

# **VOCABULARY MASTERY AND GRAMMAR MASTERY IMPACT ON EFL HIGH SCHOOL STUDENTS' READING COMPREHENSION**

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**Abstract:** This research aims to achieve empirical data and analyze the effect of vocabulary and grammar mastery towards students' reading comprehension at state senior high school in South Jakarta. This research used the data analysis technique, and those were descriptive statistics, requirement analysis, normality test, linearity test, and test of hypothesis. The research was carried out at three classes from three state senior high schools in South Jakarta. The sample was 90 students. Data collection is completed by giving 30 questions for the vocabulary test, 30 questions for grammar test, and 30 questions for a reading comprehension test. Due to the result, it can be inferred that there are significant effects of vocabulary and grammar mastery altogether towards students' reading comprehension.

**Keywords:** vocabulary mastery; reading comprehension; grammar skills, foreign language learning

## **Introduction**

Language has an essential role in developing many aspects, such as emotional, social, and intellectual. The function of language is not only as a subject or lesson but also as an instrument to express the ideas and to feel in school or society. The students are expected to have the speaking ability that makes them able to communicate correctly and thoroughly. The students have to make a balance of four skills in learning English in order to help them more comfortable speaking English. There are four crucial elements of learning English, such as listening, speaking, reading, and writing. Besides that, the students have to know the language components such as pronunciation, vocabulary, and grammar. In fact, of all language components, vocabulary holds the central core in language teaching. This is in line with Richards and Renandya (2002, p. 255) say that vocabulary is a core component of language proficiency and provides much of the basis for how well students speak, listen, read and write. It means that to improve their language skills, students have to master the vocabulary. In reading, for instance, the students will get difficulties in comprehending a text if they do not know the meaning of words in the text. Similarly, in speaking, they could not speak fluently if they have only a few of vocabulary items.

Also, vocabulary is essential in writing. A good writer has a useful vocabulary because it is essential to clarity and accuracy. Furthermore, in listening, the students can understand what the speaker says if they know lots of words. Unfortunately, it is not easy for students to have the ability of language components because they will experience the various obstacle in the mastery of these components and ability. For example, the students might face a situation where they only have a minimum repertory of vocabularies that cause them challenging to speak and hard to convey their ideas. Besides, they might do not know grammar. These cases cause self-confidence and shyness in their selves. The realization of fact about how important English in the future causes the learning of English must be established early in schools, which is one of the efforts to increase the competency of an individual in learning English.

Considering the competition in the future that will be faced with other nations makes the alumnus of school must possess productive competency and English competency because English is an international language that used. The fact in the business and industry field is that the usage of English is not only to understand the instruction but also to utilize other tools. However, English is used to communicate orally,



and in order to communicate correctly and well must have mastery in vocabulary. Learning a language is about learning vocabulary. The mastery of vocabulary is crucial in language skills because the goal of learning English could not be reached without mastery of vocabulary.

Students with good reading ability can extract a lot of information and knowledge from various textbooks and other references to support their learning process. Reading also can help students to increase their language knowledge, such as the new vocabulary, phrases, and many more when they read various kinds of books. Snow (2002, p. 1) defines reading comprehension as the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. It is clear that a reader does not only understand the strings of written letters when reading but also extracts the meaning to understand the message being given by the writer. Scott (2005) proposes that one of the most fundamental aspects of comprehension is the ability to deal with unfamiliar words encountered in the text. This statement deals with the importance of vocabulary in the reading activity. Yet, reading also consider challenging due to complex progression involved in comprehending a series of strings of words. Comprehension is a complicated process that involves many abilities, whether he is successful or fails (Wainwright, 2007). For example, a study conducted shows that longer reading times for linguistically-focused words represent deeper encoding, which explains previous findings showing that readers have better follow-up memory for targeted versus defocused content (Lowder & Gordon, 2015).

