

RESEARCH ARTICLE

THE INFLUENCE OF PERCEPTION ON COMPUTER-ASSISTED LANGUAGE LEARNING AND SELF-EFFICACY ON VOCABULARY ACQUISITION: A SURVEY IN INDONESIAN VOCATIONAL HIGH SCHOOLS

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Abstract: The current study aims to investigate the influence of the perception of Computer-Assisted Language Learning (CALL) and self-efficacy on students' vocabulary acquisition. The research was conducted using the survey method. The population involved 11th-grade students from three public vocational high schools in Bekasi, Indonesia, with a sample of 84 students, and employed a simple random sampling technique. The instruments were questionnaires and a multiple-choice vocabulary acquisition test with 25 questions. The data was analyzed by a multiple regression. The results revealed that 1) There is a significant influence of perception on CALL and self-efficacy on students' vocabulary acquisition of Sig. 0.001 < 0.05 and F observed = 173.975; 2) There is a significant influence of perception on CALL on students' vocabulary acquisition with the point of Sig.0.001 < 0.05 with t observed = 13.086; 3) There is a significant influence of self-efficacy on students' vocabulary acquisition at with the amount of Sig. = 0.001 < 0.05 with t observed = 10.542. The implications of the present study might benefit in developing technology-based learning strategies and student self-efficacy to enhance vocabulary acquisition and support more innovative educational practices.

Keywords: Computer-Assisted Language Learning (CALL), self-efficacy, vocabulary acquisition

PERSEPSI PENGARUH COMPUTER-ASSISTED LANGUAGE LEARNING DAN EFIKASI DIRI TERHADAP PEMEROLEHAN KOSAKATA SISWA: SURVEI DI SMK INDONESIA

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Abstrak: Penelitian ini bertujuan untuk menginvestigasi persepsi pengaruh *Computer-Assisted Language Learning* (CALL) dan efikasi diri terhadap pemerolehan kosakata peserta didik. Metode penelitian yang digunakan adalah survei, dengan populasi terdiri atas peserta didik kelas XI dari tiga Sekolah Menengah Kejuruan (SMK) negeri di Kota Bekasi, Indonesia. Sampel berjumlah 84 siswa yang diperoleh melalui teknik simple random sampling. Instrumen penelitian mencakup angket dan tes pilihan ganda pemerolehan kosakata sebanyak 25 butir soal. Data dianalisis menggunakan regresi berganda. Hasil analisis menunjukkan bahwa: (1) terdapat pengaruh yang signifikan antara persepsi terhadap CALL dan efikasi diri terhadap pemerolehan kosakata peserta didik (Sig. = 0,001 < 0,05; $F_{hitung} = 173,975$); (2) terdapat pengaruh yang signifikan antara persepsi terhadap CALL terhadap pemerolehan kosakata (Sig. = 0,001 < 0,05; $t_{hitung} = 13,086$); dan (3) terdapat pengaruh yang signifikan antara efikasi diri terhadap pemerolehan kosakata (Sig. = 0,001 < 0,05; $t_{hitung} = 10,542$). Temuan ini mengindikasikan bahwa CALL dan efikasi diri merupakan faktor penting dalam meningkatkan pemerolehan kosakata. Implikasi dari penelitian ini berkontribusi terhadap pengembangan strategi pembelajaran berbasis teknologi dan penguatan efikasi diri peserta didik guna mendukung pencapaian pembelajaran yang lebih efektif dan inovatif.

Kata kunci: Computer Assisted Language Learning, Efikasi Diri, Pemerolehan Kosakata

INTRODUCTION

The advancement of technology in the current modern digital era has significantly affected elements of everyday life, including education. Innovation in education and learning, particularly in language acquisition, has been developed with technological assistance. One method of teaching languages that provides technology is Computer-Assisted Language Learning (CALL). Krashen (2018) advocated that "CALL offers the potential to revolutionize language education by facilitating learners with interactive and personalized learning experiences, thus fostering autonomous language acquisition." This suggests that CALL can transform language learning by offering unique learning experiences and encouraging individual learning. Through CALL, students can access a variety of learning resources, including conversation simulations and vocabulary drills, which can increase their enthusiasm for studying. Adopting technologies in language instruction allows children to learn without stress. As a result, learning becomes more effective and interesting. Additionally, accommodating technology seizes opportunities for more people to access educational resources.

Computerization technology has advanced in all aspects of education, especially in language acquisition, CALL has expanded rapidly. Chapelle (2001) highlighted a CALL that was initially applied as a tool for grammar practice and repetition. Nowadays, CALL is a more advanced method that uses technology to create interesting and real-life educational environments. Nation (2001) depicted incorporating CALL in vocabulary acquisition as an essential part of language learning due to the ease of understanding, speaking, reading, and writing in a second language. In other words, under the CALL method, the learners can recognize new words, understand what they mean, and use them correctly. CALL facilitates language acquisition through interactive exercises, conversation simulations, and educational games.

