THE CORRELATION BETWEEN VOCABULARY MASTERY AND READING COMPREHENSION AMONG HIGH SCHOOL STUDENTS

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ABSTRACT

Exploring students background knowledge in pre-reading activities suggests the importance of interaction in the process of meaning making which requires appropriate vocabulary. Although many factors constitute students' comprehension, vocabulary should be the main concern in EFL reading classes. Consistence with this premise, the current study was aimed at proving the correlation between students' vocabulary mastery and their reading comprehension at tenth grade students of SMAN 1 Kramatwatu. This correlational study involved 37 students taken through purposive random sampling. Vocabulary and reading tests were employed to determine the correlation between students' vocabulary mastery and their reading comprehension. Based on the results of the research, it could be noticed that the R-count > R-table (0.357 > 0.324) which means thatH0 was rejected and H1 was accepted. In conclusion, there was a low correlation between vocabulary mastery and reading comprehension at tenth grade students of SMAN 1 Kramatwatu.

Key words: Correlation, vocabulary mastery, reading comprehension

INTRODUCTION

English is a foreign language that is widely taught in academic settings across most educational institutions, studied from elementary school to university level. English in high school is the main subject in the curriculum. It focuses on developing students' proficiency in the four essential language skills; listening, speaking, reading and writing. Additionally, the subject emphasizes the understanding and use of grammar, vocabulary and pronunciation, as well as fostering critical thinking and cultural awareness.

One of the most crucial part of learning a foreign language is expanding one's vocabulary. Vocabulary is the core component of language proficiency that consists of a set of lexeme, including single words, compound words, idioms (Ulfatussyarifah, 2018). In the line with this, Saputri (2017) states that the most significant part of language is vocabulary. When learning a language, vocabulary becomes crucial for both mother tongue and foreign language acquisition (Yudha & Mandasari, 2021). The only way to effectively communicate ideas, comprehend language tasks, and engage in foreign language conversation is to have a large amount of vocabulary. Teachers should focus on how students expand their vocabulary through effective vocabulary training to help them understand the text in the future. The teachers must then use creativity while implementing a reading plan. Therefore, the right discipline needs to be assigned to an acceptable vocabulary class. In other words, the training of those four skills namely speaking, writing, listening and reading should incorporate vocabulary. However, previous researchers stated that teachers can't teach vocabulary on their own unless they want the students to become frustrated and even confused when learning English (Yudha & Mandasari, 2021). That is why to promote language skills, vocabulary mastery at a high level is desperately needed.

Vocabulary mastery is the comprehensive understanding and skillful use of words in a language, involving both the breadth and depth of word knowledge. Mastering vocabulary involves not only recognizing a large number of words but
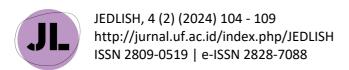
also comprehending their subtle meanings and uses. This mastery can be achieved through activities that emphasize word relationships (such as synonyms and antonyms), contextual applications, and reinforcement through repeated practice and exposure (Nation, 2014). Vocabulary learning is a dynamic, nonlinear process influenced by internal and external factors.

Language system are complex and adaptive, requiring learners to interact with various contexts and inputs. Vocabulary acquisition happens through interaction and constant adaptation rather than linear memorization or isolated learning. "Mastering vocabulary means that students have comprehensive knowledge about the vocabularies which include the meanings, the spoken form, the written form, the grammatical behavior, the word derivation, the collocations of the words, the register of the word – spoken and written, the connotation or association of the word, and word frequency" (Asyiah, 2017). Furthermore, (Chiriana, 2015) argues that students need to master in component skills such as vocabulary, grammar and pronunciation (Hafidz Tresna Yudha, 2021). Learners acquire vocabulary more effectively when exposed to multimodal input, such as text, audio and visual stimuli. Repeated exposure to words in varied forms, for example reading texts, helps improve retention and contextual understanding. Students who have large number of vocabulary mastery are hoped to understand reading texts more easily.

Reading is the process of interpreting written or printed symbols to understand and derive meaning from text. Reading is the process of constructing meaning from written texts. It is a complex skill requiring the coordination of interrelated sources of information. "Reading is defined as a process of installing new experiences in the mind" (Hayati, 2016). It is a superficial aspect of language that does not directly convey meaning. "The meaning resides in the deep structure of language, in the intentions of the writers and in the interpretation made by the readers (Natsir & Anisati, 2016). Reading is an essential life skill that help us expand our minds, acquire knowledge, and broaden our perspectives (Pardede, 2019). Reading is an essential skill for life that helps us expand our thinking, acquire knowledge, enhance our perspectives, and the process of creating meaning from written content. It can be described as the process of integrating new experiences into our minds.

