

THE CORRELATION BETWEEN VOCABULARY MASTERY AND READING COMPREHENSION OF THE SECOND YEAR STUDENTS OF SMP NEGERI 3 TAMBANG

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Abstract: *This present study was aimed to find out whether there was a correlation between vocabulary mastery and reading comprehension of the second year students of SMP Negeri 3 Tambang. The population was the second year students of SMP Negeri 3 Tambang. The sample was chosen by using cluster random sampling and there were VIII4 and VIII5 as the samples. Vocabulary test was used to know the students' vocabulary mastery and reading comprehension test was used to know the students reading comprehension in descriptive text. The obtained data were analyzed by using Pearson Product Moment's Formula which was assisted by SPSS 23.00 program. The results revealed that the coefficient correlation was higher than the critical value of r -table ($0.739 > 0.254$). Therefore, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. In conclusion, there was a positive correlation between vocabulary mastery and reading comprehension of the second year students of SMP Negeri 3 Tambang. The obtained determination coefficient (R square) is 0.545 or 54%. This means that vocabulary clarify only 54% toward reading comprehension. While the rest 46% ($100\%-54\%$) is probably due to other factors which are not involved in this research's variables.*

Key Words: *Correlation, Vocabulary Mastery, Reading Comprehension*

HUBUNGAN ANTARA PENGUASAAN KOSA KATA DAN PEMAHAMAN MEMBACA SISWA KELAS VIII SMP NEGERI 3 TAMBANG

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Abstrak: Penelitian ini bertujuan untuk mengetahui apakah ada hubungan antara penguasaan kosakata dan pemahaman membaca siswa kelas dua SMP Negeri 3 Tambang. Populasi adalah siswa kelas dua SMP Negeri 3 Tambang. Sampel dipilih dengan menggunakan cluster random sampling dan ada VIII4 dan VIII5 sebagai sampel. Tes kosakata digunakan untuk mengetahui penguasaan kosakata siswa dan tes pemahaman membaca digunakan untuk mengetahui pemahaman membaca siswa dalam teks deskriptif. Data yang diperoleh dianalisis dengan menggunakan Formula Pearson Product Moment yang dibantu oleh program SPSS 23.00. Hasil penelitian menunjukkan bahwa koefisien korelasi lebih tinggi dari nilai kritis r-tabel ($0,739 > 0,254$). Oleh karena itu, hipotesis nol (H_0) ditolak dan hipotesis alternatif (H_1) diterima. Kesimpulannya, ada korelasi positif antara penguasaan kosakata dan pemahaman membaca siswa tahun kedua SMP Negeri 3 Tambang. Koefisien determinasi yang diperoleh (R kuadrat) adalah 0,545 atau 54%. Ini berarti bahwa kosakata hanya mengklarifikasi 54% terhadap pemahaman membaca. Sedangkan sisanya 46% ($100\% - 54\%$) mungkin disebabkan oleh faktor lain yang tidak terlibat dalam variabel penelitian ini.

Kata Kunci: Korelasi, Penguasaan Kosakata, Pemahaman Membaca

INTRODUCTION

Reading is one of English skills which is taught at junior high school. According to Madani (2016: 16) “reading is one of the most important skills that English learners must be studied conscientiously”. In line with this, Nunan (2003: 68-69) states “Reading is a significant skill for English learners because reading has an effective process because readers combine information from their own background knowledge to build meaning”. This means that reading can help the students to expand their background knowledge by reading a text, thus the students can use their background knowledge to construct related meaning existed in the text.

According to English syllabus of curriculum 2013, students are expected to achieve a comprehension in various texts such as descriptive, procedure, and narrative texts. According to Wardiman (2008) a descriptive text can be interpreted as a part of factual information. It provides generalized information on facts, qualities and characteristics of the object. In this research, descriptive text is chosen rather than the other type of texts, because based on interview with one of English teacher of SMP Negeri 3 Tambang, he said that “this text is easier rather than other texts such as narrative and recount. This text is constructed based on facts and it is useful to describe something in daily life”. Besides, descriptive text is “a text that provides information about particular person, place, or thing. The context of this kind of text is the description of certain thing such as animal, person, or others” (Wardani, et, al :2014). In other words, descriptive text is a text which tells about characteristic of person, place, and thing. For example is the description of “Budi”, “my cat”, and “table”.