In addition, CALL evokes the students to feel better about their personal qualities. A student's self-efficacy can be defined as the belief in the ability to complete a specific task and achieve a learning goal. Oxford (2003:45) underlined self-efficacy as crucial in language learning since it affects students' willingness to learn, persistence, and academic performance. In these situations, CALL increases students' self-confidence by providing a more customized learning experience, allowing for immediate



feedback, and allowing them to learn on their own time. Even though previous studies have shown a relationship between CALL and self-efficacy in language acquisition, few of these studies focus on delving into the area of vocational high schools, especially in the Bekasi, Indonesia setting, and the vocabulary domain. Therefore, the present study attempts to investigate the influence perception of CALL and self-efficacy affect their vocabulary acquisition. This research is expected to advance knowledge of the variables affecting language acquisition, particularly about the use of technology and its impact students have on their academic performance.

RESEARCH METHOD

This research was conducted in September 2024, during the odd semester of the 2024/2025 academic year, at three public vocational high schools in Bekasi, Indonesia. The survey method was employed, with research instruments in the form of questionnaires and test questions distributed online to participants. Multiple regression was implemented to analyze the data. This research is a sample study, in which the research subjects are chosen to represent the entire population. Before being used on the sample, the research instrument was tested for validity by involving 30 students who were not included in the sample to ensure the accuracy and precision of the measurement.

This research design focuses on the influence perception of CALL and self-efficacy on vocabulary acquisition. The model of the influence variable relationship between the three variables is as follows:

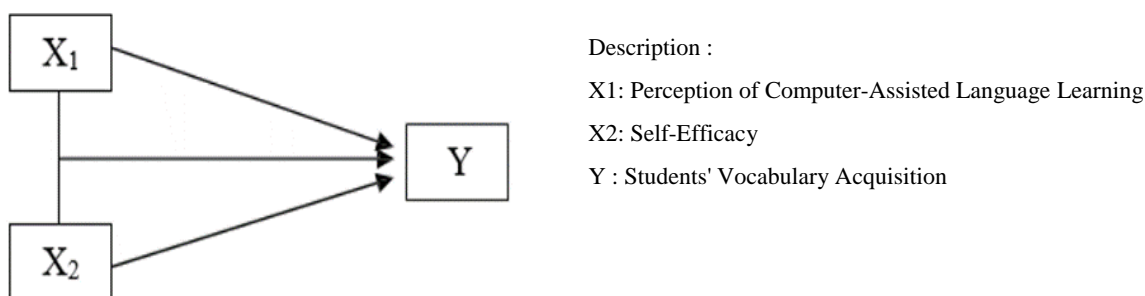


Figure 1.
Correlation of Relationships Between Research Variables

The variables in this research consist of two independent variables, namely perception of CALL (X_1) and self-efficacy (X_2), and one dependent variable, namely students' vocabulary acquisition (Y). This research uses a quantitative approach with an analytical design that involves analyzing the relationships between these variables. The model of the relationship between these variables were analyzed using multiple regression with SPSS to explore the influence of perception of CALL and self-efficacy on students' ability to acquire vocabulary. The data collection techniques in this study included two main instruments.

Table 1.
Research Data

Variabel	Collecting Data Technique
Perception of Computer-Assisted Language Learning	Questionnaire
Self-Efficacy	Questionnaire
Students' Vocabulary Acquisition	Test Questions

Table 1 illustrates that the research questionnaire data was utilized to collect information regarding students' perceptions of the influences of CALL and self-efficacy, as well as test questions to measure

students' vocabulary acquisition. The collected data were analyzed using multiple regression. This research aims to analyze the influence of perceptions on CALL and self-efficacy on students' vocabulary acquisition at Vocational High Schools in Bekasi City.

RESULTS AND DISCUSSION

Results

A. Descriptive Data

1. *Analysis of students' vocabulary acquisition (Y)*

Based on data obtained from 84 students regarding vocabulary acquisition, the average score recorded is 81.85 with a standard deviation of 5.309. The median score is 82.00, while the mode is 84. The lowest score recorded is 70, and the highest score is 93. This indicates that most students have relatively high scores in vocabulary acquisition, with the maximum score approaching the highest value. Table 1 shows The results of the Description of Students' Vocabulary Acquisition Data.