In relate to reading process, reading comprehension is enhanced by building background knowledge and integrating comprehension strategies with real-world contexts. Reading comprehension is among the most complex human activities. To understand this sentence, for example, one must visually process the words; identify their phonological, orthographic, and semantic representations; and connect the words using rules of syntax to understand the underlying meaning of the sentence (Stafura, 2014). Frequent exposure to varied print materials contributes significantly to reading comprehension by improving vocabulary, syntactic knowledge, and inferential skills. Reading comprehension is the ability to understand, retain, and discuss a text, requiring focus, motivation, effective techniques, and strategic reading (Faliyanti, 2015). Reading comprehension is the ability to understand, interpret, and make sense of written text. It involves not only recognizing words and phrases but also grasping the meaning behind them, connecting ideas, and drawing references from the text.

(Nation, 2014) highlights that vocabulary knowledge is fundamental for reading comprehension. Further, he emphasizes that a sufficient vocabulary helps readers engage with texts more effectively by enabling quicker decoding and deeper understanding of meaning. Nation also identifies **depth** and **breadth** of vocabulary as critical components, both of which play significant roles in enhancing comprehension skills. In addition, (Webb, 2020) argues that repeated exposure to words in meaningful contexts is essential for vocabulary acquisition and, by extension, reading comprehension. He suggests that vocabulary growth through extensive reading allows for automatic recognition of words, reducing cognitive load during reading and allowing readers to focus and making inferences and understanding complex ideas. Vocabulary mastery is an aspect that closely related to reading skill (Hayati, 2016). Vocabulary mastery refers to a person's ability to understand, use, and recall a wide range of words effectively in both written and spoken communication. Vocabulary knowledge is essential for reading comprehension, as it enables quicker decoding and a deeper understanding of text meaning. Both the depth and breadth of vocabulary play key roles in enhancing comprehension skills.

Based on the description of vocabulary and reading above, it shows that there is a relation between vocabulary and reading. Bahri's research entitled "*The Correlation Between Vocabulary Mastery and Their Reading Comprehension*" (2018) focuses by using the spearman *rs* formulas, highlighting that there is any correlation between students' vocabulary mastery and their reading comprehension by using the spearman *rs* formulas. In Forsia's (2022) research entitled "*The Correlation of Students Reading Interest, Vocabulary Mastery and Reading Comprehension*", there is a positive simultaneous correlation between students' reading interest, vocabulary mastery and their reading comprehension. In (Hayati, 2016) research that there is significance correlation between students' vocabulary and their reading achievement.

In this study, the researcher was interested in conducting a study to examine the correlation between vocabulary mastery and reading comprehension. Therefore, the researcher conducted a study entitled "The Correlation Between Vocabulary Mastery and Reading Comprehension Among High School Students".

METHOD

Correlational research was used in this study. According to (Selviana, 2024), correlational research is a study to determine the relationship and level of relationship between two or more variables without any attempt to influence these variables so that there is no manipulation of variables. Simply put, it examines whether an increase or decrease in one variable corresponds to an increase or decrease in another variable. Findings from a correlational study enable researchers to determine whether or not-and the degree to which-two variables change together. The population of this research was the tenth-grade students of SMAN 1 Kramatwatu. There were 309 students spreading in eight classes. The researcher took one class from eight class. Thus, class X-3 was chosen to be sample consisting of 37 students.

RESULTS AND DISCUSSION

There were two variables in this research. The first variable was Vocabulary Mastery (X variable) and the second was Reading Comprehension (Y variable). This research used vocabulary and reading tests as the instruments. The vocabulary test consisted of 45 multiple choice questions and reading test consisted of 45 multiple choice questions.

Vocabulary Mastery

The result of vocabulary test given to students were then calculated using data centralization such as range, minimum value, maximum value, mean, and standard deviation using SPSS version 25 as follows :

Table 1 . Results of Descriptive Statistic Vocabulary

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Vocabulary_X	37	50	48	98	67.00	12.684	160.889
Reading_Y	37	47	45	92	68.03	12.484	155.860
Valid N (listwise)	37						

Based on the results of calculated IBM SPSS version 25, it is obtained that the range is 50, the minimum value is 48, the maximum value is 98, the mean is 67.00, and the standard deviation is 12.684.

Reading Comprehension

The result of reading test given to students were then calculated using data centralization such as range, minimum value, maximum value, mean, and standard deviation using SPSS version 25 as follows :

Table 2. Results of Descriptive Statistic Reading

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Vocabulary_X	37	50	48	98	67.00	12.684	160.889
Reading_Y	37	47	45	92	68.03	12.484	155.860

Valid N (listwise)	37	

Based on the results of calculated IBM SPSS version 25, it is obtained that the range is 47, the minimum value is 45, the maximum value is 92, the mean is 68.03, and the standard deviation is 12.484.

