Computer Assisted Language Learning in English Teaching: Availability of Teaching and Learning Resources to Enhance Students' Performance in English as Subject in Technical Secondary Schools, Nyanza District, Rwanda

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ABSTRACT

The implementation of appropriate methods in English language teaching holds a crucial role in improving students' academic performance. Despite English being a core subject and medium of instruction in Rwanda's educational system, in Technical Secondary Schools from southern province, poor performance in English subject has been observed in national examinations and school-level assessments. The objective of this research was to determine the level of availability of teaching and learning resources for the integration of the Computer Assisted Language Learning (CALL) and its effect on students' performance in English subject. Research was carried out in 8 Technical Secondary schools from Nyanza District in southern province. The study utilized a sample of eight Head teachers and employed the descriptive research design with a quantitative method. Data were collected using questionnaires in the form of a likert scale. To analyze the data descriptive and inferential analysis were used. Findings indicated that the existing teaching and learning resources to integrate CALL are insufficient to help students in learning English through CALL, thus performance enhanced. It is shown by the inferential analysis with a P value of 0.64 which is greater than 0.05 of the significant correlation. Therefore it implies the negative correlation. The research recommends that the Ministry of Education should avail sufficient computers and internet connection to Technical Secondary schools to enable the integration of CALL in English teaching therefore performance enhanced.

Keywords: *English, ICT, Performance, Technical Secondary Schools, Nyanza*

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I. INTRODUCTION

English has become the world's leading lingua franca and it is used as a second language in many countries around the world. Due to its reputation, there is a growing imperative to enhance methods of teaching and learning English across all educational levels in order to align with the demands of 21st-century education(Roy-campbell, 2014). Not only has this resulted in multiple alterations in methods of teaching and learning English, but it has also prompted the emergence of diverse innovative approaches across the world to help learners of this second language to perform well in this subject. Technology, in any case is believed to be the most significant drivers to change everything, including the ways English is being taught and learned (Azmi, 2017).

Computer Assisted Language Learning(CALL) is very much used in different countries like China, Thailand, Philippines, Vietnam, Korea, Japan and many of the Gulf countries(Gupta, Pandey &Bhatnagar, 2021).In the research conducted at the University of Southern Queensland, Australia, Nim and Son (2009) demonstrated that recent advancements in information and communication technology (ICT) have transformed the roles of both language teachers and learners. In a technology-enhanced learning setting, learners are anticipated to take on proactive roles in language acquisition, as they assume control over their own learning process, contrasting with a more passive stance.

According to Bangs and Cantos (2004), CALL is not a distinct matter isolated from the broader landscape of language instruction and acquisition since it puts the learner at the center of the learning. Bangs and Cantos (2004) highlighted various benefits offered when the teacher integrates CALL in a language-learning environment, like engaging and motivating learners, addressing perceived educational needs, and ultimately facilitating more effective learning for students. In their study, Gupta et al.(2021) contended that CALL approach encompasses a wide range of subjects related to pedagogical design and innovations. It emphasized CALL' role within the realm of language education by highlighting its contributions, such as enhancing students' motivation and increasing self-esteem which lead to the language proficiency.

In the specific context of Rwanda, Uwababyeyi,Ngoboka and Anguru (2021) conducted research on the contribution of Computer-Assisted Language Learning (CALL) in teaching English as a foreign language in Higher

Learning Institutions (HLIs),suggested that current methodology used in HLIs often adopt traditional approach due to many students and limited time allocated to English programs. However, all interviewees agreed that Mobile-Assisted Language Learning (MALL) and CALL have the potential to improve students' speaking skills.

