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Investigating CALL's Impact on English Language Proficiency Among Undergraduates of University of Abuja, Abuja, Nigeria

Abstract

This study evaluated how CALL tools impact University of Abuja students' proficiency in English language. This paper employed descriptive survey design and Random Sampling technique to select 120 undergraduates. Structured questionnaire was administered to assess students' perceptions on CALL usage, its effectiveness and challenges. While percentages and frequency tables were used to analyse the demographic characteristics of respondents, Average Mean Score used to analyse questions on the state, impact and challenges of CALL usage in the institution. The findings revealed that: CALL has limited effects on speaking, writing and listening skills; students use online dictionaries, language apps and multimedia resources; students experience limited internet access, technical issues and the high cost of paid resources. Based on these findings, the research recommended the following: development of conducive environment to increase students' engagement; provision of a more effective technical support and internet services to reduce disruptions; and training for lecturers who will effectively integrate CALL in the classroom.

Keywords: Computer-Assisted Language Learning (CALL), English language proficiency, University of Abuja, language learning tools, multimedia resources, language skills.

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1.1 Introduction

As the world continues to grow digitally, proficiency in English language is fast becoming an asset of inestimable value. Globally, most interactions and discourses in media, trade, science, technology, agriculture etc. are done using English. Also, English is taught as a compulsory subject at all levels in Nigeria, including in universities where it is taught as a compulsory course (Communication Skills in English, GST111). In emphasising the language's relevance in the educational system, the National Policy on Education (2013) clearly emphasised that English language is compulsory at primary and secondary levels, and a requirement to secure admission into higher institutions in the country.

Despite the importance and indispensability attached to the subject, records show that students continually struggle to gain proficiency in the language. Also, students' results in

“Communication Skills in English” (GST111) in most Nigerian universities reveal poor performance. Evidence of inadequate proficiency in English is further exposed by students’ poor pronunciation, limited vocabulary, grammatical errors and difficulty with sentence structure and formation (Anyanwu, 2022). While other countries are pushing in efforts to improve the English language teaching and learning experience through the integration of technology, Nigeria continues to lag behind. Technology integration in most Nigerian universities has been a slow and frustrating process (Walson and Okanu-Igwela, 2019). Speaking generally, technology integration in many Nigerian universities is largely hindered by limited access to technology, lack of government support, inadequate or lack of technology-compliant teachers, epileptic power supply and resistance to change. Moreover, while countries like the US, China, Japan, South Korea, Germany, UK etc. continue to engage transformative digital ideas with technology-oriented instructional innovations, Nigeria still employ traditional ‘chalk and board’ approaches.

One of the technology-driven tools that have gained attention in recent times is Computer-Assisted Language Learning (CALL) (Li, 2014). CALL refers to the use of computers and other digital technologies to facilitate and enhance language learning (Levy, 1997). It involves the incorporation of multimedia devices and Artificial Intelligence to stimulate learning through interactivity and personalised learning experiences (Stockwell, 2022). As reported in Hockly (2013), the incorporation of CALL in language teaching and learning is particularly significant in improving the four language skills – speaking, writing, listening and reading. At University of Abuja, CALL tools have gradually been integrated into teaching and learning of English, with the aim of providing students with opportunities to, personally and innovatively, improve their communication skills, innovatively and independently, in a controlled and dynamic environment. CALL tools often include use of online platforms like Google Classroom, Zoom, Google Meet, emails, messaging applications like WhatsApp and Telegram, and other interactive multimedia resources that facilitate learning process. Investigating the impact of CALL tools on students’ language learning outcomes and proficiency in English at University of Abuja is the main focus of this study. Thus, this investigation will provide veritable information on the role of CALL in language education in the Nigerian context.

1.2 Statement of the Problem

While there have been many studies on CALL’s impact on English language proficiency, there exists gap in research on how well it works at the University of Abuja. While CALL tools have been added to the learning setting, their exact effect on improving English skills among first-year students at this school has not been fully or sufficiently studied.

1.3 Aim and Objectives

The aim of this study is to investigate the impact of CALL tools on English language proficiency among undergraduates of University of Abuja, Nigeria, by measuring their effectiveness in enhancing various language skills. Therefore, the following objectives are developed.

- i. To investigate the extent of CALL’s impact on English language proficiency among undergraduates of University of Abuja.
- ii. To examine the perception of undergraduates’ students of University of Abuja regarding the effectiveness of CALL in enhancing their English language proficiency.
- iii. To uncover the challenges faced by undergraduates of University of Abuja in using CALL for English language learning.

