

THE CORRELATION BETWEEN STUDENTS' VOCABULARY MASTERY AND READING COMPREHENSION OF THE ELEVENTH GRADE STUDENTS OF SMAN 5 PALU

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ABSTRACT

The purpose of this research is to find out the correlation between students' vocabulary mastery and reading comprehension of the eleventh grade students of SMAN 5 Palu. Twenty eight (28) students were chosen as the sample using purposive sampling method which was class XI IPA 6. The data were collected by tests and were analysed statistically. All the data gained in this research were analyzed by using the formulation of Pearson Product Moment Correlation and also supported by the program of IBM SPSS Statistic Version 21. According to the result of the analysis and statistical calculation, it was found that $r_{counted}$ was 0.399 and r_{table} was 0.388 with the significance level of 0.05 and degree of freedom (df) was 26. By comparing the values of $r_{counted}$ and r_{table} , it can be obtained that $r_{counted}$ was higher than r_{table} . It means the alternative hypothesis (H_a) is accepted and there is a positive correlation between students' vocabulary mastery and reading comprehension.

Keywords: correlation; vocabulary mastery; and reading comprehension.

Tujuan dari penelitian ini adalah untuk mengetahui hubungan antara penguasaan kosakata dengan pemahaman membaca siswa kelas sebelas di SMAN 5 Palu. Dua puluh delapan (28) siswa dipilih sebagai sampel menggunakan metode purposive sample yaitu kelas XI Ipa 6. Data-data dikumpulkan melalui test dan dianalisis secara statistik. Seluruh data dalam penelitian ini diolah dengan menggunakan rumus dari Pearson Product Moment Correlation dan didukung juga oleh program IBM SPSS Statistik versi 21. Menurut hasil dari analisis dan perhitungan statistik, didapatkan bahwa nilai $r_{counted}$ adalah 0.399 dan r_{table} adalah 0.388 dengan derajat significant 0.05 dan degree of freedom (df) adalah 26. Dari perbandingan nilai $r_{counted}$ dan r_{table} , ditemukan bahwa $r_{counted}$ lebih tinggi dari r_{table} . Itu artinya hipotesis alternatif (H_a) diterima dan terdapat korelasi positif antara penguasaan kosakata dan pemahaman membaca siswa.

Kata kunci: correlation; vocabulary mastery; and reading comprehension.

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INTRODUCTION

Nowadays English cannot be separated in our life. As an international language, English is used as a foreign language and has become one of subjects in Indonesian schools taught from elementary up to university. By mastering English we can communicate with other people around the world and require knowledge. English is also used in many special occasions such as dealing with diplomacy, foreigner, or even in daily conversation. Therefore people who speak English have more chance to propose a scholarship of overseas study or apply for a job than people who do not.

In English there are four basic skills to be mastered by the students, such as listening, reading, and writing, speaking. Those skills are divide into two; receptive skills and productive skills. Receptive skills are listening and reading, because the students receive the information and understand it. While, productive skills are writing and speaking, because the students need to produce their ability in written and orally. In that case, the one of important skills in English is reading. By reading people obtain a lot of information, get new ideas, broaden the knowledge, and also get the point of what the writer expresses. Therefore reading can make people be smarter and creative.

Reading comprehension is the process of making meaning in written word. Through reading, people try to draw the meaning from the printed page and interpret the information appropriately. It requires more than knowing the meaning of individual words but people also know how individual words combined together to produce meaningful sentences.

Based on the curriculum 2013, learning English is the important subjects. The general objective of teaching English in senior high school is to develop the communicative competence of the students. The specific objective of teaching English is to make students be active in the language class both in oral and written. In understanding both of oral and written language, this curriculum emphasizes on reading and vocabulary teaching. The purposes of teaching reading skill are to make the students should be able to get general information about a text, identify the main idea explicitly and implicitly, get detail information about a text, and summary by using their own words. For supporting reading activity, the students are expected to master a lot of vocabulary. The purpose of teaching vocabulary is to enrich the students' words knowledge thus they can understand a text easily.

