

COMPUTER AIDED SYSTEM TO IMPROVE VOCABULARY LEARNING AT SMAN 2 GOWA

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	Abstract
<p>Received: November 28, 2023 Revised: January 18, 2024 Accepted: May 18, 2024 Published: June 30, 2025</p> <p>Keywords: Computer Aided System Vocabulary Improvement</p>	<p>This study investigates the effectiveness of a Computer-Aided System in improving vocabulary mastery among Grade X students at SMA Negeri 2 Gowa. In response to the growing need for technology-enhanced learning, this research addresses the urgency of integrating digital tools into vocabulary instruction. Using a pre-experimental quantitative design, 38 students participated in pre- and post-testing. Results show a significant improvement in vocabulary performance, with mean scores increasing from 54.7 to 81.8. Statistical analysis using a paired sample t-test confirmed a significant difference ($t\text{-value} = 29.4 > t\text{-table} = 2.026$, $p < 0.05$), indicating the system's effectiveness. The null hypothesis (H_0) was rejected in favor of the alternative hypothesis (H_1), affirming the positive impact of the intervention. This study contributes to the field of language learning by providing empirical support for the use of computer-aided systems as an effective tool to enhance vocabulary acquisition in secondary education settings.</p>
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INTRODUCTION

In recent years, the rapid advancement of communication and technology has had a profound impact on society, affecting not only internationalization and communities but also the system of education. An important factor in the advancement of education has been the growing use of computers and internet resources in learning environments. These days, using computers to learn and teach languages is becoming more and more important, and instructional contexts are paying close attention to it.

As a component of the computer aided system, computer assisted language learning (CALL) is one of the essential tools and strategies that significantly improves students' language proficiency. The advantageous effect of CALL on language proficiency and learning. Actually, from many educational viewpoints, the use of this kind of technology in teaching and learning has increased. It has improved students' efficiency and innovation while also supporting their unique learning styles (Alahmadi, 2019).

A significant interactive component is typically included in CALL, a method of teaching and learning languages that uses computers to demonstrate, strengthen, and evaluate the material being taught (Hanafiah et al., 2022).

Speaking is a difficult skill for all language learners, but it can be improved for non-native EFL students in particular by using CALL. Speaking is an essential skill for learning the English language, and producing understandable phrases and sentences requires a lot of work (Rashid & Al-smadi, 2020). In speaking learning a foreign language, the first step that must be taken is to learn vocabulary. Vocabulary indicate to words from one language that intend to convey a specific purpose which can be either a single item or a phrase. The importance of vocabulary in the communication of English as a foreign language (EFL) learners cannot be understated, as a lack of vocabulary hinders students' ability to comprehend and articulate their own thoughts. A speaker cannot convey their intended meanings without words.

Ko and Goranson argue that limited vocabulary knowledge can reduce understanding of students and vocabulary is one of the most tedious and disliked lessons a language learner faces. Vocabulary difficult because two important reasons, the first is that there is most of the words that must be mastered, and the second is little attention given students' problems in terms of learning this vocabulary (Enayati & Gilakjani, 2020).

A conventional teaching vocabulary method that is still applied in almost every school and University in Indonesia. Students are required memorize vocabulary word lists and their translations.

It is preferable for teachers to engage in self-reflection as the controller of the learning process and discover additional opportunities to discover the best teaching methodology. Students learn English, particularly vocabulary, by utilizing technology to support the in-class learning process. A study discovered that one of the things contributing to students' vocabulary deficit is the use of unreliable and boring teaching methods by educators, particularly when it comes to vocabulary instruction. as it is well known that how well teachers present the material to their students determines how successful their lessons are. The use of CALL (Computer Assisted Language Learning), an alternative approach to support traditional methods that are frequently used in the classroom, is one way that teachers may identify, create, and develop effective techniques to motivate students in acquiring knowledge and enhancing their vocabulary comprehension.

Based on the background above, the researcher want to verify the affect of computer aided system teaching on learning vocabulary to students class XI at SMA Negeri 2 GOWA.

LITERATURE REVIEW

Language learning tactics required specific acts, behaviors, and approaches to improve students' comprehension, assimilation, and utilization of the language of instruction. According to Hadi et al.'s research, varied language situations typically lead to distinct ways that language learners employ language acquisition strategies (Hadi, Raja, & Flora, 2017). Recent research suggests that teaching vocabulary may be challenging since many teachers lack confidence in optimal techniques for teaching vocabulary and occasionally don't know where to begin when it comes to emphasizing word learning in the classroom (Wahid, et al., 2009). Because children are naturally curious and independent in exploring their surroundings, student-centered methods and strategies should be used from an early age. In fact, student-centered instruction takes advantage of the genius of young kids to benefit both students and teachers in the teaching and learning process (Shabaneh & Farrah, 2019).

Dick et al (2005) state that learning is a series of activities carried out according to a plan and organized using one or more media for students to be able to achieve a specific competence as expected. Learning is also an effort that is intended and handled so that other people learn and relative changes appear on other people (Darling-Hammond et al., 2020). Someone or a team that is qualified to design and provide the necessary learning resources is responsible for this activity.

