Effectiveness of Computer-Assisted Language Learning for Grammar Accuracy

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ABSTRACT

This study aimed to determine the effectiveness of Computer-Assisted Language Learning (CALL) for grammar accuracy. The study utilized developmental research design to determine the effectiveness of the Computer-Assisted Language Learning (CALL) tools for grammar accuracy. This involved an experimental group exposed to CALL-based instruction with a total of 24 participants and a control group taught using traditional instruction with a total of 24 participants. A 50-item pre-test and post-test were administered to the participants for comparison to determine the effectiveness of CALL tools for grammar accuracy. A researcher-developed, content-validated survey questionnaire with a five-point Likert scale was used to gather the level of acceptability and functionality of CALL for grammar accuracy. The data from pre-test and post-test and the level of acceptability and functionality were analyzed using frequency, percentage distribution, mean and standard deviation. An Independent Samples t-test was utilized to determine whether there is a significant difference between the post-test scores of the experimental and control groups. The test was conducted at a 0.05 level of significance. The computed t-value of -2.189 and p-value of 0.034 reveal that there is a statistically significant difference between the experimental and control groups at the 0.05 level of significance, the null hypothesis is rejected. The use of computer-assisted language learning tools proved to be a statistically in improving the grammar accuracy of students. Results showed that the CALL tools were Very Highly Acceptable (M = 4.88) level of acceptability and for the level of functionality, the tools were rated Very Functional (M = 4.68). The findings reveal that CALL enhances engagement, supports grammar learning and provides an effective and user-friendly instructional approach. The study concludes that CALL is an effective pedagogical tool for enhancing grammar accuracy when supported by clear instructional design and reliable technological performance.

Keywords: Computer-Assisted Language Learning (CALL), Grammar Accuracy, Acceptability, Functionality

INTRODUCTION

Integration of technology in language instruction has become progressively essential in enhancing students' learning experiences and academic performance of students. Traditional methods of teaching grammar often rely on rote memorization and repetitive exercises which lead to low student engagement and poor understanding of language structures. As a result, educators are now exploring innovative approaches that promote active learning, motivation, and meaningful interaction in a learning environment. The integration of technology-based tools in education has emerged as an effective approach to foster student engagement, motivation and achievement across various educational levels (Vrcelj et al., 2023; Qudsi, 2024). Computer-Assisted Language Learning (CALL) transforms traditional learning activities into interactive and motivating experiences. This approach enables students to better understand grammar concepts, which are often perceived as difficult or uninteresting. The use of gamified applications such as Kahoot! contrasts with traditional techniques that may decrease student motivation and learning effectiveness. Game-based elements such as badges and leaderboards significantly increased students' behavioral engagement in flipped learning environments (Soner, 2023).

Grammar accuracy remains a fundamental component of language proficiency, particularly for learners of English as a second language. However, many students struggle with mastering grammatical rules due to lack of motivation, insufficient practice, and limited opportunities for meaningful application. The use of CALL offers a structured yet interactive way of presenting grammar lessons, breaking down complex concepts into manageable steps while maintaining learner interest.

This study aims to evaluate the effectiveness of Computer-Assisted Language Learning tools in improving students' grammar accuracy. The study also intends to determine the level of acceptability and functionality of the developed instructional tools in terms of clarity of instruction, engagement and motivation, learning support, ease of use, and technical performance. The study provides insights into how technology-enhanced instruction can support grammar learning and enhanced the used of CALL tools in instruction.