Data Requirement Tests

In data requirement tests, there were two kinds of data that the researcher had collected: Vocabulary Mastery and Reading Comprehension. After the data had been collected, the researcher used IBM SPSS version 25 to analyze the data. Based on data analysis, the analysis data is divided into five parts, which are Linear Regression Equation Model, Normality Test, Homogeneity Test, Regression Linearity Test, and significance Test. The research results are described as follows:

Table 3. Linear Regression Equation Model Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	44.464	10.591		4.198	.000
	Vocabulary_X	.352	.155	.357	2.263	.030

a. Dependent Variable: Reading_Y

Based on the Table 3. of linear regression equation model, as we know Y = dependent, a = interception, b = gradient, X = independent. The results from the formula is :

$Y = a + bX$
$Y = 44.464 + 0.352X$

Table 4. Normality Test
One-Sample Kolmogorov-Smirnov Test

		Vocabulary_X	Reading_Y
N		37	37
Normal Parameters[a,b]	Mean	67.00	68.03
	Std. Deviation	12.684	12.484
Most Extreme Differences	Absolute	.095	.143
	Positive	.081	.076
	Negative	-.095	-.143
Test Statistic		.095	.143
Asymp. Sig. (2-tailed)		.200[c,d]	.053[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

In normality test, the data distribution is normal if sig > 0.05. Based on **Table** 4, it could be seen that the normality test of vocabulary mastery (variable X) shows that sig. 0.200 > 0.05. in addition, the normality test of reading comprehension (variable Y) shows that sig. 0.053 > 0.05. It means that both variables are normally distributed.
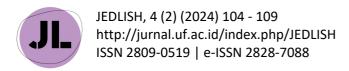
Table 5. Homogeneity Test
Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Vocabulary_X	Based on Mean	2.597	6	12	.075
	Based on Median	2.090	6	12	.131
	Based on Median and with adjusted df	2.090	6	4.337	.237
	Based on trimmed mean	2.592	6	12	.076

Data is homogeneous if sig > 0.05. Based on the table above that shows sig 0.075 > 0.05, we can conclude that the data is homogeneous.

Table 6. Regression Linearity Test
ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.
Reading_Y * Vocabulary_X	Between Groups	(Combined)	4214.306	24	175.596	1.509	.231
		Linearity	716.397	1	716.397	6.155	.029
		Deviation from Linearity	3497.910	23	152.083	1.307	.322
	Within Groups		1396.667	12	116.389		
	Total		5610.973	36			

If sig > 0.05, it means there is a significant linear correlation between variable X and variable Y. Based on table above that shows sig 0.322 > 0.05, we could conclude that there is a significant linear correlation between vocabulary mastery and reading comprehension.

Table 7. Significance Test Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	44.464	10.591		4.198	.000
	Vocabulary_X	.352	.155	.357	2.263	.030

a. Dependent Variable: Reading_Y

If sig < 0.05, it means that there is a significant correlation between variable X and variable Y. Based on table above, it shows that sig 0.030 < 0.05, which means that there is a significant correlation between vocabulary mastery (variable X) and reading comprehension (variable Y).

Hypotheses Tests

There were two hypotheses in this study as follow:
H0 = there was no correlation between variable X and variable Y.
H1 = there was correlation between variable X and variable Y.

Table 8. Correlation Test

Correlations

		Vocabulary_X	Reading_Y
Vocabulary_X	Pearson Correlation	1	.357[*]
	Sig. (2-tailed)		.030
	N	37	37
Reading_Y	Pearson Correlation	.357[*]	1
	Sig. (2-tailed)	.030	
	N	37	37

*. Correlation is significant at the 0.05 level (2-tailed).

From the table above, it could be seen that:
R-count = 0.357
R-table = 0.324
Since R-count > R-table, we could conclude that H0 was rejected and H1 was accepted which means

that there was a correlation between variable X and variable Y.

The level of correlation

Table 9. Range Values

Range Values	Interpretation
0.800 – 1.000	The correlation is very high
0.600 – 0.799	The correlation is high
0.400 – 0.599	The correlation is moderate
0.200 – 0.399	The correlation is low
0.000 – 0.199	The correlation is very low

Since the R-count was 0.357, the correlation was low. The positive value of the Pearson Correlation from the table above indicated that the correlation between the two variables was positive, meaning that as the value of Variable X increased, the value of Variable Y also increased.

Table 10. Coefficient Determination Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.357[a]	.128	.103	11.826

a. Predictors: (Constant), Vocabulary_X

R square = 0.128 or 12.7% which is from:
$R^2 = (0.357)^2 \times 100\% = 12.7\%$
Which means that vocabulary mastery had a contribution of 12.7% to reading comprehension, while the remaining 86.3% was affected by other factors.

CONCLUSIONS AND SUGGESTIONS

Based on result above, it was found a low correlation between vocabulary mastery and reading comprehension among the participants, R-count (0.357) > R-table (0.324) so, H0 was rejected, and H1 was accepted. This indicates that while there is a positive relationship between the two variables, the strength of the correlation is weak, suggesting that vocabulary mastery contributes only minimally to the variance in reading comprehension. Other factors, might play

a more significant role in influencing reading comprehension. Further research is recommended to explore these additional factors.

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