Language learning strategies required particular behaviors, actions, and methods to enhance student understanding, internalization, and use of the target language. led them to the conclusion that different language contexts tend to result in different uses of language learning strategies (Hadi, Raja, & Flora, 2017). According to recent research, it may be difficult to teach vocabulary because many teachers lack confidence in vocabulary teaching best practices and, at times, are uncertain of how to start putting an instructional emphasis on word learning (Wahid, et.al, 2009). Because children are naturally curious and independent in exploring their surroundings, student-centered methods and strategies should be used from an early age. In fact, student-centered instruction takes advantage of the intelligence of young kids to benefit both students and teachers in the teaching-learning process (Shabaneh & Farrah, 2019).

CALL was widely utilized by English teachers, and several studies were done on its beneficial effects on performance and English learning. Since CALL programs gave students methods to learn English through computer games and animated images, they can inspire students and stimulate their interest in the subject matter (Ravichandran, 2000). CALL is said to have several benefits for learning other languages, according to many researchers. It promotes individualization, delivers

rapid feedback, and makes learning time flexible. CALL has important roles as a teacher, tester, tool, and data source in language classes. CALL is also seen as a communication facilitator, similar to the use of online collaborative English language learning (Mohamed et al.,2020).

Moreover (Lee, 2020) listed a lot of the advantages of using CALL in the classroom, including assisting students in gaining experience, enhancing their performance, and inspiring them to study. Moreover, he said that CALL offers genuine content, greater interactions, a wider range of information, and a more comprehensive comprehension.

A few experimental investigations were conducted to examine the impact of CALL on various English language skills and subskills. An empirical study was conducted by Pahlavanpoorfard and Soori to determine how using computers affected Iranian EFL learners' word knowledge. 40 participants 40 men and 40 women were chosen based on their performance on the OQPT. A control group and an experimental group were then formed from them. Two dissimilar methodologies, such as software-based and game-based methods, were used to instruct the experiment's participants. The participants in the control group were given a conventional lesson. According to the study's findings, students who used computers outperformed those who employed more traditional method.

The findings also showed that using a computer helped the students learn more vocabulary after the treatment.

After the researcher read from previous studies, the difference with this study was in the research location and research methods, namely the previous research was conducted in junior high schools and use mixed methods research methods. And the difference in theory with previous research is According to Mousavi and Nemati (2017), CALL offers a fresh perspective on vocabulary learning and language education. The CALL programs offer a variety of learning opportunities. Technology integration into the teaching and learning process supports students as they work to improve their English. The effect of CALL on Iranian intermediate learners' vocabulary learning is investigated in this study. Iranian EFL students should be encouraged to continue learning on their own outside of class. Therefore, it's crucial to look into whether CALL is successful at the university level and whether students think it's helpful for learning English vocabulary.

METHODS

This research falls under the pre-experimental research category. Because the researcher intends to quantify the impact of computer-aided systems on vocabulary learning, this study is designed in a pre-experimental manner. Arikunto defines an

experimental study as one that aims to determine whether the variable under study has an effect or not. According to Ary, this means that the conceptual framework that the experiment is carried out within is referred to as the experimental design. The primary criterion is that the design should be suitable for verifying the specific study hypothesis "Descriptive quantitative research includes gathering numerical data to test hypotheses or answer questions concerning current status," Gay (2005:208) states. "This can be done either through self-reports collected through questionnaires or interviews or through observation. Vocabulary test is carried out as an evaluation to determine the level of vocabulary mastery of students with the strategies applied. Before beginning a research treatment, the students are given a pre test in the form of a question. The material that wasl be covered in the research treatment is the subject of test questions. It is provided with the goal of determining whether any of the students are familiar with the subject matter that wasl be taught. Pre-testing can also be seen as a way to evaluate how knowledgeable students are in the subject matter that wasl be covered. After a pre-test, the researcher gives the students four sessions of treatment using computer-assisted instruction to help them practice and improve their vocabulary. Following the students' administration of the a pre-test the researcher used the same procedures to administer the vocabulary test to the students once more. Finding out if the students' post-test results were better than their pre-test results was the aim of this.

RESULT AND DISCUSSION

A. Result

Quantitative data was used for data analysis. The quantitative data was computer using the average scores of the students from the takin pre- and post-test. 38 students from class X at SMA Negeri 2 Gowa participated in the research.