METHODOLOGY

The study utilized developmental research design to determine the effectiveness of the Computer-Assisted Language Learning (CALL) for grammar accuracy. CALL was integrated as an instructional approach to enhance students' grammar accuracy. The study is anchored with ADDIE (Analysis, Design, Development, Implementation and Evaluation) Model as a systematic instructional design framework for developing CALL tools. The descriptive quantitative method was used to determine the language needs of the participants and the level of acceptability and functionality of CALL. The study involved an experimental group exposed to CALL-based instruction with a total of 24 participants and a control group taught using traditional instruction with a total of 24 participants. A 50-item pre-test and post-test were content validated questionnaire by language experts. A pre-test was administered both to the experimental and control group to determine their language needs. After the implementation of CALL-based materials for grammar accuracy, a post-test was administered to the experimental and control group to determine the effectiveness of CALL for grammar accuracy. The respondents who evaluated the level of acceptability and functionality of CALL were the 30 teachers who voluntarily participated in the study. The instrument was divided into two parts: Acceptability in terms of clarity of instruction, engagement and motivation, and learning support; and Functionality in terms of ease of use and technical performance. A five-Likert scale was utilized to measure the responses of the respondents. The collected data from the pre-test and post-test and the level of acceptability and functionality were analyzed using frequency, percentage distribution, mean and standard deviation. An Independent Samples t-test was utilized to determine whether there is a significant difference between the post-test scores of the experimental and control groups. The test was conducted at a 0.05 level of significance. Ethical considerations were strictly observed throughout the study and participants were assured of the confidentiality and anonymity of their responses.

Level of Acceptability and Functionality Scale

Table 1. Pre-test Scores of Students in the Control and Experimental Groups

Scale	Statistical Limit	Descriptive Value	Level of Acceptability and Functionality
5	1.00-1.800	Strongly Agree	Very Acceptable/Very Functional
4	1.81-2.60	Agree	Acceptable/Functional
3	2.61-3.40	Neutral	Moderately Functional and Acceptable
2	3.41-4.20	Disagree	Less Acceptable/ Less Functional
1	4.21-5.00	Strongly Disagree	Not Acceptable/Not Functional

RESULTS AND DISCUSSION

Table 1 highlights the pre-test results of the control group and the experimental group proficiency in grammar accuracy along with subject-verb agreement, verb tenses, and voice of the verb. The control group attained a mean score of 20.83 with a standard deviation of 7.38, while the experimental group obtained a slightly lower mean of 19.29 with a standard deviation of 6.15. The results imply that both control and experimental groups

displayed comparable levels of grammar proficiency prior to the intervention which the participants share similar language needs in the identified grammar accuracy key areas.

These findings aligned with the result that secondary-level students often struggle with fundamental grammar structures even the foundation concepts are already thought in their early education. Grammatical competence develops gradually through meaningful practice and feedback (Loewen et al., 2020; Nassaji & Tian, 2019).

The pre-test findings confirm that the participants require instructional support and reinforcement in fundamental grammar skills, clear evidence of the need for the implementation of an intervention to address the identified language problems and needs. These results serve as a critical reference point for measuring the effectiveness of CALL tools in improving students' grammar accuracy along with the identified language needs encountered and evident with the students' pretest results.

Table 2. Post -test Scores of Students in the Control and Experimental Groups

	Control Group Mean± Std Dev: 20.83±7.38		**Experimental Group Mean± Std Dev: 19.29±6.15**	
	Frequency (n=24)	**Percent**	**Frequency (n=24)**	**Percent**
11-15	7	29.17	8	33.33
16-20	6	25.00	8	33.33
21-25	4	16.67	5	20.83
26-30	4	16.67	2	8.33
31-35	2	8.33	0	0.00
36-40	1	4.17	1	4.17
41-45	--	--	----	---
46-50	--	--	--	--
Total	**24**	**100.0**	**24**	**100.0**

Table 2 indicates the post-test results of students in the control and experimental groups. The control group gained a mean score of 26.88 with a standard deviation of 9.41, while the experimental group obtained a higher mean score of 32.21 with a standard deviation of 7.35, which demonstrates that students exposed to programmed instruction using gamification tools performed better than those who received traditional teacher-led instruction. The higher mean score of the experimental group suggests improved grammar accuracy in terms of subject-verb agreement, verb tenses, and voice of the verb, whereas the lower standard deviation reflects more consistent performance among students during the lesson.