1.4 Research Question

This research's focus will be to answer the following questions:

- i. To what extent does CALL enhance English language proficiency among undergraduates of University of Abuja?
- ii. What are the perceptions of undergraduates of University of Abuja regarding the effectiveness of CALL in enhancing their English language proficiency?
- iii. What are the challenges faced by undergraduates of University of Abuja in using CALL for English language learning?

2.0 Literature Review

2.1. Conceptual Framework

CALL refers to the application of computer technology, software applications and online materials to support language learning and provide interactive learning experiences (Saravanan, Suganthi and Sivaraman, 2021). Wang (2019) posited that, CALL has established its potential in engaging learners, aiding autonomous learning and providing access to reliable materials for language learning. CALL, as a tool used in language teaching and learning, offers new opportunities for improving educational practices and improving learner outcomes in English as a Second Language (ESL) instruction (Shanmugam, Prakash and Anitha, 2023). CALL offers numerous features that include: multimedia resources, interactive exercises and real-time feedbacks, which can help the learning needs of ESL learners (González-Lloret and Ortega, 2014). In addition, CALL supports language learners to improve on their language skills and provide them with opportunities for independent learning, without less or no help from instructors (Balachandran, Arulmani and Saravanan, 2021).

2.2 Theoretical Framework

Several theories can be employed to lead a study of this nature. The Socio-cultural Theory which was proposed by Vygotsky, is one of the theories used in guiding researches on CALL. Socio-cultural Theory focusses on the importance of social interactions and scaffolding in language learning (Vadivel, 2022). In addition, the Cognitive Load Theory is used to explain the optimal design of CALL materials to manage cognitive demands and enhance learning (Abdollahi, Salehi and Kargar, 2022). Frameworks such as the Technological Pedagogical Content Knowledge (TPACK) model and the SAMR model provide theoretical guide for integrating technology (CALL inclusive) in ESL instruction (Hammad, Al-Dosary and Alhassan, 2023). These models highlight the importance of integrating technology with pedagogy and content knowledge to improve learning experiences.

2.3 Empirical Review

A study conducted by Li (2014) on the impact of CALL on ESL undergraduate students' language proficiency, employed structured questionnaires, proficiency tests, to reveal significant improvements in vocabulary retention, pronunciation and writing skills. The study's recommendation was on enhanced investment in CALL tools and infrastructure, as well as organizing training for teachers. Likewise, Adebola, Ayodele and Fatimayin (2020) looked into how CALL affected some Nigerian undergraduate students' writing ability. The study using Regression Analysis found that grammatical accuracy and sentence structure might be improved by means of Grammarly and other technologies. Similarly, Anyanwu (2022) looked at how CALL might help Nigerian undergraduate grammar and vocabulary

improve. Although CALL shows good impact, the study highlighted several issues like inconsistent electricity, insufficient institutional support and poor technology infrastructure.

3.1 Methodology

This study adopts a Descriptive Survey Research design to investigate CALL usage in University of Abuja. Its population consists of undergraduate students in the institution. A random sampling technique was used to select participants and to ensure that each student has an equal chance of being included (Vadivel et al., 2019). Consequently, a sample size of 150 students was selected to represent the target population. More so, a structured questionnaire which included closed-ended items based on a 4-point Likert scale (Strongly Agree, Agree, Disagree, Strongly Disagree), was employed to measure students' perceptions of CALL's effectiveness. The questionnaire included sections on demographic information, CALL usage patterns, perceived benefits, and challenges.

Descriptive Statistical tools were used - frequency tables and percentages were used to analyse respondents' demography, while Average Mean Score was used to analyse the responses on trends in CALL usage, the overall effectiveness of CALL and the challenges observed in its usage. To ensure validity, the questionnaire underwent expert review and pilot testing before full-scale administration. Reliability was tested using Cronbach's Alpha to determine the internal consistency of the instrument, and a co-efficient score of 0.80 was realised. In the administration of questionnaire, ethical guidelines like voluntary participation, confidentiality and data protection were observed, as participants were informed that their responses will be used solely for research purposes.