The mastery of vocabulary is a prime prerequisite to determine the success of a person who has language skills. A person whose rich vocabularies will be easier to communicate and receive the information well in written, oral, and also using a signal or symbol. So, how the students' comprehend a text is also heavily impacted by their word knowledge. McKeown et.al. (2018) found that there was a slight improvement on comprehension at their second year when the middle school students were trained in word knowledge, lexical access, and morphological awareness of the researcher-designed measure for a year. The implementation of learning English so far has not stimulated the students yet to be active in learning English. The learning has much more trained the students to do written exercises and memorize words or English grammar. Moreover, some students feel afraid when they learn English because they feel that they could not comprehend the lesson; some students feel lazy because they instructed to read and translate, so the students are less active in learning. The students learn vocabulary and grammar every day in class' situation or outside of class, but the problem that happens because English placed as Foreign Language (EFL) by the government with the result that the mastery of vocabulary and grammar are not appropriate with what expected. The students whose mastery in vocabulary and grammar will be easier to understand in the process of learning English. Boyoh (2018) confirms that the once the students could master English vocabulary at some point, the easier for these students to speak in English. These results may relate to another skills, that is reading comprehension. Based on the explanation above, which about the importance of the mastery of vocabulary and grammar, this study will examine whether the student's mastery of English vocabulary and grammar correlates with their reading comprehension. Besides, the hypothesis "the higher the learners" mastery of English vocabulary and grammar, the better their understanding in reading" will be investigated in this research.

## Method

According to Sugiyono (2016), the population is an area of generalization that comprises an object or subject that has the quality and particular characteristics determined to be analyzed and then concluded by the researcher. The population of this research is obtained from Senior High School 82, Senior High School 46, and Senior High School 43, with a total of 648 students. The sample is a part of possessed by the population. When the population is too large, researchers do not need to take all numbers of the population (Sugiyono, 2017). Some samples are taken from the whole object of the study where they can be considered representative for the entire population, and they are taken by using a specific technique called sampling technique. The sample of this research is 90 students.

The data collection technique that has been done to get the data of vocabulary mastery, grammar mastery, and reading comprehension variables is by asking the respondents to answer the question that has been asked by the researcher. The respondents' answers are being scored based on the scoring rule. To analyze the data, descriptive statistics will be used. In this descriptive analysis, the data technique in the



distribution table, and the histogram for each variable will be done. Besides that, each variable will be tabulated and analyzed regarding the center measurement and the mean, mode, and median and standard deviation.

Moreover, there is the requirement analysis such as normality test, linearity test, multicollinearity test, and heteroscedasticity test will be performed. First, the normality test is aimed to know whether the data collection result is normal or not. Before testing the hypothesis, all the data collected from this research are tested to find out whether it is normal or not. Therefore, the normality test is used, and the process of calculation is accomplished using *SPSS version 20.0 for the windows* Kolmogorov-Smirnov method in 5%; the significance and total of respondents are 90 students. The hypothesis of the research is stated in the following:

Ho: Data is distributed normally

H1: Data is not distributed normally

The criteria of the testing hypothesis are set by seeing the value of significance (Sig).

Accept Ho: if the value of Sig. > 0.05, the data is normal.

Accept H1: if the value of Sig. < 0.05, the data is not normal.

Second, the linearity testing has the purpose of knowing whether the relationship between variable X and variable Y is linear or not. The formula that is used according to Riduwan (2006, p. 148):

$$\hat{Y} = a + bX$$

Explanation:

$\hat{Y}$ : the result of linear data transformation

a: constant of additions to the result of multiplication

b: constant of multiplication

The hypothesis of the research is stated in the following:

Ho:  $\hat{Y} = a + Bx$  (regression is linear)

H1:  $\hat{Y} \neq a + Bx$  (regression is not linear)

To know the relationship linearity between variable X and variable Y is done by using *SPSS version 20.0* for windows. The criteria of hypothesis testing are:

Accept Ho: if the value of Sig. > 0.05, the data is linear.

Accept H1: if the value of Sig. < 0.05, the data is not linear.

Third, multicollinearity test. There are specific reasons why multicollinearity occurs: 1) an inaccurate use of dummy variables causes it; 2) It is caused by the inclusion of a variable which is computed from other variables in the data set; 3) Multicollinearity can also result from the repetition of the same kind of variable; 4) Generally occurs when the variables are highly correlated to each other. The aim is to test whether the regression model found a perfect correlation between the independent variables. It is called a good regression model if there is no perfect correlation between independent variables. The problem of multicollinearity can be detected by looking at the value of *tolerance* and *Variance Inflation Factor (VIF)* by using *SPSS version 20.0 for Windows*. A variable has a multicollinearity problem if the value of *tolerance* is less than 0.1 or the value of *VIF* is more than 10.

Next, there is heteroscedasticity test. Heteroscedasticity is a problem when the error or residual observed does not have a constant variance. Heteroscedasticity condition often occurs in cross-section data or data derived from multiple respondents at any given time. Last, the hypothesis test will also be used after the overall test requirements are known and fulfilled. Then, the data is tabulated and tested correctly by using the hypothesis that has been proposed. The hypothesis will be analyzed using the partial correlation technique, simple linear regression, and multiple linear regression. In practice, the researcher will do the calculation and test the correlation and regression partially.