This finding validates that the utilization of CALL tools leads to significant improvements in students' grammar accuracy. Digital game-based learning environments have been found to increase motivation and academic achievement and students exposed to computer-assisted instruction continue to demonstrate higher performance compared to those in traditional settings (Sanchez et al., 2024; Zhang et al., 2024). The development in students' progress proposes that gamification supports differentiated instruction by allowing learners to advance while receiving consistent feedback. This means that it fosters positive learning behaviors necessary for effective learning. In grammar instruction, mastery requires continuous practice and correction which CALL tools can efficiently provide in effective and interesting manner.

The results aligned with the study of Zainuddin et al. (2020) showed that technology-based learning environments meaningfully progress students' language learning academic progress and motivation. It encourages active participation and reinforces learning through repeated exposure and practice which are essential components in enhancing grammar skills. The higher post-test mean of the experimental group reflects the effectiveness CALL tools for grammar accuracy. The difference in scores between groups highlights that the traditional instruction method may be less effective in promoting grammar mastery, learners' active participation and contextualized application of the grammar.

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Table 3. Test of Difference between the Post-Test Performance of the Students in the Control and Experimental Groups

Post-test Result	**Control Group Mean± Std Dev: 26.88±9.41**		**Experimental Group Mean± Std Dev: 32.21±7.35**	
	Frequency (n=24)	**Percent**	**Frequency (n=34)**	**Percent**
11-15	2	8.33		
16-20	8	33.33		
21-25	2	8.33	5	20.83
26-30	4	16.67	4	16.67
31-35	1	4.17	7	29.17
36-40	6	25.00	3	12.50
41-45	1	4.17	4	16.67
46-50			1	4.17
Total	**24**	**100.00**	**24**	**100.00**

Table 3 reveals the comparison of the post-test performance of students in the control and experimental groups. The results show that the control group obtained a mean score of 26.88 with a standard deviation of 9.41, while the experimental group gained a higher mean score of 32.21 with a standard deviation of 7.35. This confirms that students who were exposed to computer-assisted language learning tools performed better than those who were taught using traditional method of instruction.

The computed t-value of -2.189 and p-value of 0.034 reveal that there is a statistically significant difference between the two groups at the 0.05 level of significance. Since the p-value is less than 0.05, the null hypothesis is rejected. This implies that the use of computer-assisted language learning tools proved to be a statistically in improving the grammar accuracy of students.

The higher mean score of the experimental group suggests that CALL provided an enhanced learning experiences and classroom environment that facilitated better understanding, interactive application of the grammar concepts into activities and better performance among students. The lower standard deviation observed in the experimental group indicates more consistent result among students. This suggests that intervention not only impact on their achievement and reliable outcomes but also minimizing academic gaps.

These findings are supported by studies found that students exposed to computer-assisted language learning instruction significantly improved than those in traditional learning environments along with language and grammar-related tasks. CALL-based learning environments meaningfully improve students' retention and comprehension compared to traditional approaches (Hamari et al., 2023; García-Murillo & Annabi 2024). It was also revealed that CALL tools increase student engagement and motivation, considered to be critical factors in improving learning outcomes and performance of students The findings show that CALL-based learning is more effective than the traditional instruction in improving students' grammar accuracy.

Table 3a. Level of Acceptability of CALL for Grammar Accuracy in terms of Clarity of Instruction

Group	**Mean**	**SD**	**t-value**	**p-value**	**Inference**
Control group	26.88	9.41	-2.189	0.034	Significant
Experimental group	32.21	7.35			

**tested at 0.05 level of significance*

Table 3a reveals the level of acceptability along clarity of instructions (4.82) interpreted as "*Very Highly Acceptable".* This indicates that the instructional resources are clear, understandable and effectively guided the learning process. When instructions are well-structured and easy to follow, students are more likely to engage confidently with the tasks and activities, minimize errors and delays and focus on mastering grammar concepts rather than struggling with directions. CALL was designed in a learner-centered manner, allowing students to engage actively in grammar activities and tasks. The statement *"The computer-assisted language learning*

*tools were clearly explained" (*4.87) implies that the content delivery was highly comprehensible to students. The tools provided a step-by-step guidance, enabling students to easily grasp grammar lesson. The clarity in instructional design is a vital key factor that enhances students understanding and contributes to better-quality academic performance along with the structured and interactive learning environment.

