CHAPTER IV
RESEARCH FINDING AND DISCUSSION

In this chapter, the writer presented the data which had been collected from the research in the field of study. The data were the result of vocabulary and speaking test, the result of data analysis, and interpretation.

A. Data Presentation

In this part, the writer presented the obtained data of the students' vocabulary and speaking test scores of the class that was being sample of this study.

1. Distribution of Vocabulary Test Scores

The vocabulary test had been conducted on Wednesday, September, 2nd 2015 at 08.15-09.45 in class XI-IB of MAN MODEL Palangka Raya with the number of students was 27 students. The vocabulary test consisted of 45 items in form of multiple choices questions with the time allocation 45 minutes for answering the test.

The students' vocabulary scores of the sample class of the study were presented in the following table.

Table 4.1 The description of vocabulary test scores of the data achieved by the students of the sample class.

No.	Students' Code	Score	Level
1	B1	69	Fair
2	B2	91	Excellent

3	B3	89	Very Good
4	B4	62	Fair
5	B5	62	Fair
6	B6	64	Fair
7	B7	64	Fair
8	B8	69	Fair
9	B9	91	Excellent
10	B10	80	Good
11	B11	89	Very Good
12	B12	82	Very Good
13	B13	89	Very Good
14	B14	82	Very Good
15	B15	93	Excellent
16	B16	73	Good
17	B17	91	Excellent
18	B18	80	Good
19	B19	71	Good
20	B20	80	Good
21	B21	87	Very Good
22	B22	80	Good
23	B23	87	Very Good
24	B24	82	Very Good
25	B25	87	Very Good
26	B26	71	Good

27	B27	87	Very Good
TOTAL			2152
Highest Score			93
Lowest Score			62
Mean			79.7
Standard Deviation			9.98

Table 4.2 The calculation of mean, median, mode, and standard deviation of the vocabulary test scores of the sample class using SPSS 16 program.

Statistics

Vocabulary

N	Valid	27
	Missing	0
Mean		79.70
Median		82.00
Mode		80[a]
Std. Deviation		9.988
Variance		99.755
Range		31
Minimum		62
Maximum		93
Sum		2152

2. Distribution of Speaking Test Scores

The speaking test had been conducted on Thursday, September, 3rd 2015 at 10.00-11.30 in class XI-IB of MAN MODEL Palangka Raya with the number of students was 27 students. The speaking ability test consisted of the instruction and

statement the subjects addressed in their speaking and the alternative topics to be chosen. In this sense, the students were assigned to choose one of the topics that was interested. The topics were entitled laptop as students' friend, the factors causing global warming, cars should be banned in the city, and is smoking good for us. They were asked to develop the topic in form of spoken (monologue) about 3-5 minutes.

The students' speaking scores of the sample class of the study were presented in the following table.

Table 4.3 The description of speaking test scores of the data achieved by the students of the sample class.

No.	Students' Code	Score	Level
1	B1	70	Fair
2	B2	90	Very Good
3	B3	84	Very Good
4	B4	60	Poor
5	B5	64	Fair
6	B6	60	Poor
7	B7	62	Fair
8	B8	64	Fair
9	B9	84	Very Good
10	B10	78	Good
11	B11	82	Very Good
12	B12	78	Good

13	B13	84	Very Good
14	B14	80	Good
15	B15	90	Very Good
16	B16	70	Fair
17	B17	90	Very Good
18	B18	86	Very Good
19	B19	74	Good
20	B20	78	Good
21	B21	82	Very Good
22	B22	76	Good
23	B23	84	Very Good
24	B24	78	Good
25	B25	84	Very Good
26	B26	72	Good
27	B27	90	Very Good
TOTAL			2094
Highest Score			90
Lowest Score			60
Mean			77.56
Standard Deviation			9.46

Table 4.4 The calculation of mean, median, mode, and standard deviation of the speaking test scores of the sample class using SPSS 16 program.

Statistics

speaking

N	Valid	27
	Missing	0
Mean		77.56
Median		78.00
Mode		84
Std. Deviation		9.468
Variance		89.641
Range		30
Minimum		60
Maximum		90
Sum		2094

B. Results of Data Analysis

1. Testing of Normality, Homogeneity, and Linearity

The writer calculated the result of vocabulary and speaking test of the sample class by using SPSS 16 program.