Attempts have been made by the Government of Rwanda through Rwanda TVET Board (RTB) to support teaching and learning of English across TS Schools. Nevertheless, the students' performance in English has been deplorable in Technical Schools of Rwanda, yet English is a medium of instruction across all subjects (Ndizeye, 2022). Figure 1 presents a comparative look into the students' performance in English compared to other core subjects in three Technical Secondary Schools in the National Level 5 examination for 3 academic years.
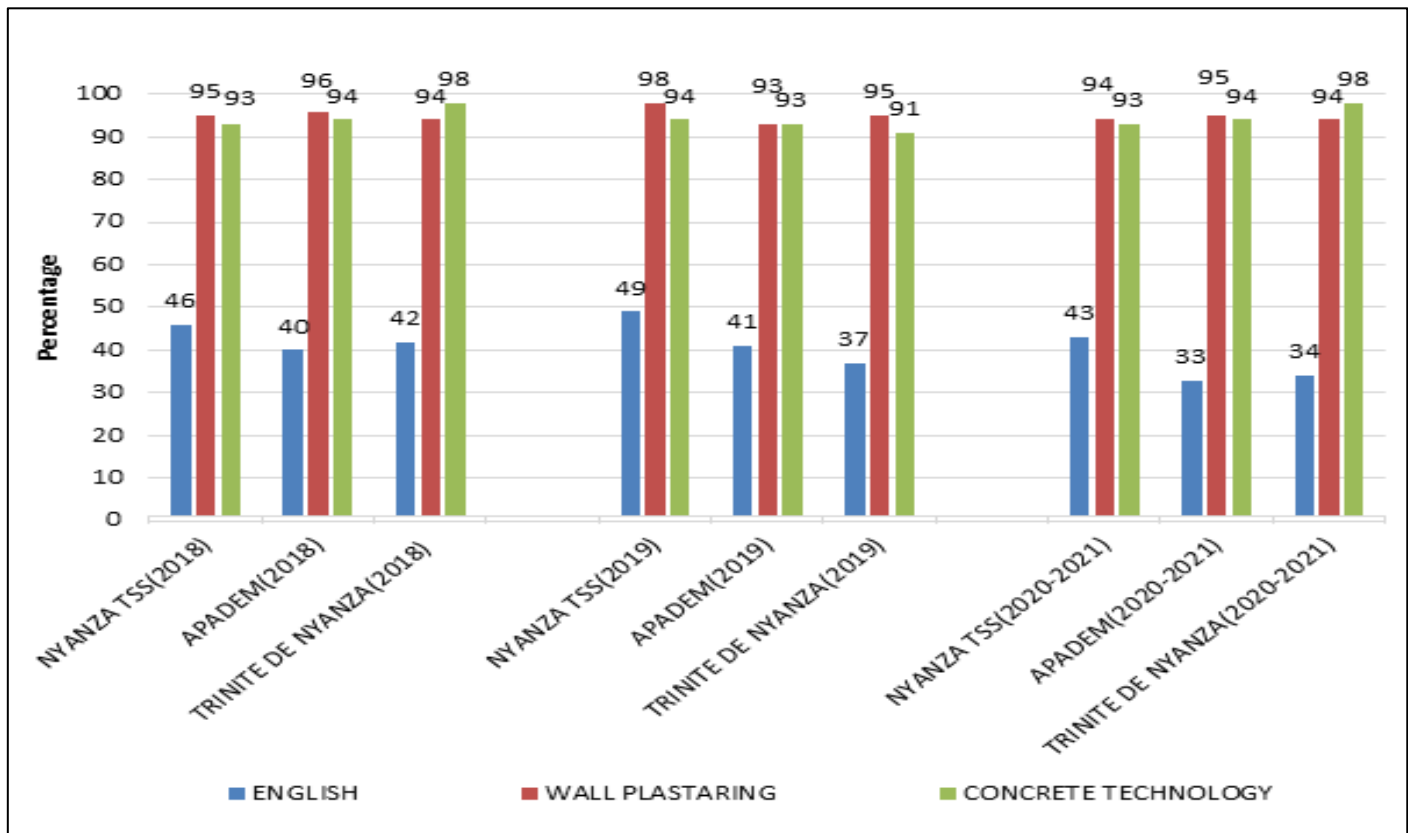

Figure 1
Comparison of the Students' Performance in English Subject Compared to Other Core Subjects in Technical Secondary Schools

Source: Secondary data, Nyanza District Schools reports, 2018, 2019 and 2021

It is observed that the students' poor performance in English would affect not only the overall students in Technical Secondary Schools (TSS) and have severe repercussions on the employability of TSS graduates (British Council, 2022). Hence, there is an urge imperative to investigate the extent to which computer assisted instruction can help in boosting the teaching of English subject in TSS.