By knowing a lot of vocabulary, students can easily interpret the message of sentence in reading and avoid from misunderstanding. It is also needed to express our ideas

or to transmit the message. The students will get difficulty if the material of reading or listening is full of English and almost the words are unfamiliar for them. Therefore, many students still take reading only for granted of little awareness of their performance in reading comprehension. Meanwhile, the students who learn English are expected to be able to understand what they listen and read for making them be successful in speaking and writing. Thus, vocabulary is the major component in learning new language especially English.

From those explanations above, it was contradiction what the researcher found when she did observation at the school. Most of the students were unfamiliar with the vocabularies written in the reading test. Therefore, they were not able to comprehend what was in the reading text. The researcher conducted her research in SMAN 5 Palu. The main reason, the researcher ever did the teaching practice in SMAN 5 Palu. The researcher already knows about the condition of the students that most of them got difficulty in understanding the meaning in the reading text. They had a little stock of words that were needed in learning English. When they were reading a text, they always ask the researcher about what the word means. From that case, the researcher was interested to found whether there is a correlation between students' vocabulary mastery and their reading comprehension.

RESEARCH METHOD

The research design was a correlational design that was procedure in quantitative research in which the researcher measured the degree of of relation between two or more variables using the statistical procedure of correlational analysis. In this research design, the variable X related to variable Y, where variable X was vocabulary mastery and variable Y was reading comprehension. The first variable was taken from the students' score in vocabulary test and the second variable was taken from the students' score in the reading test.

The population of this research was all the eleventh grade students of SMAN 5 Palu which is consisted of nine classes. They are XI MIPA 1, XI MIPA 2, XI MIPA 3, XI MIPA 4, XI MIPA 5, XI MIPA 6, XI IPS 1, XI IPS 2 and XI IPS 3. The researcher used a purposive sampling method in taking sample that was XI MIPA 6.

In conducting the research, the researcher only used the test as the main instrument that is vocabulary test and reading comprehension test. In this case, the researcher chose

multiple choice test items in gathering the score. It was divided into 25 items for vocabulary test that included synonym and antonym questions and 25 items for reading comprehension questions. Each correct answer was given 1 score. The scores of the students were obtained by using the formula proposed by Sutomo (1985:123)

$$\text{Individual Score} = \frac{\text{Jumlah Skor Perolehan}}{\text{Jumlah Skor Maximum}} \times 100$$

To know the students' mean score, the researcher used the following formula proposed by Best (1981:225) as follows:

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

where: M: mean score

$\sum x$: total score

n: number of subjects

Furthermore, to know the degree of correlation between students' achievement in vocabulary and reading comprehension, the researcher used the Pearson's Product Moment analysis by Best (1981:248-249) as follows:

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{(N \sum x^2 - (\sum x)^2)(N \sum y^2 - (\sum y)^2)}}$$

where:

r = product moment correlation

$\sum xy$ = sum of the product moment of the paired x and y score

$\sum x$ = sum of the x score

$\sum y$ = sum of the y score

$\sum x^2$ = sum of the square x score

$\sum y^2$ = sum of the square y score

To interpret the result of the correlation analysis, the researcher used standard of correlation product moments (r) proposed by Best (1981:225) as in the following:

Table 3.8
The Standard of Correlation Product Moment

Coefficient (r)	Relationship
0.0 to 0.20	Negligible
0.20 to 0.40	Low
0.40 to 0.60	Moderate
0.60 to 0.80	Substantial
0.80 to 1.00	High to very high

In addition, Cohen and Manion (1994) consider the following interpretations given the following size of coefficients about the strength of association between two variables:

- ❖ *20 –.35*: When correlations range from .20 to .35, there is only a little relationship. This size of a coefficient may be useful to show the interconnection of variables but of little value in correlation studies.
- ❖ *35 –.65*: When correlations are above .35, they are limited correlation. This typical values used to identify variable membership in the statistical procedure of factor analysis (the intercorrelation of variables with a scale), and many correlation coefficients for bivariate relationships fall into this area.
- ❖ *66 –.85*: When correlations fall into this range, good prediction can result from one variable to the other. Coefficients in this range would be considered very good.

86 and above: Correlations in this range totally have strong or high relation between two variables.