The statement "*The activities were presented in a logical and organized sequence*" (4.83) indicates that instructional flow was organized and comprehensible. This provides evidence that support the principle of well-structured learning resources promote better cognitive processing and retention. Zainuddin et al. (2022) found that gamified instructional designs that follow a logical progression meaningfully expand students' understanding and engagement. Meanwhile, the statements *"The instructions in the lesson helped me complete the activities successfully"* (4.80) and "*The directions for using the computer-assisted language learning tools were easy to follow"* (4.77) explicate that the instructional content and the integration of gamification tools were user-friendly and easily accessible to students. This reinforces the implication that CALL is not merely a motivational tool but an effective pedagogical strategy that supports both skill development and learner engagement. Subhash & Cudney (2021) emphasized that gamified tools expand both students' engagement and clarity of task implementation, achieving better learning outcomes. Students demonstrate higher engagement and understanding when instructions are clearly presented within CALL-based gamified learning environments. As a result, learners are better able to complete tasks successfully and enhance learning experience.

Table 3b. Level of Acceptability of CALL for Grammar Accuracy in terms of Engagement and Motivation

Statements	**Mean**	**Descriptive Value**
1. The computer-assisted language learning tools were clearly explained.	**4.87**	**Very Highly Acceptable**
2. The directions for using the computer-assisted language learning tools were easy to follow.	**4.77**	**Very Highly Acceptable**
3. The activities were presented in a logical and organized sequence.	**4.83**	**Very Highly Acceptable**
4. The instructions in the lesson helped me complete the activities successfully.	**4.80**	**Very Highly Acceptable**
Overall Mean	**4.82**	**Very Highly Acceptable**

Table 3b highlights the level of acceptability along Engagement and Motivation (4.96) interpreted as "*Very Highly Acceptable".* The result agrees that CALL tools are highly engaging, motivating and effective in cultivating their learning experiences. CALL-based learning environments significantly increase learner motivation and engagement through interactive features, immediate feedback, and learner-centered design (Li & Lan, 2023). The statements *"The computer-assisted language learning tools made the lesson more interesting"* and *"The use of computer-assisted language learning made the learning experience enjoyable"* both gained a perfect mean score of 5.00. The result recommends that the integration of CALL evidently increased students' interest and satisfaction in learning. The statement *"I felt motivated to participate in the activities using the computer-assisted language learning tools"* (4.97) point out that CALL encouraged motivation and active participation among students. Motivation acts a significant role in learning, as it directly influences students' willingness and readiness to engage in tasks and persist in completing activities. The utilization changes the learning environment which evidently increase student motivation that leads to improved participation and engagement. Gamified CALL tools proved to enhance intrinsic motivation by providing meaningful challenges, rewards and progress tracking encouraging continuous participation in language learning activities (Nurhayati, 2025).

The statement *"The interactive activities kept me actively involved in the lesson"* (4.93) exhibits that students were reliably engaged throughout the instructional process. This suggests that it promotes active learning by transforming passive learners into active participants. Zhang & Zou (2022) highlights that CALL environments improve students' language performance by providing immediate feedback, interactive tasks and personalized learning pathways. Technology-supported instruction allows learners to practice language skills leads to improved grammar accuracy and increased confidence in language use. Al-Jarf (2021) found that CALL-based instruction enhances students' writing and grammar skills by exposing learners to structured and repetitive

practice supported by digital tools. CALL does not only make learning enjoyable but also encourages active participation and sustained interest, which are critical factors in achieving meaningful learning outcomes.