1.1 Aims and Focus of the Study
English, the language of worldwide communication, is considered as one of the most useful subjects in Technical Education for *e*mployable skills to the labor market demand. Technical Secondary schools from Rwanda adopted the new ways of teaching English subjects to meet labor market demand. This research was purposively conducted to examine the availability of teaching and learning resources for CALL integration to enhance Students' Performance in English as subject. The study strives to respond to the following research question:
To what extent are teaching and learning resources available for integrating the CALL and what is its effect on the teaching of English subject?
II. LITERATURE REVIEW

2.1 Theoretical Framework

This study was guided by Constructivist theory by Lev Vygotsky's. This theory was discussed as a theory of language learning, which emphasizes language performance (Nesrine, 2016). Constructivist has been introduced a multimodal in the current digital educational world and it is a usage-based account for language learning. Fadeev (2019)argued that through constructivist theory, students learn language in a conventional classroom immediately when they know about new inventions around the world through technology, which helps them to develop their performance. Therefore, Constructivist theory was chosen to guide this study because students acquire language best when engaged in learning experiences rather than passively receiving information. Thus, experience will be gained through interaction with various English language materials on the basis of a computer.

2.2 Computer Laboratories in Integration of CALL

Hedges et al. (2003) demonstrated a positive relationship between computer use and academic achievement and concluded that one of the effective ways of utilizing technology in language learning is to establish a language laboratory. By using language laboratories in English learning, students can access a wide range of interactive resources, multimedia content, and language practice tools, all of which contribute to a more engaging and effective learning experience. Access to language laboratories can facilitate individualized instruction, allowing students to learn at their own pace and focus on areas where they need additional support (Oymak & Ogan, 2017).

Moreover, laboratories with technology-based in language learning often provides immediate feedback, which can be instrumental in reinforcing correct language usage and addressing mistakes. This feedback loop helps students develop language proficiency more efficiently and with greater accuracy. The positive impact of technology on language learning is evident through improved attitudes towards learning and enhanced academic performance. When utilized thoughtfully and purposefully, technology can be a powerful tool to complement traditional language teaching methods, leading to more successful language learning outcomes (Galvis, 2012).

Farag (2018) conducted a study to assess the impact of using a computer lab during English language sessions to facilitate the smooth integration of technology in language learning. The effectiveness of this approach was evaluated through a comparative analysis of student performance, survey results, and feedback from teachers, students, and IT management staff. The majority of them more than 90% agreed that this type of learning environment enhances the learning experience. Fiagbe (2020) further supported this idea by concluding that computer labs are a critical part of a school's technology resources, offering a primary means of motivating students.

2.4.2 Availability of Internet Connection in CALL Integration

The study conducted by Yuliana (2021) highlighted how the internet serves as a powerful motivator for learning, especially through websites, in comparison to printed text. The internet facilitates the sharing of information and ideas, offering a convenient and efficient way to save time and energy.

Gupta et al.(2021) further emphasized the dominance of the internet in the world, with computers in schools becoming essential tools in educational environments. This highlights the growing significance of digital technology, particularly the internet, in revolutionizing the way students and teachers interact with educational content and resources.

Nowadays, both students and teachers are increasingly integrating digital technology into their personal and academic lives (Gimeno, 2010).The implementation of Information Communication Technology Assisted Language Learning (ICTALL), which includes computers and the internet, introduces a method of teaching and learning that is not dependent on printed materials rather web- based learning thus The internet provides a wealth of resources that are easily accessible to students and motivate students through various mediums available online, such as video clips, audio sounds, and visual presentations (Ntongieh, 2016).

This technology has presented teachers with an opportunity to transform their pedagogical strategies and enhance the efficiency of teaching and learning (Raad,2020).Computer-Assisted Language Learning (CALL), as highlighted by Vi (2011) CALL has the potential to support and enhance the learning process through access to computers and the internet and continues to evolve, the potential for further advancements in English language teaching and learning.

2.4.3 English Learning Applications

Ali (2018) investigated the impact of computer-assisted English learning through control group and experimental group. The control group was taught using the regular prescribed textbook and followed the traditional teaching method. On the other hand, the experimental group received a unique application that was based on Duolingo, English language learning application. To evaluate the effectiveness of the intervention, a pre-test immediately and post-test were done. The findings of the study revealed that the performance of the experimental group, which received computer-assisted language learning (CALL) through Duolingo, was significantly better than that of the control group, which used traditional teaching methods, during the post-tests. The results suggested that integrating computer-assisted language learning into traditional instruction can lead to improved language learning outcomes for students.