Table 2.
Students' Vocabulary Acquisition

N	Valid	84
	Missing	0
Mean		81.85
Median		82.00
Mode		84
Std. Deviation		5.309
Minimum		70
Maximum		93

A standard deviation of 5.309 indicates a difference among students' scores, but the difference is not too large and still quite balanced. The majority of students have similar abilities in vocabulary acquisition, although there are some students with lower or higher scores. The average score (81.85) and median (82.00), which are almost identical, indicate that students' scores are evenly distributed around the average number. Overall, the results indicate good performance in vocabulary acquisition.

2. *Perception of CALL (X₁)*

The perception score of CALL obtained from 84 respondents has an average of 104.52, with a standard deviation of 9.105, a median of 104.50, a mode of 104, a minimum score of 79, and a maximum score of 122. From this description, it can be seen that the average value and the median value are almost the same, which are 104.52 and 104.50. This indicates that the perception data of students towards CALL in this study is quite representative. Most scores are around the average, with little variation among respondents. In conclusion, the majority of students have a good perception of the use of CALL in language learning, with some respondents showing slightly higher or lower perceptions. The results regarding Perception of Computer-Assisted Language Learning Table 3.

Table 3.

Description of Perception of Computer-Assisted Language Learning

N	Valid	84
	Missing	0
Mean		104.52
Median		104.50
Mode		104
Std. Deviation		9.105
Minimum		79
Maximum		122

Based on the distribution that Table 3 displays, it can be concluded that the data on the perception of CALL for students of Vocational High Schools in Bekasi City has a normal distribution.

3. *Students' Vocabulary Acquisition (X_2)*

The self-efficacy scores obtained from 84 respondents have an average of 96.81, with a standard deviation of 8.050, a median of 97.00, a mode of 91, a minimum score of 74, and a maximum score of 112. From this data, it is observed that the average value and the median value are nearly equal at 96.81 and 97.00. This indicates that the self-efficacy data in this study are quite representative. Most respondents have scores around the average, with some respondents showing scores that are slightly lower or higher. In conclusion, the level of self-efficacy among respondents is generally considered good, with a score distribution reflecting not much difference among the respondents. A clearer picture of the data regarding Students' Vocabulary Acquisition in Vocational High Schools in Bekasi City can be seen in Table 4.

Table 4.

Description of Students' Vocabulary Acquisition

N	Valid	84
	Missing	0
Mean		96.81
Median		97.00
Mode		91
Std. Deviation		8.050
Minimum		74
Maximum		112

Based on the distribution table shown above, it can be concluded that the self-efficacy data for state vocational school students in Bekasi City has a normal distribution.

B. Results of Data Requirements Test

This research aims to analyze the influence of perceptions on CALL and self-efficacy on Students' Vocabulary Acquisition at Vocational High Schools in Bekasi City:

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Table 5.

The Multiple Correlation Coefficient Test Calculations Variables X_1 and X_2 to Y

Model Summary^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.901 ^a	.811	.807	2.335	.811	173.975	2	81	<.001

a. Predictors: (Constant), Efikasi Diri, Persepsi atas Computer Assisted Language Learning

b. Dependent Variable: Pemerolehan Kosakata Siswa

Table 6.

The Result of the Significance of the Multiple Regression Coefficient Variables X_1 and X_2 to Y

ANOVA^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1897.309	2	948.654	173.975	<.001 ^b
	Residual	441.679	81	5.453		
	Total	2338.988	83			

a. Dependent Variable: Pemerolehan Kosakata Siswa

b. Predictors: (Constant), Efikasi Diri, Persepsi atas Computer Assisted Language Learning

Table 7.

Results of Multiple Regression Equation Calculations for Variables X_1 and X_2 to Y and Value of the Coefficient of Determination / Partial Contribution

Coefficients^a											
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	9.508	3.913		2.430	.017					
	Persepsi atas Computer Assisted Language Learning	.375	.029	.644	13.086	<.001	.743	.824	.632	.963	1.038
	Efikasi Diri	.342	.032	.519	10.542	<.001	.642	.761	.509	.963	1.038

a. Dependent Variable: Pemerolehan Kosakata Siswa

As shown in Table 5, Model Summary, the multiple correlation coefficient (R) is 0.901. This means that there is a significant correlation between how students feel about computer-assisted language learning (X_1) and their confidence in their ability to learn new words (X_2). The two variables explain 81% of the variance in students' vocabulary acquisition, with other factors impacting the remaining 19% (as seen by the observed R Square value of 0.811). Next, in Table 6, ANOVA, the analysis results show a significant influence of perception of Computer-Assisted Language Learning (X_1) and self-efficacy (X_2) on students' vocabulary acquisition (Y). This is evidenced by a Sig. Value of 0.001, which is smaller than 0.05, and an F value of 173.975, indicating that the regression model used can significantly explain the variance occurring in the dependent variable (Y).