In reading, the students may get difficulties in comprehending the text if they do not know the meaning of the words in the text. Based on Finnochiaro and Bonomo (1973), reading comprehension can be defined as an ability which depends on the knowledge of vocabulary items. In most cases, some students have difficulty in reading and it is due to their lack of low frequency words. A word is considered to be low frequency category if the word is rarely used in a text (Schmitts: 2014). According to Yildirim, et, al (2011) the students should be able to know the meaning of 90%-95% of the words in a text so that the students can build a comprehension from the text. So, to understand the meaning of the text or the sentences, the students have to know the meaning of vocabulary found in the text.

Commonly, vocabulary is studied when the students learn English skills such as listening, speaking, reading and writing. So, vocabulary is one of the aspects in English language that should be mastered by the students. Naturally, teaching vocabulary is such an important task in teaching English because vocabulary achievement relates to all of language learning and it is concern of all four language skills (Jordan :1997). Mastering vocabulary means that students have great knowledge about the vocabularies for instance, the meanings, the spoken form, the written form, the grammatical, the word derivation, the collocations of the words, the connotation or associations of the word, and word frequency (Thornbury :2002).

Vocabulary mastery and reading comprehension are two different things but relate one and another. Hence, the researcher is interested to do a research in order to know how the correlation between vocabulary mastery and reading comprehension is and to know whether there is a significant correlation between vocabulary and reading comprehension. By doing a research entitled “*The Correlation between Vocabulary*

Mastery and Reading Comprehension of the Second Year Students of SMP Negeri 3 Tambang”.

METHODOLOGY

Participants of the Research

The participants of this research were the second year students of SMP Negeri 3 Tambang. The researcher did the research in class VIII4 and VIII5 which consisted of 58 students. The researcher used cluster random sampling to get the sample of this research.

Data Collecting Technique

This research used multiple tests to obtain the score of the vocabulary mastery and reading comprehension in descriptive text. Vocabulary test consisted of 50 questions in multiple-choice form with four options: A, B, C and D. The test of reading comprehension consisted of 40 questions in multiple-choice form with four options: A, B, C and D.

Data Analysis Technique

Before the researcher gave the test to the sample, the researcher made sure whether the instruments were valid and reliable.

1. Validity

Validity is an important key to make sure whether or not the instrument that we used is valid. Valid means that the instrument can be used to measure something that what we actually want to measure (sugiyono: 2017). According to Tamil (2016) the formula for item difficulty is as follow:

$$FV = \frac{\sum B}{N} \times 100$$

Where:

FV : index difficulty/ difficulty level

$\sum B$: The number of correct answer

N : Total students

Based on Tamil (2016) the item is accepted if the difficulty level is among 30-70. The item is rejected if the index of difficulty (FV) is below 30 (difficult) or over 70

(easy). Item discrimination shows that the extent to which the items discriminated the students between those who are able to answer the test item and those who are not. It was calculated by using the formula:

$$D = \frac{CorrectU - CorrectL}{n}$$

Where:

D: discrimination index

U: upper group answering (upper half)

L: lower group answering (lower half)

n: the number of students in one group

(Heaton, 1991)

2. Reliability

Reliability refers to consistency or stability of measurement. Based on Sugiyono (2017: 359) reliability can be tested by trying the instrument only once. To know the reliability of the test, the researcher used the following formula:

$$ri = \frac{k}{k-1} \left(1 - \frac{M(k-M)}{k.st^2} \right)$$

Where:

ri: Reliability of the test

k: The number of item in the test

M: The mean score of all the test

st²: Variant total

(Sugiyono, 2017: 361)

To know the mean score of all the test (M)

$$M = \frac{\sum xt}{n}$$

Where:

$\sum xt$: The sum of students' correct answer

n : The total number of the students

(Sugiyono, 2017: 362)

To know the variant total (st^2)

$$st^2 = \frac{x^2}{n} \longrightarrow x^2 = \sum xt^2 - \frac{(\sum xt)^2}{n}$$

Where:

$\sum xt^2$: The sum of students' correct answer square

$\sum xt$: The sum of students' correct answer

n : The total number of the students

(Sugiyono, 2017: 361)

The researcher analyzed the data by using Microsoft excel 2013 and SPSS (Statistical Product Service Solution) 23.00 program. Then, there were three formulas used, they are:

3. Vocabulary Test Formula

The final score is calculated: $\frac{\text{Student correct answer}}{\text{the number of item}} \times 100$

Vocabulary test was used to collect the data on students' vocabulary mastery, the range as follows below:

Table 1. The Interpretation of Students' Vocabulary Mastery

No	The Range of score	Level of Ability
1	90-100	Very good
2	80-89	Good
3	70-79	Mediocre
4	60-69	Low
5	0-59	Very Low

(Haris, 1969: 79)

4. Reading Comprehension Test Formula

The final score is calculated: $\frac{\text{Student correct answer}}{\text{the number of item}} \times 100$

Then, to interpret the level of the students' reading comprehension based on the table below:

Table 2. The Interpretation of the Students' Reading Comprehension

No	The Range of score	Level of Ability
1	90-100	Very good
2	80-89	Good
3	70-79	Mediocre
4	60-69	Low
5	0-59	Very low

(Haris, 1969: 79)

5. Pearson Product Moment Formula

In order to see whether there is a correlation between vocabulary mastery and reading comprehension, Pearson Product Moment formula was used. The formula is presented below:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2][N \sum Y^2 - (\sum Y)^2]}}$$

Where:

R_{xy} = The correlation coefficient between X and Y

X = The score of vocabulary test

Y = The Score of reading comprehension test

N = The number of the sample

$\sum xy$ = Sum of vocabulary test score and reading comprehension test score

$\sum X$ = The total score of vocabulary test

$\sum Y$ = The total score of reading comprehension test

To determine the criteria of correlation by applying the interpretation of number correlation as suggested by Sugiyono (2017:231) :

Table 3. Interpretation of Number Correlation r_{xy} product moment

Magnitude "r" product moment	Interpretations
0,00-0,199	Very low correlation
0,20-0,399	Low correlation
0,40-0,599	Mediocre correlation
0,60-0,799	High correlation
0,80-1,000	Very high correlation

(Sugiyono, 2017:231)

RESEARCH FINDINGS

1. Findings of Vocabulary Mastery

From the instrument of vocabulary test, it was found that the highest score of students in vocabulary was 62 (X max=62). The lowest score was 18 (X min=18). The classification of the students' scores can be seen on Table 4.2:

Table 4. The Frequency of Students' Vocabulary Score

Interval	Category	Frequency	Percentage
0-59	Very Low	57	98%
60-69	Low	1	2%
70-79	Mediocre	0	0%
80-89	Good	0	0 %
90-100	Very good	0	0%
Total		58	100%

Table 4 shows that there are 57 students in range of 0-59, one student in range of 60-69, none of student in range of 70-79, none of student in range of 80-89, and none of student in range of 90-100. It can be seen that 98% is in very low level, 2% is in low level, 0% is in mediocre level, 0% is in good level, and 0% is in very good level. The data also indicates that the total mean score of students' vocabulary mastery, it is in range of 35.69 or 36 in range of 0-59. Therefore, it can be concluded the students' vocabulary mastery is overall in very low level.

After finding the students' scores in vocabulary test, the researcher examined the students' ability in terms of collocations, word grammar, meanings, and word formation. The description of the students' ability of each aspect of vocabulary test can be seen in Table 5 below:

Table 5. The Students' Ability of Each Aspect of Vocabulary Test

Aspects	Sub Aspects	Mean Score	Total Mean Score	Category
Collocations	Adverbs	50.57	41.8	Very Low
	Adjectives	47.7		Very Low
	Nouns	36.2		Very Low
	Verbs	32.75		Very Low
Word grammar	Past tenses	17.81	27.14	Very Low
	Present tenses	31.6		Very Low
	Verbs	28.73		Very Low
	Nominal singular/plural	30.45		Very Low
Meanings	Antonym adjectives	54.59	42.95	Very Low
	Antonym verbs	44.25		Very Low
	Synonym nouns	41.37		Very Low
	Synonym adverbs	31.6		Very Low
Word Formation	Adjectives	29.31	31.89	Very Low
	Verbs	37.35		Very Low
	Nouns	31.6		Very Low
	Adverbs	29.31		Very Low
Total		35.94	35.94	Very Low