**Results and Discussion**

There are three parts of this section. First section talks about the effect of vocabulary mastery and grammar mastery; the second section discusses how the vocabulary mastery affects the students' reading comprehension, and last section seeks the results of how the grammar mastery can affect the students' reading comprehension.

Table 1. Multiple Correlation Coefficients of the Effects of Variable X<sub>1</sub> and X<sub>2</sub> towards Y

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.494 <sup>a</sup>	.244	.227	6.470
a. Predictors: (Constant), Grammar Mastery, Vocabulary Mastery				

Table 2. Regression Coefficients Significant Test of the Effects of Variable X<sub>1</sub> and X<sub>2</sub> towards Y

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1175.828	2	587.914	14.043	.000 <sup>b</sup>
	Residual	3642.227	87	41.865		
	Total	4818.056	89			
a. Dependent Variable: Student's Reading Comprehension						
b. Predictors: (Constant), Grammar Mastery, Vocabulary Mastery						

Table 3. The Recapitulations Result for Linear Regression Equality Test of the Effects of X<sub>1</sub> and X<sub>2</sub> towards Y

Coefficients						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	38.623	8.462		4.564	.000
	Vocabulary Mastery	.309	.092	.326	3.354	.001
	Grammar Mastery	.259	.087	.291	2.991	.004
a. Dependent Variable: Student's Reading Comprehension						

***The Effects of Vocabulary Mastery (X<sub>1</sub>) and Grammar Mastery (X<sub>2</sub>) altogether towards Students' Reading Comprehension (Y)***

The hypothesis tested:

$$H_0: \beta_{y1} = \beta_{y2} = 0$$

$$H_1: \beta_{y1} \neq 0, \beta_{y2} \neq 0$$

Explanation:

**H<sub>0</sub>**: there is no effect of Vocabulary Mastery and Grammar Mastery altogether towards Student's Reading Comprehension

**H<sub>1</sub>**: there are effects of Vocabulary Mastery and Grammar Mastery altogether towards Student's Reading Comprehension



Referring to Table 2, it can be figured out that there are effects of vocabulary mastery and grammar mastery altogether towards students' reading comprehension significantly. It indicates the Sig value.  $0.000 < 0,05$  dan  $F_{\text{observed}} = 14.043$ . Therefore, it can be said that  $H_0$  is rejected, and  $H_1$  is accepted.

Meanwhile, as shown in Table 3, the multiple regression line equation can be stated with  $\hat{Y} = 38.623 + 0.309 X_1 + 0.259 X_2$ . This means that the increment of one variable score of vocabulary mastery and grammar mastery contributed as much as 0.309 by  $x_1$  and 0.259 by  $x_2$  towards the variable Student's Reading Comprehension. Refer to table 1 also explains that Vocabulary Mastery and Grammar Mastery contributed as much as 24.4 % towards students' reading comprehension.

According to theoretical assumptions, vocabulary mastery means the ability of the student to use all the words of the language in conducting communication. It is one component to master English as a foreign language in elementary, intermediate, and advanced levels. In learning the four language skills, which are listening, speaking, reading, writing, and then vocabulary is one necessary component to be mastered.

Meanwhile, that grammar mastery is the process to comprehend the vocabulary that learned from the messages through a set of communication. Briefly, it can be said that the quality and quantity of grammar mastery are essential either to comprehend or to produce ideas of thoughts. Reading may be defined as a highly complex purposeful, thinking process ended in by the entire organism while acquiring knowledge, involving new ideas, solving problems, or relaxing and capturing the interpretation of feinted symbols. From the result of correlation and regression testing, then it can be concluded that there are effects of vocabulary mastery ( $X_1$ ) and grammar mastery ( $X_2$ ) altogether towards student's reading comprehension ( $Y$ ).