Table 3c. Level of Acceptability of the Computer-Assisted Language Learning Tools in terms of Learning Support

Statements	**Mean**	**Descriptive Value**
1. The computer-assisted language learning made the lesson more interesting.	**5.00**	**Very Highly Acceptable**
2. I felt motivated to participate in the activities using the gamification tools.	**4.97**	**Very Highly Acceptable**
3. The interactive activities kept me actively involved in the lesson.	**4.93**	**Very Highly Acceptable**
4. The use of computer-assisted language learning made the learning experience enjoyable.	**5.00**	**Very Highly Acceptable**
Overall Mean	**4.96**	**Very Highly Acceptable**

Table 3c confirms the level of acceptability in terms of learning support (4.86) interpreted as "*Very Highly Acceptable".* The result implies that CALL as the intervention successfully bridged the gap between theoretical grammar instruction and practical application. The statements *"The programmed instruction helped me understand the lesson better"* (4.87) and *"The gamification tools supported my learning during the lesson"* (4.87) indicates that the programmed nature of the lessons which is breaking complex grammar rules into sequential, manageable steps, complements the motivational purpose of gamification tools. By presenting information in a gamified format, the instruction likely transformed what is often perceived as a boring lesson into an engaging experience. The statements *"The feedback provided through the tools improved my understanding"* (4.87) and "*The activities helped me practice the skills taught in the lesson"* (4.83) indicate that in a programmed instruction model, the immediacy of feedback is the engine of learning. Matviienko et al. (2024) mentioned that real-time feedback in gamified settings is essential for reinforcing correct linguistic patterns and allowing students to fail forward in a low-stakes environment. This immediate loop ensures that misconceptions in grammar are corrected instantly. Chapelle (2021) explained that CALL promotes meaningful language practice through interactive tasks that enhance both comprehension and production skills. The intervention promoted uniform learning outcomes which confirm that when students feel supported by the utilization of CALL, they are better equipped to practice and master the skills taught in more enjoyable and less pressure learning setting.

Table 3d. Level of Acceptability of the Computer-Assisted Language Learning Tools

Statements	**Mean**	**Descriptive Value**
1. The programmed instruction helped me understand the lesson better.	**4.87**	**Very Highly Acceptable**
2. The gamification tools supported my learning during the lesson.	**4.87**	**Very Highly Acceptable**
3. The activities helped me practice the skills taught in the lesson.	**4.83**	**Very Highly Acceptable**
4. The feedback provided through the tools improved my understanding.	**4.87**	**Very Highly Acceptable**
Overall Mean	**4.86**	**Very Highly Acceptable**

Table 3d reflects level of acceptability (4.88) interpreted as "*Very Highly Acceptable*". This confirms consistently strong positive evaluation across all assessed categories, clarity of instruction (4.81), engagement and motivation (4.97), and learning support (4.85). This highlights the strong impact of CALL tools in fostering active participation and sustaining learner interest. The integration of the Pear Deck and Plickers E-learning contributed to this high score by providing real-time interaction and feedback, great factors for student engagement. The result suggests that CALL effectively scaffolded student learning. The high acceptability rating indicates that students perceived the instructional materials and activities as helpful in guiding their understanding of grammar concepts. CALL successfully presented grammar concepts in a logical and comprehensible manner, facilitating learner understanding. Matviienko et al. (2024) noted that technology-enhanced language learning environments enable learners to monitor their progress and correct errors instantly, reinforcing accurate language use in a supportive, low-pressure setting. The approach not only engages

learners but also supports their learning and provides clear instructional guidance, combining structured instructional methods with interactive gamified tools features enhances both learner satisfaction and academic performance.