Table 5 shows that the students' ability in collocation is 41.8, word grammar is 27.14, meanings is 42.95, and word formation is 31.89. The highest mean score is in meanings (42.95) and the lowest score is in words grammar (27.14). The total of the students' mean score of each aspect is 35.94; it means that their ability of each aspect are in very low level.

2. Findings of Reading Comprehension

Based on the calculation of variable Y, it was found that the highest score was 70 and the lowest score was 25. The classification of the students' scores in reading comprehension in descriptive texts can be seen in Table 6 as in the following:

Table 6. The Frequency of Students' Reading Comprehension Score

Interval	Category	Frequency	Percentage
0-59	Very Low	53	91 %
60-69	Low	4	7 %
70-79	Mediocre	1	2 %
80-89	Good	0	0 %
90-100	Very good	0	0%
Total		58	100%

Table 6 shows that there are 53 students in range of 0-59, 4 students in range of 60-69, 1 student in range of 70-79, none of student in range of 80-89, and none of student in range of 90-100. It also can be seen that 91 % is in very low level, 7% is in low level, 2% is in mediocre level, 0 % is in good level, and 0 % is in very good level. The data also indicates that the total mean score of reading comprehension is 45.22 or 45 in range of 0-59, therefore, it can be concluded that the reading comprehension is overall in very low level. ;

After finding the students' scores in reading comprehension test in descriptive texts, the researcher examined the students' ability of vocabulary in context, finding main ideas, identifying references, finding factual information, making inferences, identifying generic structures, social function and language features of descriptive texts. The description of the students' ability of each aspect of reading test can be seen in Table 7 below:

Table 7. The Students' Ability of Each Aspect of Reading Comprehension Test

No	Aspects	Mean Score	Category
1	Vocabulary in context	33.79	Very Low
2	Finding main Idea	21.03	Very Low
3	Identifying references	37.58	Very Low
4	Finding factual information	22.75	Very Low
5	Making Inferences	26.20	Very Low
6	Generic structure	29.31	Very Low
7	Social Function	21.72	Very Low
8	Language Features	39.31	Very Low
Total		28.96	Very Low

Table 7 shows the students' ability of each aspect of reading comprehension test. From the data above, the students' ability in vocabulary is 33.79, in finding main ideas is 21.03, in identifying references is 37.58, in finding factual information is 22.75, in making inferences is 26.20, in generic structure is 29.31, in social function is 21.72, and language features is 39.31. The highest mean score that is obtained by students is in language features (39.31) and the lowest score is in finding main idea (21.03). The total of the students' mean score of each aspect is 28.96; it means that their ability of each aspect are in very low level.

3. Correlation Analysis

After the data were normally distributed and the two variables were linier, the correlation of students' vocabulary mastery and their reading comprehension were measured by using Pearson Product Moment assisted by SPSS 23.00 program. Table 4.8 presents the result of the computation of correlation coefficient.

Table 8 Correlations
Correlations

		Vocabulary	Reading
Vocabulary	Pearson Correlation	1	.739**
	Sig. (2-tailed)		.000
	N	58	58
Reading	Pearson Correlation	.739**	1
	Sig. (2-tailed)	.000	
	N	58	58

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the calculation above, it was found out that the obtained correlation coefficient is 0.739 with a significance of 0,000. Based on Prayitno (2009:118) “since the value of sig. 2 tailed < 0.05 ”, it means that the correlation is at significant level. The value of r-table product moment is 0.266. Since r-value is higher than the value of r-table product moment, the correlation coefficient is significant. From the calculation, the r-value = 0.739 and r-table = 0.266 (r-value $>$ r-table), this means that the null hypothesis (H_0) is rejected and it can be stated that there is a significant correlation between students’ vocabulary mastery of the second year students of SMPN 3 Tambang and their reading comprehension in descriptive texts.