RESEARCH FINDINGS

In collecting the data, the researcher gave multiple choice tests to measure the students' ability in vocabulary mastery and reading comprehension. Both tests were given on March 3rd, 2018. The result of that test can be seen as follows:

Table 4.1
The Students' Score in Vocabulary Test

No	Initials	Correct Answer	Individual score
1	MAG	24	96
2	GC	21	84
3	DSF	20	80
4	NTU	22	88
5	YM	22	88
6	MR	22	88
7	NSA	23	92
8	NS	23	92
9	KST	24	96
10	MFM	25	100
11	DA	24	96
12	GPA	22	88
13	TI	24	96
14	MR	24	96
15	RM	24	96
16	IW	24	96
17	AM	22	88
18	AR	22	88
19	CA	24	96
20	ARD	23	92
21	NDA	20	80
22	NM	24	96
23	RAS	23	92
24	SA	23	92
25	AF	24	96
26	AH	23	92
27	NA	23	92
28	SF	21	84
Total			2560

From the data above, the researcher calculated the students' mean score in vocabulary test. The researcher applied the formula as stated previously, the mean score in vocabulary test is as follows:

$$M = \frac{2560}{28} = 91$$

Based on the students' vocabulary score in table 4.1, the researcher made classification of students' achievement in vocabulary test as below:

Table 4.2
Percentage of Students' Achievement in Vocabulary Test

No	Classification	Range Scores	Frequencies	Percentage
1	Excellent	96-100	11	39.28
2	Very Good	86-95	13	46.42
3	Good	76-85	4	14.28
4	Fairly good	66-75	0	0
5	Fair	56-65	0	0
6	Poor	46-55	0	0
7	Very Poor	36-45	0	0
Total			28	100

From the classification above, the students who got score above the mean score were 18 students and under the mean score are 10 students. It means the students' achievement in vocabulary test was classified as very good.

Table 4.3
The Students' Score in Reading Comprehension Test

No	Initials	Correct Answer	Individual score
1	MAG	25	100
2	GC	24	96
3	DSF	24	96
4	NTU	23	92
5	YM	25	100
6	MR	25	100
7	NSA	24	96
8	NS	24	96
9	KST	24	96
10	MFM	25	100
11	DA	24	96
12	GPA	25	100
13	TI	24	96
14	MR	24	96
15	RM	24	96
16	IW	24	96
17	AM	24	96
18	AR	25	100
19	CA	24	96
20	ARD	25	100
21	NDA	20	80
22	NM	25	100
23	RAS	25	100
24	SA	24	96
25	AF	24	96
26	AH	24	96
27	NA	24	96
28	SF	24	96
Total			2704

Based on the students' score in reading comprehension test, the researcher calculated the students' mean score as in the following

$$M = \frac{2704}{28} = 96$$

From the students' reading comprehension score as in Table 4.3, the researcher made classification of students' achievement in reading comprehension test as below.

Table 4.4
Percentage of Students' Achievement in Reading Comprehension Test

No	Classification	Range Scores	Frequencies	Percentage
1	Excellent	96-100	26	92.85
2	Very Good	86-95	1	3.57
3	Good	76-85	1	3.57
4	Fairly good	66-75	0	0
5	Fair	56-65	0	0
6	Poor	46-55	0	0
7	Very Poor	36-45	0	0
Total			28	100

Based on the result of students' score in reading comprehension test, the researcher made the classification of the students' achievement in reading test was Excellent where almost students who get score above the mean score are 26 students and the students who get score under the mean score are only 2 students.

It has been mentioned before, the data were gained from the students' scores of vocabulary and reading comprehension test. The researcher analyzed those scores by using Pearson product moment correlation formula to find out the correlation between students' achievement in vocabulary and reading comprehension. The result was as follow:

