects. Participants liked interactive quizzes with immediate feedback. These tools helped students find and fix mistakes, accelerating self-improvement. "The automated quiz corrections helped me recognise and correct my grammatical errors," said ST 4

Challenges with Digital Learning Platforms

Despite the benefits, participants experienced various obstacles to learning. One issue was the lack of real-time engagement with teachers and peers, which impaired speaking and listening abilities. Platform crashes, bad internet connectivity, and obsolete software disrupted learning. ST 9 complained, "Sometimes the platform freezes during a quiz, and I lose all my progress." Long-term use of digital tools without proper engagement techniques caused tiredness and decreased interest, creating motivational hurdles. ST 10 said, "I often lose interest because the lessons feel repetitive after a while." Another issue was the lack of personalised feedback. Many students found automated system corrections general and insufficient compared to conventional classroom comments. ST 5 believes, "The platform feedback is not as detailed as what I'd get in a physical classroom."

Role of Educators and Institutional Support

Participants stressed the need for educators in digital learning platform adoption. However, many believed educators underused features such as quizzes, videos, and interactive tools. ST 7 complained that "some teachers only upload PDFs and do not use interactive tools like quizzes or videos," missing engagement chances. Additional cooperation from educators and institutions was requested. Students requested more live sessions, individualised feedback, and proficiency-based materials to improve learning. ST 8 suggested, "A short one-on-one session with the teacher would help me understand my mistakes better."

Recommendations for Improvement

Participants suggested many digital learning platform enhancements to solve these issues. Improved real-time elements like live chatrooms or video chats were

recommended for speaking and listening practice. ST 6 believes, "Real-time speaking sessions would help me improve my fluency." Participants also stressed platform dependability, asking developers to fix bugs and ensure smooth functioning even in locations with low internet connectivity. ST 2 complained, "It's frustrating when the system crashes in the middle of an assignment." Students suggested gamification across the platform and content diversification to avoid repetition to overcome motivational constraints. "More interactive games and dynamic activities would keep me interested," said ST 1.

DISCUSSION OF FINDINGS

This study confirms and expands on earlier studies on digital learning platforms and English language proficiency. This study shows that multimedia resources and interactive exercises on digital platforms like Moodle and Blackboard help students enhance core language abilities, similar to Sun et al. (2020) and Al-Mawee (2021). The strong improvement in writing (mean increase = 5.4 points, d = 1.35) and listening (mean increase = 4.1 points, d = 1.02) supports earlier studies finding that gamified exercises and video-based training work.

However, this study also shows where past research fell short. This study examines all four language skills throughout time, unlike previous studies (Saeed et al., 2018), which focused on short-term advances in writing or speaking. It also highlights important issues like technology constraints and the absence of personalised feedback that previous research has neglected. These findings reflect Okeke and Nnamani's (2020) observations on African universities' infrastructural issues, emphasising the need for context-specific solutions in low-resource contexts.

The study shows that gamification, multimedia, and interactive quizzes boost language proficiency. Qualitative insights supported quantitative findings indicating interactive lessons (70.5%) and video/audio content (65%) were the most valued platform features. Leaderboards and point systems were routinely lauded for motivating participants. One participant said, "The gamified quizzes made learning grammar fun and competitive," demonstrating game mechanics' motivational potential.

Video and audio training were essential for improving listening and pronunciation. One respondent said, "The video lessons helped me understand pronunciation better,

and I could replay them until I got it." According to Golonka et al. (2017), multimedia improves auditory and verbal skills.

Discussion forums improved students' writing and critical thinking. According to Sociocultural Theory, students learnt collaboratively by working with peers (Lin et al., 2019). Participants said, "Sharing ideas with classmates in the forums improved my vocabulary and sentence structure," demonstrating the importance of collaborative tools in language learning.