Table 4a. Level of Functionality of the Computer-Assisted Language Learning Tools in terms of Ease of Use

Category	Mean	Descriptive Value
1. Clarity of Instruction	**4.81**	**Very Highly Acceptable**
2. Engagement and Motivation	**4.97**	**Very Highly Acceptable**
3. Learning Support	**4.85**	**Very Highly Acceptable**
Overall Mean	**4.88**	**Very Highly Acceptable**

Table 4a reveals the level of in terms of ease of use (4.63) interpreted as *"Very Functional".* The result suggests that students experienced minimal difficulty in interacting with the CALL tools which allow them to focus more on the learning tasks rather than on technical concerns. The statements *"I was able to submit my answers without difficulty"* and *"The tools were easy to navigate"* both obtained a mean score of 4.77 implies that the system provided a seamless and intuitive user experience, particularly in completing tasks and navigating the platforms. The smooth submission process is especially important in computer-assisted language learning environments, as it ensures continuous engagement without interruptions. The statement *"The platform worked smoothly during the lesson"* (4.60) indicates that the computer-assisted language learning tools performed reliably during instructional time. This highlights the technical stability of the platform, which is a critical factor in sustaining student engagement and preventing disruptions in the learning process. While the statement *"The gamification tools were easy to access"* (4.40) shows that while accessing was generally not problematic, there may have been minor issues such as internet connectivity or initial login procedures that slightly affected user experience.

These findings strongly support the Technology Acceptance Model (TAM), which posits that perceived ease of use significantly influences users' acceptance and actual use of a system or tool. When learners perceive a system or tool as easy to use, they are more likely to engage with it positively and consistently. The computer-assisted language learning tools successfully met usability expectations, enhancing students' willingness to participate in the learning activities. Usability and system functionality are key determinants of effectiveness. Integrating CALL with well-designed instructional interfaces significantly improves user experience and learning efficiency (Ghai &Tandon, 2023).

The findings reveal that the integration of CALL was successful in creating an engaging and efficient learning environment and supporting the improvement of students' grammar accuracy. It successfully minimized technical difficulties and maximized usability. This implies that students were able to engage more effectively with grammar learning tasks and reinforce that user-friendly design, accessibility and smooth system performance are essential components of effective language learning instruction.

Table 4b. Level of Functionality of the Computer-Assisted Language Learning Tools in terms of Technical Performance

Statements	Mean	Descriptive Value
1. The gamification tools were easy to access.	**4.40**	**Very Functional**
2. The platform worked smoothly during the lesson.	**4.60**	**Very Functional**
3. I was able to submit my answers without difficulty.	**4.77**	**Very Functional**
4. The tools were easy to navigate.	**4.77**	**Very Functional**
Overall Mean	**4.63**	**Very Functional**

Table 4b presents the level of functionality of the computer-assisted language learning in terms of technical performance (4.72) interpreted as *"Very Functional".* This indicates that the system performed at a highly efficient and reliable level during its implementation. This suggests that learners experienced minimal technical issues, enabling uninterrupted participation in the learning activities. Among the indicators, *"The system responded quickly during the activities"* and *"The gamification tools functioned properly during the*

lesson" both obtained the highest mean score of 4.77. The result highlights that computer-assisted language learning system's strong responsiveness and operational reliability, which are essential in maintaining the flow of instruction. Fast system response reduces waiting time and prevents disengagement, while proper functionality ensures that all features work as intended to ensure a smooth learning experience. The statements *"I did not experience major technical problems while using the tools"* and *"The online activities were completed without interruptions"* both received a mean score of 4.67. The findings reveal that technical disruptions were minimal and did not significantly affect the learners' ability to complete tasks. The absence of major issues reflects the stability of the computer-assisted language learning tools, which is important in ensuring consistent learning delivery in technology-mediated instruction.

Technical reliability and system efficiency are key factors in the success of computer-assisted language learning environments. When systems function properly and without interruptions, students can focus on learning tasks rather than troubleshooting technical problems. The effectiveness of gamification is significantly influenced by the quality of system performance, including responsiveness and stability. Ahmed et al. (2025) highlighted that well-functioning gamified systems enhance student engagement and satisfaction when they provide uninterrupted and responsive interaction. The high ratings for quick system response and less interruptions in this study confirm that the computer-assisted language learning created a conducive digital learning environment.