The use of computer-based applications as instructional materials and language learning software provides an additional and effective learning to the performance among English Language students and can greatly enhance the teaching approach of ESL instructors by facilitating the proper preparation of exercises that cater to both visual and auditory senses, providing students with a wealth of engaging and realistic learning resources, and improving their efficiency in language production, collaboration, and confidence (Belay, 2022).

Implementing ICT applications in the classroom not only shifts the learning environment to be more student-centered, but also lightens the teachers' classroom responsibilities therefore, integration of ICT in the classroom results in a broader range of English content, context, and innovative pedagogical methods. This leads to more interactive, flexible, and innovative learning (Belay, 2022).

III. METHODOLOGY

This research adopted a descriptive research design. Lima (2017) explains that descriptive research helps to determine and report things naturally with characteristics, behaviors, attitudes, opinions, or perceptions of a group or population being studied. This design was best fit in the sense that it well tied with this study which intended to describe the current situation on the availability of teaching materials to integrate Computer Assisted Language Learning and how it affects students' performance in English as subject in Nyanza Technical Secondary Schools.

The setting for this study comprised of 8 Technical secondary Schools in Nyanza Districts. The research setting pertains to the location where data collection occurs (Igwenagu, 2016). The term Population refers to the specific group from which information is intended to be gathered (Lin, 2023). The population for this study comprised 8 head teachers. Taherdoost (2017) states that sampling refers to the method of choosing a collection of individuals, events, or behaviors to be included in the process of conducting a study. Hence, this study utilized cluster sampling to select Head teachers to participate in this research. Data were collected by means of questionnaires with four scaling questions close-ended statements.

The questionnaire examined the extent to which Head Teachers' perception of teaching and learning resources was also a key area where questionnaire sought to gather insight from head teachers regarding the availability of teaching and learning resources required for integrating CALL effectively in schools. Data was subjected to descriptive statistics by measuring frequencies, percentages, means and standard deviation and were then coded and entered into the computer through the statistical Package for the Social Sciences tool (SPSS). Inferential statistics, in the form of Pearson correlation coefficient and Spearman rho, were used to establish the relationship between the study variables.

Table 1

Distribution of Respondents' Demographic Characteristics

Head Teachers	Age	24 to 29	1	12.5 %	
		30 to 35	1	12.5 %	
		36 to 40	2	25 %	
		41 to 46	3	37.5 %	
		Above 46	1	12.5 %	
	Gender	Male	5	62.5 %	
		Female	3	37.5 %	8
	School Status	Public	5	62.5%	
		private	2	25 %	
		Government Aided	1	12.5 %	
Total N					**8**

IV. FINDINGS & DISCUSSIONS

4.1. Availability of Teaching and Learning Resources to Integrate CALL

The study sought to examine the opinions of head teachers in regard to the availability of teaching and learning resources to integrate CALL in teaching and learning English subject. The findings were as presented in Table 2.

Table 2
Distribution of Head Teachers' Responses to the Availability of Teaching Resources

Statements	SA	A	D	SD	Mean	Std.
i. The school has sufficient ICT laboratory for the purpose of teaching and learning	2(25%)	4(50%)	2(25%)	0	2.00	.756
ii. Availability of computers for teaching and learning in my school has improved the performance of students in English Subject	2(25%)	5 (62.5 %)	1(12.5%)	0	2.00	.926
iii. Internet- connected libraries enable individual student motivation to learn English	0	7(87.5%)	1(12.5%)	0	3.75	.707
iv. The school has sufficient internet to use in teaching and learning activities	2(25%)	4(50.0%)	1(12.5%)	1(12.5%)	2.88	.991
v. I believe adequate applications and technical assistance should be given to teachers of English to facilitate the implementation of technology in language teaching	0	6(75%)	2(25%)	0	2.75	.463
vi. Applications for teaching and learning English are one of the most critical resources in language learning.	0	3 (37.5%)	5(62.5%)	0	3.63	.518
vii. Technology experts should provide extra ICT resources to teachers who use it in their English classes	3(37.5%)	2(25.0%)	3(37.5%)	0	2.63	1.408

N=8

With the mean of 2.00, standard deviation of .756 as shown in table 4.1, it indicated that the head teachers disagreed that their school have sufficient ICT laboratory for the purpose of language teaching and learning. Yet they agreed the availability of computers for teaching and learning in their schools can improve the performance of their students in English subject.