4.1 Data Analysis

4.2 Demographic Analysis of Respondents

Table 1: Demographic Characteristics of Respondents

Category	Subcategory	Frequency	Percentage (%)
Age Group	0-20 years	82	68.33%
	21-30 years	27	22.50%
	31-40 years	8	6.67%
	40 and above	3	2.50%
	Total	120	100%
Gender	Male	52	43.33%
	Female	68	56.67%
	Total	120	100%
Education	FSLC	0	0.00%
	SSCE	80	66.67%
	NCE/Diploma	28	23.33%
	BSC	12	10.00%
	Masters/PhD	0	0.00%
	Total	120	100%
Religion	Christianity	58	48.33%
	Islam	51	42.50%

	Traditionalist	2	1.67%
	Atheist	1	0.83%
	Total	120	100%
Academic Level	100 Level	45	37.50%
	200 Level	20	16.67%
	300 Level	31	25.83%
	400 Level	16	13.33%
	500 Level	8	6.67%
	Total	120	100%

Source: Field Survey (2025)

Table 1 revealed that majority of respondents (68.33%) are between 0-20 years, followed by those between 21-30 years with 22.50%. The table also revealed that there are more female (56.67%) than males (43.33%). On educational qualifications, most respondents hold an SSCE (66.67%); NCE/Diploma holders are 23.33%, BSc 10.00%, while none have a Masters/PhD. Christianity constitute 48.33%, while Muslims are 42.50%. Only a small percentage identified as Traditionalist (1.67%) while 0.83% identified as Atheist. On academic qualification, 100-level students constitute 37.50%, followed by 300-level (25.83%), 500-level (6.67%).

4.3 Analysis of Research Questions

The cut-off score is 3.0, which implies that: values above 3.0 indicate a positive perception, while those below 3.0 indicate a negative perception.

4.3.1 Research Question One: “To what extent does Computer-Assisted Language Learning (CALL) enhance English language proficiency among undergraduates at the University of Abuja?”

Table 2: Impact of CALL Tools

Statement	SA (4)	A (3)	D (2)	SD (1)	Total Responses	Mean Score	Interpretation
CALL has improved my reading skills in English	53	25	31	11	120	3.00	Positive
CALL has enhanced my listening comprehension in English	42	24	36	18	120	2.75	Negative
CALL has helped me develop better writing skills in English	40	30	29	21	120	2.74	Negative
CALL has helped me develop better speaking skills	52	25	24	19	120	2.92	Negative
CALL has made learning English grammar easier for me	46	19	42	13	120	2.82	Negative
CALL has increased my overall confidence in using English	58	22	25	15	120	3.03	Positive

The analysis of the research question as in Table 2 above shows mixed perceptions of CALL's impact on English proficiency. Only two statements received positive ratings. The statement "CALL has improved my reading skills" got 3.00 (positive) and "CALL has increased my overall confidence in using English" got 3.03 (positive). When asked about the impact of CALL on listening, writing, speaking and grammar, responses were below the cut-off point of 3.0, which suggests that respondents perceive CALL as insignificant in enhancing language skills.

4.3.2 Research Question Two: "What are the most commonly used CALL tools and techniques among University of Abuja undergraduates, and how do they influence language learning outcomes?"

Table 3: Commonly Used CALL tools in University of Abuja

Statement	SA (4)	A (3)	D (2)	SD (1)	Total Responses	Mean	Interpretation
I frequently use online dictionaries and translation tools for learning English.	62	22	28	8	120	3.15	Positive
I practice English using CALL tools such as language learning apps (e.g., Duolingo, Grammarly).	57	28	20	15	120	3.06	Positive
I use multimedia CALL resources (videos, audio, interactive exercises) for English learning.	68	32	18	5	123	3.32	Positive
I participate in online discussion forums like Google Meet, Zoom, and chat groups to improve my English skills.	54	25	30	11	120	3.02	Positive
CALL tools have made my English learning process more engaging and interactive.	49	23	33	15	120	2.88	Negative

As revealed in Table 3 above, students generally have positive perception on the effectiveness of Computer-Assisted Language Learning (CALL) tools in enhancing their English language proficiency. With 3.15, they believe that the use of online dictionaries and translation tools has great impact on language learning. Respondents also believe that, language learning apps like as Duolingo and Grammarly are also impactful, with 3.06. Also, with 3.32 score, multimedia resources like videos, audio, and interactive exercises also reveal that students actively use these CALL tools in their learning process. Moreover, respondents (3.02) also revealed that online forums like Google Meet and Zoom are impactful. However, some respondents (2.88) did not agree that CALL learning process are more engaging and interactive.

4.3.3 Research Question Three: "What challenges do undergraduates at the University of Abuja face in using CALL for English language learning?"