Table 4.5
The Score of Vocabulary Mastery and Reading Comprehension

No	Initials	X	Y	x ²	y ²	Xy
1	MAG	96	100	9216	10000	9600
2	GC	84	96	7056	9216	8064
3	DSF	80	96	6400	9216	7680
4	NTU	88	92	7744	8464	8096
5	YM	88	100	7744	10000	8800
6	MR	88	100	7744	10000	8800
7	NSA	92	96	8464	9216	8832
8	NS	92	96	8464	9216	8832
9	KST	96	96	9216	9216	9216
10	MFM	100	100	10000	10000	10000
11	DA	96	96	9216	9216	9216
12	GPA	88	100	7744	10000	8800
13	TI	96	96	9216	9216	9216
14	MR	96	96	9216	9216	9216
15	RM	96	96	9216	9216	9216
16	IW	96	96	9216	9216	9216
17	AM	88	96	7744	9216	8448
18	AR	88	100	7744	10000	8800
19	CA	96	96	9216	9216	9216
20	ARD	92	100	8464	10000	9200
21	NDA	80	80	6400	6400	6400
22	NM	96	100	9216	10000	9600
23	RAS	92	100	8464	10000	9200
24	SA	92	96	8464	9216	8832
25	AF	96	96	9216	9216	9216
26	AH	92	96	8464	9216	8832
27	NA	92	96	8464	9216	8832
28	SF	84	96	7056	9216	8064
Total		2560	2704	234784	261536	247440

$$N = 28$$

$$\sum X = 2560$$

$$\sum Y = 2704$$

$$\sum XY = 247440$$

Later, the researcher put the result of the test in the formula to measure the correlation between the two variables using the formula of Pearson product moment correlation. It can be seen as follows:

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{(N \sum x^2 - (\sum x)^2)(N \sum y^2 - (\sum y)^2)}}$$

$$r_{xy} = \frac{28 \times 247440 - (2560)(2704)}{\sqrt{(28 \times 234782 - (2560)^2)(28 \times 261536 - (2704)^2)}}$$

$$r_{xy} = \frac{6928320 - 6922240}{\sqrt{(6573952 - 6553600)(7323008 - 7311616)}}$$

$$r_{xy} = \frac{6080}{\sqrt{20352 \times 11392}}$$

$$r_{xy} = \frac{6080}{\sqrt{231849984}}$$

$$r_{xy} = \frac{6080}{152266}$$

$$r_{xy} = 0.399$$

From the calculation above, it was stated that the correlation between students' achievement in vocabulary and reading comprehension of the eleventh grade students of SMAN 5 Palu was 0.399. The criterion of interpretation coefficient r was low or according to Cohen and Manion (1994) states that when the correlation above 0.35 means there has limited correlation.

After the researcher found the correlation between the two variables was 0.399, she used the 5% (0.05) level in the critical value of Pearson Correlation Coefficient to know the value of the r_{table} to determine the degree of freedom (df), the researcher calculated it as follows:

$$df = N - 2$$

$$df = 28 - 2$$

$$= 26$$

The value of r_{table} at significance level of 0.05 and degree of freedom (df)= 26 was 0.388. In other words, the $r_{counted}$ was higher than r_{table} . It means that there was a correlation between students' achievement in vocabulary and reading comprehension.

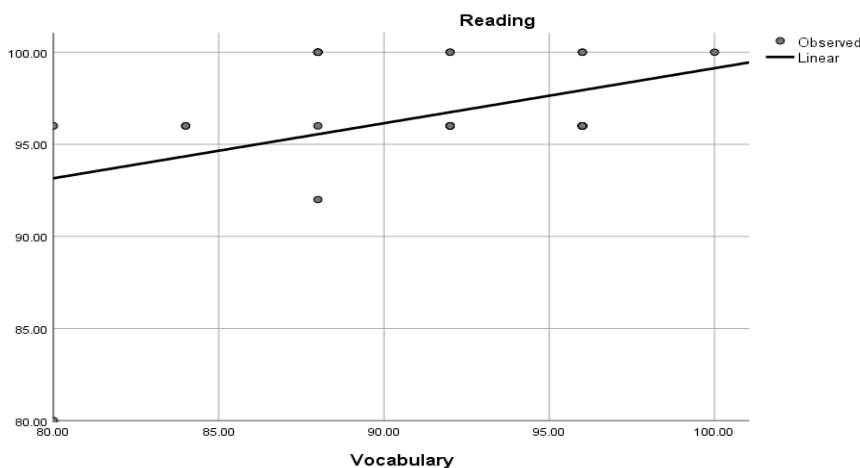
In addition, to make the result accurately, the researcher also used the program of IBM SPSS Statistic Version 21 to find out the correlation between students' vocabulary mastery and reading comprehension. The result can be seen below:

Table 4.6
The Correlation between Vocabulary Mastery and Reading Comprehension Using the Program of IBM SPSS version 21

		Vocabulary	Reading
Vocabulary	Pearson Correlation	1	.399*
	Sig. (2-tailed)		.035
	N	28	28
Reading	Pearson Correlation	.399*	1
	Sig. (2-tailed)	.035	
	N	28	28

Case Processing Summary	
	N
Total Cases	28
Excluded Cases ^a	0
Forecasted Cases	0
Newly Created Cases	0

The Scatter Diagram



From the result of SPSS Program, the researcher also found the correlation between the two variables was 0.399 that classified as low positive correlation. It was also drawn in the diagram above.

DISCUSSION

The researcher used test as the instrument in gathering data. The researcher collected the data by giving the students multiple choice tests of vocabulary and reading comprehension questions. The researcher intended to know the correlation between vocabulary mastery and reading comprehension from the result of the test.

Based on the calculation using the formula of Pearson Product Moment, the correlation between vocabulary mastery and reading comprehension r_{counted} was 0.399. While the value of r_{table} at significant level of 0.05 and degree of freedom (df)= 26 was 0.388. From that result, r_{counted} was higher than r_{table} which means there is a positive correlation between vocabulary mastery and reading comprehension. Vocabulary has positive contribution in reading comprehension. The large size of vocabulary determines the students' comprehension in predicting the meaning of words in reading. It is proved in this research where the students who had very well achievement in vocabulary test also had the better comprehension in reading test. To achieve a good comprehension in reading, the students need a lot of vocabulary to be mastered. Vocabulary is merely than a list of words. Some words may appear to be simple to refer to one to thing but some words may have more than one meaning, it may be changed depends on the words that they are attached. Therefore, in mastering vocabulary, the students are not enough only to know the meaning of the word, but they must understand the word when it is applied in a context; In what patterns the word occurred, what words or types of words be expected before and after the word.

In this research, not only vocabulary that has contribution in reading, but reading also has contribution in vocabulary growth. The more students read the more vocabulary they acquire. Reading does not simply involve finding information on the text itself. Rather, it is a process of working with the text. In other words, reading involves the process of perceiving how written symbols come true with one's spoken language and the process of making sense of words, sentences, and text. Therefore, through reading, students try to develop their understanding of the word occurred in the text.

Based on the result of the vocabulary test, the researcher found 46.42% of the students got score 86-95. From the result of vocabulary test, the students' mastery in vocabulary was classified very well. While, based on the reading test, the researcher found 92.85% of the students got score 96-100. From the result of reading test, the students' comprehension in reading was classified excellent.

There are some reasons why students' are better in reading comprehension than vocabulary test in this research. The first reason, from the researcher observation when she conducted her research, the students did the reading test by using scanning technique. They read the text rapidly for specific information to find the answer. They did not read the text at all but they were only looking for the information related to the question. The second reason, the students understood the questions very well therefore they are easier to find out the answer from the text, even though they did not know the meaning of each vocabulary occurred in the text. The third reason, all questions in reading test were literal questions. In literal questions, the information is explicitly stated in the text. They did not need to draw or interpret the answer based on their prior knowledge. Therefore, the students easily found the answer from the text. For the example, "Who is George Lucas?", the answer is filmmaker that is because in the text, George Lucas is stated explicitly as a filmmaker.

CONCLUSION

After analyzing the data that the researcher obtained from the test, the researcher came to the conclusion. The researcher found that the correlation between the vocabulary mastery and reading comprehension was 0.399. While The value of r_{table} at significance level of 0.05 and degree of freedom (df)= 26 was 0.388. In other words, the $r_{counted}$ was higher than r_{table} . It means that there is a correlation between students' achievement in vocabulary mastery and reading comprehension and the alternative hypothesis (H_a) is accepted. From that result, the researcher concluded that reading comprehension depends on vocabulary knowledge and vice versa. The more students read the more vocabulary they acquire. And the more vocabulary they know, the more fluent they become in reading.

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