Table 7 contains the regression coefficient results. The following multiple regression equation is obtained: $Y = 9.508 + 0.375 X_1 + 0.342 X_2$. Based on these results, the regression coefficient for X_1 (perception of CALL) is 0.375, and for X_2 (self-efficacy) is 0.342, indicating that both have a positive relationship with students' vocabulary acquisition. The t-test shows that both variables have a significant influence on Y , with t-values of 13.086 for X_1 and 10.542 for X_2 , and Sig. Values for both are less than 0.05. Finally, based on Table 7, which presents the partial contributions, the partial contribution of X_1 to Y is 47.84%, while the partial contribution of X_2 is 33.31%. If summed, the combined contribution of both to students' vocabulary acquisition is 81.15%, which is very close to the multiple coefficient of determination (R^2) value of 81%. As a result, these two variables each contribute significantly to understanding students' improvement in their vocabulary.

Discussion

1. *The Influence of Perception on Computer-Assisted Language Learning (CALL) and Self-Efficacy on Students' Vocabulary Acquisition*

This research aims to examine the joint influence of perception towards CALL and self-efficacy on students' vocabulary acquisition. Based on the analysis results, it was found that the perception of CALL and self-efficacy together has a significant influence on students' vocabulary acquisition. In other words, the hypothesis stating the presence of a significant influence is accepted, while the null hypothesis stating the absence of influence is rejected. The multiple correlation coefficient of 0.901 indicates a very strong relationship between the two independent variables (CALL and self-efficacy) and the dependent variable (vocabulary acquisition).

The R Square value of 0.811 indicates that 81% of the variation in vocabulary acquisition can be explained by these two variables. These findings are consistent with the research by Warschauer and Healey (1998), which revealed that CALL technology can aid language learning, particularly in the aspect of vocabulary acquisition. Bandura (1997) also emphasized that self-efficacy plays an important role in building students' motivation and confidence to learn more effectively. Therefore, Educators should prioritize building students' confidence in their ability to learn and increase their positive views of CALL to improve learning achievements, especially when it comes to increasing students' vocabulary.

2. *The Influence of Perception on Computer-Assisted Language Learning (CALL) on Students' Vocabulary Acquisition*

The test results show that students' perceptions of CALL significantly affect vocabulary acquisition. The Sig. value of 0.001 and the t-value of 13.086 indicate that the perception of CALL has a significant positive impact on students' ability to acquire new vocabulary. According to Hattie (2009), the use of technology in learning, such as CALL, can enhance learning effectiveness, particularly in enriching vocabulary. This indicates that the more positive the students' perception of CALL-based learning methods, the greater the likelihood that they will enrich their vocabulary more effectively. The partial contribution of perceptions of CALL to students' vocabulary acquisition of 47.84% indicates a significant influence. Therefore, it can be concluded that a positive perception of CALL has a significant impact on students' ability to enrich their vocabulary.

3. *The Influence of Self-Efficacy on Students' Vocabulary Acquisition*

Students' self-efficacy has a significant impact on their vocabulary learning, according to this research. Students' perceptions of their ability to learn new words significantly impact their vocabulary acquisition (Sig. value: 0.001, t-value: 10.542). Bandura (1997) states that students' self-efficacy is an essential factor in their motivation and persistence when faced with difficulties in learning. Students who believe in their abilities to study and who put in the time and effort to practice typically have a larger vocabulary after the course. These findings are consistent with the self-

efficacy theory, which states that when students believe in their abilities to learn new words, they are more motivated to put in the effort to expand their vocabulary through activities like reading, listening, and group practice. Therefore, increasing children's belief in their abilities is one strategy for helping them acquire language more effectively.

CONCLUSIONS

Attempting to investigate the purposes of the current study on the influence of perception of CALL and self-efficacy, the findings revealed that both constructs significantly contribute to improving students' vocabulary acquisition. The current study implies some recommendations as follows: 1) Educational leaders should prioritize quality learning by supporting CALL-based technology; 2) Educators should optimize CALL technology and create interactive strategies to boost student self-efficacy; 3) Institutions should offer the necessary tools and personal development programs; 4) The government should support policies integrating CALL into the curriculum and ensure equal access to technology; and 5) Future researchers should explore other factors influencing vocabulary acquisition and investigate the use of artificial intelligence in language learning. However, the limitations of the present study display that only three intact schools were engaged in this research and focused on two foci (CALL and Self-Efficacy). Hence, further study might explore in larger contexts, greater participants, varied foci, and diverse skills in language acquisition.

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