Table 4: Challenges of CALL Usage in University of Abuja

Statement	SA (4)	A (3)	D (2)	SD (1)	Total Responses	Mean	Interpretation
I face difficulties accessing reliable internet for CALL-based learning.	71	20	21	8	120	3.23	Positive
I struggle with understanding how to effectively use CALL tools.	60	23	25	12	120	3.09	Positive
The cost of using CALL resources (e.g., paid apps, subscriptions) is a challenge for me.	41	26	35	18	120	2.89	Negative
I do not receive enough guidance from my lecturers on how to use CALL for learning English.	57	25	22	16	120	3.07	Positive
Technical issues (e.g., device compatibility, software problems) make it difficult for me to benefit from CALL.	64	31	20	5	120	3.23	Positive

As shown in Table, respondents confirmed that there are challenges encountered in the use of CALL. While some (3.23) respondents believe that there are difficulties in accessing reliable internet for CALL-based learning, others (3.09) assert that they struggle with understanding how to effectively use CALL tools. Also, 3.07 respondents believe that they do not receive enough guidance from lecturers on how to use CALL for learning English, while 3.2 respondents believe that there are technical issues such as device compatibility, software problems etc.

4.4 Summary of Findings

The following are some of the findings from the analysis.

- i. Even though CALL is significant in improving reading skills, it does not improve other language skills like listening, writing, speaking and grammar.
- ii. Students have a generally positive outlook on the effectiveness of CALL tools for language learning. Students actively use online dictionaries, language learning apps, and multimedia resources, with multimedia resources being the most favored for improving their English learning experience. Thus, despite the positive responses on the impact of CALL, respondents still feel that they not engaging and interactive.

iii. Students encounter obstacles such as poor internet connectivity, financial cost of using paid CALL resources, insufficient guidance from lecturers on CALL usage. They are also experience technical issues like device compatibility.

4.4.1 Discussion of Findings

The incorporation of CALL in language teaching and learning has yielded mixed results, as revealed by respondents. As revealed, CALL has positively improved students' reading skills and has boosted their overall confidence in the use of the language. However, respondents' opinion showed that, the effect of CALL on listening, writing, speaking and grammar appears to be limited. This finding is consistent with those of Okudo (2016) and Fadare (2017), who found out that, while CALL tools are effective in enhancing reading comprehension, they are unable to impact and improve writing and speaking skills. Okudo (2016) further emphasized that, while CALL could be beneficial for building reading skills among Nigerian students, the absence of direct interactions in speaking and writing activities limits its broader application. Similarly, Fadare (2017) discovered that, listening and speaking skills did not show significant improvement with CALL usage – which suggests that these skills require more interactive learning environments other than what digital tools can provide.

In addition, this study confirmed that students use online dictionaries, language learning applications and multimedia resources, even though multimedia tools are particularly more favoured. This paper also revealed that, students find CALL tools to be less engaging. This is corroborated by Adejumo, Abioye and Anake (2016) and Ikonta and Ugonna (2015), who submitted that, Nigerian students in higher institutions showed a high adoption rate to CALL tools but their smooth engagement is often hampered by challenges. Adejumo et al. (2016) found out that, while multimedia tools like videos and interactive exercises were appreciated by students, they do not fully capitalise on the potentials of these tools. In line with this, Ikonta and Ugonna (2015) also observed that while learners showed positive attitude towards CALL, there is decrease in long-term use of the tools.

The study identified several challenges. in the use of CALL. These challenges range from difficulties in using CALL tools and accessing reliable internet connections; technical issues like device compatibility and financial barriers related to accessing paid resources. These findings are in line with those of Adeleke and Oduwole (2020) who posited that lack of reliable internet access and high costs associated with digital learning resources remain significant barriers to the effective use of CALL in Nigerian universities. Adeleke and Oduwole (2020) further revealed that students are faced with other technical issues such as software incompatibility and device limitations. Similarly, studies by Okudo (2016) and Adejumo et al. (2014) revealed that, the cost of digital tools, especially subscription-based pose a significant obstacle for many students. However, consistent with the findings of Ikonta and Ugonna (2015), the lack of sufficient technical training and support from instructors further compounds these challenges, as students may not have the skills to navigate technical difficulties when they arise.

5.1 Conclusion

From the foregoing, the study revealed the substantial benefits of CALL in enhancing English language proficiency, especially in the aspect of reading. However, it is also revealed that, when CALL is used for English language learning, students often face challenges in speaking, listening, writing and grammar. Therefore, to improve the efficiency of CALL in language learning, it is imperative to swiftly address.

5.2 Recommendations

To enhance the effectiveness of CALL in improving English language proficiency, it is recommended to:

- i. develop a more interactive CALL tools in order to increase student engagement;
- ii. provide necessary technical support and address problems of internet connectivity;
- iii. offer financial assistance or subsidies to students in order to reduce the cost associated with subscription-based CALL resources;
- iv. provide training for lecturers to effectively integrate CALL tools into their teaching methodologies.

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