### ***The Effect of Vocabulary Mastery ( $X_1$ ) towards Student's Reading Comprehension ( $Y$ )***

The hypothesis tested:

$$H_0: \beta_{y1} = 0$$

$$H_1: \beta_{y1} \neq 0$$

Explanation:

**H<sub>0</sub>**: there is no effect of Vocabulary Mastery towards student's reading comprehension

**H<sub>1</sub>**: there is a significant effect of vocabulary mastery towards student's reading comprehension

Refer to Table 3, and it can be stated that there is a significant effect of vocabulary mastery towards student's reading comprehension. The acquisition of the Sig evidences this. value  $0.001 < 0,05$  and  $t_{\text{observed}} = 3.354$ . The contribution of variable Vocabulary Mastery towards Student's Reading Comprehension can be stated in the formula:

$$\text{R Square} = \text{Value } \beta_{x1y} \times \text{Partial correlation value } (r_{x1y}) \times 100 \%$$

$$\text{R Square} = 0.326 \times 0.408 \times 100 \% = 13.30 \%$$

From the results of the above calculations, it can be stated that the contribution of Vocabulary Mastery in improving Student's Reading Comprehension is equal to 13.30 %. Referring to the theory, A good mastery of vocabulary helps the learners to express their ideas precisely. By having many stocks of the word, learners will be able to comprehend the reading materials catch other talking, give a response, speak fluently, and write some topics. Reading is one of the essential language skills. By reading, people may get much information. The more he or she reads, the more information he or she will get. Reading makes someone more creative and smarter. Reading Comprehension is a meaning process that involves the knowledge and experience actively so that we can correlate it into reading. In short, from the quantitative information and theory mentioned. Eventually, the researcher takes the conclusion that vocabulary mastery has a significant and positive effect on reading comprehension.

### ***The Effect of Grammar Mastery ( $X_2$ ) towards Student's Reading Comprehension ( $Y$ )***

The hypothesis tested:

$$H_0: \beta_{y2} = 0$$

$$H_1: \beta_{y2} \neq 0$$

Explanation:

**H<sub>0</sub>**: there is no significant effect of Grammar Mastery towards Student's Reading Comprehension

**H<sub>1</sub>**: there is a significant effect of Grammar Mastery towards Student's Reading Comprehension



Refer to table 3. It can be stated that there is a significant effect of Grammar Mastery towards Student's Reading Comprehension. The acquisition of Sig evidences this. value  $0.004 < 0,05$  and  $t_{\text{observed}} = 2.991$ . The contribution of variable Grammar Mastery towards Student's Reading Comprehension can be stated in the formula:

$$\text{R Square} = \text{Value } \beta_{x_2y} \times \text{Partial Correlation Value } (r_{x_2y}) \times 100 \%$$

$$\text{R Square} = 0.291 \times 0.382 \times 100 \% = 11.11 \%$$

From the results of the above calculations, it can be stated that the contribution of grammar mastery in improving student's reading comprehension is 11.11 %. Based on the theory, Grammar is one of the essential parts that students need to master when studying English. Brown (2007, p. 362) ascertains that grammar is the system of rules governing the conventional arrangement and relationship of words in a sentence. The results confirm that comprehension is indeed a complicated process (Wainwright, 2007, pp. 43–44). We supposed to be able to memorize the information after reading the text. Some factors affect reading comprehension, such as; (1) the reading speed, (2) the reading intention, (3) the character of reading material, (4) the arrangement of reading material, (5) the environment of the reading area. Reading comprehension is defined as the level of understanding that comes from the interaction between the words that are written and how they trigger knowledge outside the text. Thus, from both the quantitative information and theory stated, the researcher concludes that grammar mastery has a significant and positive effect on students' reading comprehension.

## Conclusions

There are significant effects of Vocabulary and grammar mastery altogether towards students' reading comprehension at state senior high school in South Jakarta. The score of Sig proves that.  $0.000 < 0.05$  and  $F_{\text{observed}} = 14.043$ . It means that the higher the students' vocabulary mastery and the higher the students' grammar mastery, the higher the students' reading comprehension. There is a significant effect of vocabulary mastery towards students' reading comprehension at state senior high school in South Jakarta. The score of Sig proves that.  $0.001 < 0.05$  and  $t_{\text{observed}} = 3.354$ . It means that the higher the students' vocabulary mastery, the higher the students' reading comprehension — conversely, the lower the students' vocabulary mastery, the lower the students' reading comprehension. Therefore, students' vocabulary mastery is an important variable to consider in predicting the students' reading comprehension. There is a significant effect of grammar mastery towards students' reading comprehension at State Senior High School in South Jakarta. The score of Sig proves that.  $0.004 < 0.05$  and  $t_{\text{observed}} = 2.991$ . This means that the higher the students' grammar mastery, the higher the students' reading comprehension — conversely, the lower the students' grammar mastery, the lower the students' reading comprehension. Therefore, students' grammar mastery is an important variable to consider in predicting the students' reading comprehension.

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