Table 4c. Level of Functionality of the Computer-Assisted Language Learning Tools

Statements	**Mean**	**Descriptive Value**
1. The system responded quickly during the activities.	**4.77**	**Very Functional**
2. I did not experience major technical problems while using the tools.	**4.67**	**Very Functional**
3. The gamification tools functioned properly during the lesson.	**4.77**	**Very Functional**
4. The online activities were completed without interruptions.	**4.67**	**Very Functional**
Overall Mean	**4.72**	**Very Functional**

Table 4c highlights the level of functionality of the programmed instruction using gamification tools (4.68) interpreted as *"Very Functional".* Both indicators, ease of use (4.63) and technical performance (4.72) suggest that respondents perceived the system as highly effective and user-friendly.

The high mean score for ease of use indicates that users find the computer-assisted language learning system spontaneous, accessible and easy to navigate. This finding emphasizes the importance of usability in computer-assisted language learning systems. Research highlights that perceived ease of use significantly influences students' attitudes and acceptance of gamification platforms, often more than the perceived benefits themselves (Rahman et al., 2018). When students can easily interact with the system or gamification tool format, cognitive load is reduced allow to focus more on learning tasks rather than system navigation. User-friendly design enhances engagement and motivation, which are key drivers of learning effectiveness, the high mean score implies that the computer-assisted language learning successfully meets usability standards that contributes positively to learner experience.

The high mean score obtained by technical performance indicates that the system operates reliably, efficiently and without significant errors or delays. This suggests that the computer-assisted language learning is well-developed in terms of system responsiveness, stability and functionality. When systems function efficiently and match instructional goals, they lead to better learning outcomes and user satisfaction (Wang & Sari, 2023). Effective technical performance ensures smooth interaction, which is essential in maintaining user immersion as a key element of computer-assisted language learning environments.

The evaluation result confirms that the computer-assisted language learning is highly functional and effective as a learning tool. This suggests that the integration of tools elements and features were successfully implemented. However, it is important to note that while the results are highly positive, the effectiveness of computer-assisted language learning depends on proper design and implementation. Poorly designed elements may lead to distraction or reduced learning effectiveness (Reiter, 2025). In this case, the high mean scores suggest that the system avoided these pitfalls and achieved a balanced design. This validates the effectiveness

of computer-assisted language learning as a pedagogical strategy when properly implemented. The high level of functionality suggests that the system can be confidently used as a supportive instructional tool for grammar accuracy.

Category	Mean	Descriptive Value
1. Ease of Use	**4.63**	**Very Functional**
2. Technical Performance	**4.72**	**Very Functional**
Overall Mean	**4.68**	**Very Functional**

CONCLUSION

The findings of the study revealed that the use of Computer-Assisted Language Learning (CALL) is effective and very highly acceptable and very functional in improving students' grammar accuracy. The null hypothesis is rejected. This implies that the use of computer-assisted language learning tools proved to be a statistically in improving the grammar accuracy of students. The findings show that CALL tools for grammar learning are more effective than the traditional method of instruction. The significant difference in post-test performance confirms the positive impact of CALL tools, stating that its integration into language instruction to enhance student achievement, active participation and engagement is effective. The tools achieved high rating in terms of clarity of instruction, engagement and motivation and learning support which stipulates that the lessons were well-structured, engaging and effective in facilitating learning. In terms of ease of use and technical performance, it implies that students were able to interact with the tools smoothly with minimal technical difficulties. The integration of interactive tools contributed meaningfully to increase student motivation, active participation and better understanding of grammar accuracy. The study confirms that CALL, when combined with well-designed gamification strategies and structured materials, serves as an effective pedagogical approach. The results highlight the importance of clear instructional design, user-friendly systems and reliable technical performance of technology-enhanced language learning tools.

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