The records show that the mean of 2.88 and the standard of deviation .991that head teachers disagreed that their schools have sufficient internet to use in teaching and learning activities .However, the mean of 3.75 and standard deviation of .707 showed an agreement with the assertion that internet- connected libraries can enable individual students' motivation to learn English. In addition, head teachers agreed with the mean of 2.75 and standard deviation of .463 that adequate applications and technical assistance should be given to teachers of English to facilitate the implementation of technology in language teaching.

These are announced as challenges in implementing CALL. Musmar, (2018) identified various challenges in implementing CALL in English classrooms included insufficient computer facilities and internet connection and indicated that those factors hinder the effective integration of CALL and limit its potential benefits in language learning environments. Indeed, Belay (2022) supported the idea that implementing ICT applications in the classroom not only shifts the learning environment to be more student-centered, but also lightens the teachers' classroom responsibilities. The integration of ICT applications in the classroom results in a broader range of English content, context, and innovative pedagogical methods. This leads to more interactive, flexible, and innovative learning.

Despite the descriptive analysis, inferential analysis showed insignificant between teaching and learning resources and students' performance in English in Nyanza Technical Secondary Schools. This is because the P-value of .064 is greater than 0.05of the correlation significant as shown in Table 3.

Table 3
The Relationship between CALL Teaching and Learning Resources and Students' Performance in English Subject

			Teaching and Learning Resources	Students' Performance
Spearman's rho	Teaching and learning resources	Correlation Coefficient	1.000	.532
		Sig. (2-tailed)		.064
	Students Performance	Correlation Coefficient	. 064	1.000
		Sig. (2-tailed)	.532	

*a. Correlation is significant at the 0.05 level (2-tailed). b. Listwise N=8

The analysis confirmed that there is a weak relationship between CALL teaching and learning resources and students' performance in Nyanza TSSs, since the P value of 0.064 is greater than 0.05 (r=.532, n=8, p>.05]). Therefore, it indicated that there were not enough schools' ICT laboratories, internet-connection and teachers of English were not aware of English learning applications, which facilitate integration of CALL. The correlation between these two main variables was insignificant because the P-value was .064, which is greater than 0.05. From the findings, the study concluded that in Nyanza Technical Secondary schools CALL teaching and learning resources are not enough to help students in the performance of English subject.

The inferential statistics in the study reveals a significant gap in the availability of teaching and learning resources for the effective integration of Computer-Assisted Language Learning (CALL) in Nyanza Technical Secondary Schools. The study demonstrated that when schools had adequate teaching and learning materials, the integration of CALL can be more effective, leading to increased student interest hence performance improved. The research highlights a concerning situation where many Technical Secondary schools from Nyanza District lack essential ICT infrastructure, such as ICT laboratories and reliable internet connectivity. This lack of technological resources limited the opportunities for students to engage in computer-based language learning and hindered the potential benefits of CALL integration. Additionally, the study indicated that teachers were not well informed about suitable applications such as dualingo, kaoot and Memrise to effectively involve students in computer-based language learning.

The findings shed light on the importance of addressing these challenges to promote successful CALL implementation in language classrooms. Adequate provision of ICT laboratories, internet connectivity, and relevant applications/software that can engage students in interaction with language. By addressing these limitations and investing in the necessary infrastructure, schools can create a more conducive learning environment that harnesses the potential of CALL to enhance students' interest, motivation, hence performance in English improved. The integration of CALL, when supported by adequate resources and knowledgeable teachers, can play a pivotal role in equipping students with crucial language skills in the digital era.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

The available of teaching and learning resources for integrating Computer-Assisted Language Learning (CALL) are currently insufficient. Additionally, consequently, to address this issue effectively, it is essential to invest more efforts in availing CALL facilities. This proactive approach will contribute significantly to resolving the existing challenges.

5.2 Recommendations

Based on the findings and the role played by English language in schools which is both a subject language and a medium of instruction. English learning is an issue that deserves attention from Ministry of Education, owner of the schools, stakeholders to provide sufficient CALL teaching and learning resources: computers and internet connection to help the integration of CALL in English teaching and learning.

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