4. Determination Coefficient

The aim of determination coefficient is to measure how well the independent variable clarify the existence of dependent variable. Therefore necessary to compute the determination index of R^2 on the table below:

Table 9 Determination Coefficient

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.739 ^a	.545	.537	7.024

From the computation above, the obtained determination coefficient (R square) is 0.545 or 54%. This means that the relationship existing between vocabulary mastery and reading comprehension in descriptive texts as much as 54% can be explained by the coefficient correlation between these two variables, while the rest 46% (100%-54%) is probably due to other factors which are not involved in this research’s variable.

DISCUSSION OF THE FINDINGS

Based on the presentation of the findings, the researcher found that the level of vocabulary mastery and reading comprehension of the second year students of SMP Negeri 3 Tambang. The respondents participated in this research were 58 students. After all the data calculated, the researcher found that the level of students' vocabulary mastery was in very low level. In vocabulary test, the highest score was 62 and the lowest score was 18. Second, the researcher found that the level of students' reading comprehension was in very low level. In reading test, the highest score was 70 and the lowest score was 25.

Vocabulary mastery and reading comprehension are low category, it could be caused by the condition of students' for example physical health, the ability of the students, and the condition of environment in the school. Next, the result of students' reading comprehension was determined by students' vocabulary mastery, because this correlation shows parallel correlation. Based on Sudijono (2010: 180) parallel correlation means that the value of coefficient correlation is positive and the two variables indicates a change in the same direction, it means that the change of variable X is always followed by variable Y. In this research, low level of variable X is followed by the change in variable Y.

The data of this research was normal and both of the variables were linear. Therefore, the correlation value between the variable X (students' vocabulary mastery) and Y (students' reading comprehension) could be counted. Dealing with the correlation value between vocabulary and reading, this research found that there was a positive correlation. The result of computation was 0.739. This value is categorized into high correlation (Sugiyono, 2017:231). Thus, the alternative hypothesis (H_1) is accepted and automatically the null hypothesis (H_0) is rejected. From those data, it can be concluded that the students' vocabulary mastery and their reading comprehension in descriptive texts is significantly correlated each other. Besides, the obtained determination coefficient or R square is 0.545 or 54%. This means that vocabulary mastery clarify only 54% toward reading comprehension. While the rest 46% (100% -54%) is probably due to other factors which are not involved in this research's variable.

CONCLUSIONS AND RECOMMENDATION

Conclusions

In brief, this research is proposed to answer whether there is a correlation between students' vocabulary mastery and reading comprehension in descriptive text. In vocabulary mastery, there were 57 students (98%) in very low level and 1 student (2%) in low level. It means that the students' vocabulary mastery overall were in very low level. In reading comprehension, there were 53 students (91%) in very low level, 4 students (7%) in low level and 1 student (2%) in mediocre level. It means that students' reading comprehension overall were in very low level.

Next, the obtained value of correlation is 0.739 which means that there is a positive correlation between students' vocabulary mastery and reading comprehension in descriptive text. In addition, because the value of r_{xy} is 0.739, it can be concluded

that vocabulary mastery and reading comprehension have high correlation (Sugiyono: 2017). Moreover, the sig. value < 0.05 which is $0.000 < 0.05$ it means that the correlation between students' vocabulary mastery and reading comprehension in descriptive text is significant. Therefore, it answered the research question (Is there any correlation between vocabulary mastery of the second year students of SMP Negeri 3 Tambang and their reading comprehension in descriptive text?).

Recommendation

From the obtained data, the researcher wants to give some recommendations. First, the researcher would like to recommend that teachers need to create the process of learning English which can increase the students' vocabulary mastery. By creating effective learning, it hopefully can improve the students' vocabulary mastery and reading learning process will be more effective. Second, for the second year students of SMPN 3 Tambang, they should improve their own vocabulary mastery and reading comprehension. The effective way to be done is by carrying out a regular reading habit. The last, hopefully this research will be useful and provide contributions to other researchers related to the correlation between vocabulary mastery and reading comprehension. It is suggested that other type of texts could be conducted for further research.

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