1. Quantitative Data

The test results of the students were used to generate the quantitative data. The test was still related to the subject that was being taught and discussed in class each treatment. This research was carried out in four meetings and a test was given at the end of each meeting. The results of student test scores are shown in the table.

a. The Pre-Test Frequency Distribution and Percentage Score Distribution**Table 1**

No	Score	Classification	Frequency	Percentage
1	90-100	Excellent	0	0%
2	75-89	Good	0	0%
3	60-74	Fair	0	0%
4	50-59	Less	35	93%
5	0-49	Poor	3	7%
Total			38	100%

Table 1 demonstrates the rate percentage and vocabulary test results of the 38 students who took the pre-test; none of the students received an excellent or good score, none of students achieve the fair score, 35(93%) students achieved less score, 3(7%) obtained a low score.

b. The Distribution of Frequency and Percentage Score of Post test**Table 2**

No	Score	Classification	Frequency	Percentage
1	90-100	Excellent	10	26%
2	75-89	Good	16	43%
3	60-74	Fair	12	31%
4	50-59	Less	0	0%

5	0-49	Poor	0	
Total			38	100%

As can be seen from Table 4.2, 10 (or 26%) of the students who took the post-test had excellent scores. A total of 16 students (43%) received good scores, 12 students (31%) received fair scores, and 0 students (0%), received less and poor scores. It is clear from the above resulting in the fact that a distinction among the pre- and post-test rate percentages.

c. Mean Score

The following table shows how the mean vocabulary score of the students has improved:

Table 3 The average vocabulary score of students on the pretest and posttest

Indicator	Pre Test	Post Test	Improvement
Students Vocabulary	54,7	81,8	27,1%

The average noun scores of the students are displayed in Table 4.3 above. The students' vocabulary score of nouns in the pre test was 54,7 while their score of post test was 81,8 after use Call. As a result, it can be concluded that the vocabulary of nouns increased by About 27,1% after given the treatment.

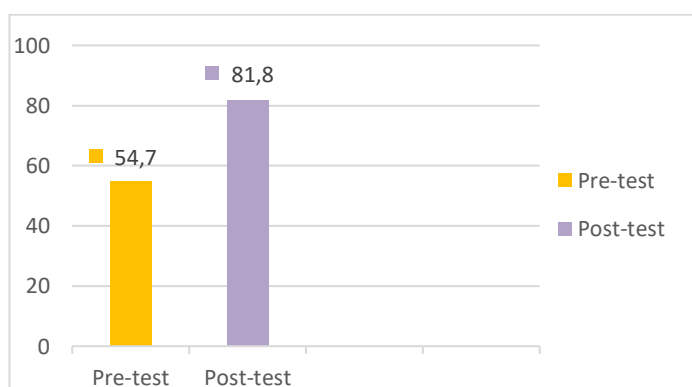


Figure 1 Effective of noun

d. The Significant Differences of T-Test and T-Table

Distribution the value of t-test value and t-table value

Table 4

Indicator	t-test value	t-table value
Vocabulary Improvement	29,45	2.026

The researcher discovered that student mastery is rising from the aforementioned data. The pre-test and post-test mean values of the test could be seen to be increas

e. Hypothesis Testing

Considering the results above, can be concluded that while the null hypothesis (Ho) was rejected, the other hypothesis (H1) was accepted.. This indicates that the Call technique was effectively used to teach vocabulary at SMA Negeri 2 Gowa. Therefore, using the Call technique to teach vocabulary to students was successful in increasing their vocabulary proficiency.

B. Discussion

It is widely believed that vocabulary is necessary for the development of the productive skills of writing and communication as well as for the acquisition of knowledge through receptive skills like reading and listening. The intended meaning cannot be fully understood in the absence of vocabulary items.

Different methods of teaching items are now acknowledged. One tool that can help with teaching methods is Computer-Assisted Language Learning (CALL). The main goal of employing visual support when teaching vocabulary materials, according to Hsieh (2020), is to aid students in comprehending and remembering new words. Visual aids are helpful because they make it easier for students to access and share their knowledge and because they can make new vocabulary that would otherwise be difficult to understand.

Based on the result of research using Memrise Application combined with Computer Aided System is effective to apply in classroom for students' vocabulary improvement.

Therefore, in conclusion the used Memrise Application combined with Computer Aided System SMA Negeri 2 GOWA is effective for students' vocabulary improvement.

CONCLUSION

1. Call is implemented through the subject with SMA Negeri 2 Gowa second grade pupils. After implementation in the treatment, results are: Call can help students

learn English, particularly vocabulary, and can also inspire them to do so. Thus, it may be concluded that successful vocabulary instruction improves students' vocabulary, as evidenced by their good respond.

2. Regarding to find responses from students to the computer-assisted system that the instructor utilized to teach vocabulary, they are: The usage of Call attracted the interest and happiness of every student. The majority of students stated that it helped them remember the vocabulary much more easily. The utilization of Call in the teaching and learning process was well received by the students. This can be seen by their enthusiastic and involvement in the process of teaching and learning.
3. The researcher made the conclusion that employing computer-aided systems for learning could enhance students' mastery of vocabulary based on data analysis. The researcher's vocabulary pre- and post-test results showed improvement. It indicates that the success criteria are currently met. Additionally, computer-based vocabulary learning can improve students' engagement and memorization skills. Stated differently, students were thought to find computer-aided systems to be engaging and entertaining games to play during lesson time.
4. This demonstrates the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. Thus, the present research has demonstrated that it is acceptable to use computer-assisted language learning (CALL) to assist eleventh grade students at SMA Negeri 2 Gowa in expanding their vocabulary.

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