Digital learning systems have many benefits, but the study found numerous drawbacks. Internet access concerns (74.5%) were the biggest hurdle, followed by instructor engagement (61.5%) and comments (49%). These issues align with Luo and Yang's (2021) results on the digital divide and learning outcomes.

The lack of real-time engagement hampered speaking and listening practice. One participant said, "It is hard to practise speaking without real-time instructor feedback." This gap emphasises the necessity for synchronous learning platforms with live chatrooms and video chats.

Platform crashes and obsolete software slowed learning. These findings support Okeke and Nnamani's (2020) recommendation for better university infrastructure in Nigeria. Students reported weariness and apathy due to repetitious and dull lessons. One person said, "I often lose interest because the lessons feel repetitive after a while."

Participants used additional resources (66%) and peer or teacher aid (55.5%) to overcome these issues. These proactive approaches demonstrate learners' tenacity in overcoming obstacles and maximising digital platform benefits.

The study emphasises regular digital tool use for language acquisition. Consistent digital platform use was substantially connected with proficiency gains across all language skills, with 41% of individuals using them daily and 29.5% 2–3 times per week. Reading, writing, listening, and speaking improved statistically (mean increase = 4.4 points, d = 1.13), proving that persistent involvement drives long-term effects.

Qualitative data showed that quizzes, video tutorials, and interactive exercises helped participants improve. One participant said, "Consistently using the platform kept me on track and motivated to improve." Zhao et al. (2022) also found that frequent involvement is essential for meaningful language learning.

Digital learning platforms can improve English language ability, especially when learners participate consistently and use interactive features, according to one study. The platforms improve essential language skills, but connectivity, engagement, and personalised feedback must be addressed to maximise their impact. This study's strengths and weaknesses can help educators and platform developers construct more inclusive, engaging, and successful digital learning environments for diverse learners.

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

This study shows how digital learning platforms have changed online higher education, notably English language proficiency. Interactive, multimedia, and gamified learning components on these platforms increase writing and listening, as revealed by this study. Discussion forums and individualised feedback have also increased student engagement and motivation, creating a flexible learning environment.

Despite these successes, challenges persist. Some users have had trouble studying due to internet access and platform instability. Lack of instructor involvement on digital platforms has also revealed academic relationship disparities. These limits stress the need for stronger technical infrastructures and pedagogical frameworks to maximise platform potential.

This research suggests more extensive online education possibilities beyond language learning outcomes. Effectively used digital tools can foster critical thinking, teamwork, and lifelong learning. However, more research is needed to understand their benefits fully. Future research should examine the cultural adaptation of platform content for various learners, the inclusion of learners with disabilities, and the long-term effects of digital education on academic success and employment.

RECOMMENDATIONS

This study suggests various ways to maximise digital platforms in online higher education:

- Enhancing technical reliability comes first. Regardless of internet bandwidth or device compatibility, digital learning systems must operate smoothly.

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Developers should emphasise fixing bugs, increasing server capacity, and creating user-friendly interfaces. This allows students from varied geographic and economic backgrounds to learn undisturbed.

- Interactivity is key to a more engaging and collaborative learning environment. Live video discussions, instant messaging, and virtual breakout rooms can boost active involvement and peer-to-peer learning. More substantial group projects, discussion boards, and collaboration technologies should encourage teamwork and critical thinking among students.
- Mandated engagement activities must encourage the use of digital platforms. Curriculums can include weekly assignments, graded discussion forum participation, and platform-based exams. This ensures constant use, reinforces learning habits, and helps students improve.
- Personalising learning routes will improve digital education's relevance and efficacy. Artificial intelligence-powered adaptive learning systems should personalise lessons. These technologies can recognise students' strengths and shortcomings, provide focused feedback, and suggest tailored study regimens. Progress monitoring systems can motivate pupils by showing them their successes and weaknesses.
- Following these suggestions, educational institutions and platform developers can resolve restrictions and maximise digital platform potential. This strategy will empower students to achieve academically and professionally by creating a more inclusive, engaging, and effective learning environment.

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