First step was testing the normality. It was used to know the normality of the data that was going to be analyzed whether both groups have normal distribution or not.

The next step was testing the homogeneity. It was used to know whether the sample class, that is decided, came from population that had relatively same variant or not.

And the last step was testing linearity to know whether the variables were correlated linearly or not.

a. Testing Normality

Table 4.5 Testing of Normality One-Sample Kolmogorov-Smirnov Test.

One-Sample Kolmogorov-Smirnov Test

		vocabulary	speaking
N		27	27
Normal Parameters[a]	Mean	79.70	77.56
	Std. Deviation	9.988	9.468
Most Extreme Differences	Absolute	.178	.148
	Positive	.105	.109
	Negative	-.178	-.148
Kolmogorov-Smirnov Z		.928	.771
Asymp. Sig. (2-tailed)		.356	.592

a. Test distribution is Normal.

Based on the calculation using SPSS 16 program, the asymptotic significant normality of the data of the students' vocabulary and speaking scores were 0.356 and 0.592. Then the normality both of the data were consulted with the table of Kolmogorov-Smirnov with the level of significance 5% (α=0.05). Since asymptotic significant of vocabulary = 0.356 and asymptotic significant of speaking = 0.592 $\geq \alpha$ = 0.05, it could be concluded that the data were in normal distribution.

b. Testing Homogeneity

Table 4.6 Testing Homogeneity Levene's Test of Equality of Error Variances[a].

Test of Homogeneity of Variances

speaking

Levene Statistic	df1	df2	Sig.
1.418	8	16	.262

Based on the result of homogeneity test, the F_{value} was 1.418 and the significant$_{value}$ was 0.262. The data were homogeneous if the significant$_{value}$ was higher than significant level $\alpha= 0.05$. Since the significant $_{value}$ (0.262) was higher than significant level $\alpha= 0.05$, it could be concluded that the data were homogeneous. It meant that both of classes were in same variants.

c. Testing Linearity

Table 4.7 Testing Linearity Regression.

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2101.160	1	2101.160	228.878	.000[a]
	Residual	229.507	25	9.180		
	Total	2330.667	26			

a. Predictors: (Constant), vocabulary

b. Dependent Variable: speaking

Based on the result of linearity test, the F_{value} was 228.878 and the significant$_{value}$ was 0.000. The variables were correlated linearly if the

significant$_{value}$ was lower than significant level α= 0.05. Since the significant $_{value}$ (0. 000) was lower than significant level α= 0.05, it could be concluded that the variables were correlated linearly.

2. Testing Hypothesis

The writer used Pearson Product Moment Correlation calculation with the significant level of the refusal of null hypothesis **α= 0.05**. The writer calculated by using manual calculation and also SPSS 16 Program to test the hypothesis using Pearson Product Moment Correlation. The criteria of Ha was accepted when t$_{obseved}$ > t$_{table}$, and Ho was rejected when t$_{observed}$ < t$_{table}$.

a. Testing hypothesis using Manual Calculation

To find out the correlation between vocabulary mastery and speaking ability of the sample class, the writer used the Pearson Product Moment Correlation formula as follows:

$$rXY = \frac{n(\sum XY) - (\sum X . \sum Y)}{\sqrt{[n \sum X^2 - (\sum X)^2][n \sum Y^2 - (\sum Y)^2]}}$$

$$r\,XY = \frac{27(169311) - (2153)(2094)}{\sqrt{[27(174277) - (2153)^2][27(164732) - (2094)^2]}}$$

$$rXY = \frac{4571397 - 4508382}{\sqrt{[(4705479 - 4635409)][(4447764 - 4384836)]}}$$

$$rXY = \frac{63015}{\sqrt{(70070)(62928)}}$$

$$rXY = \frac{63015}{\sqrt{4409364960}}$$

$$rXY = \frac{63015}{66403}$$

$$rXY = 0.948$$

Based on the calculation above, it was found that the r_{value} was 0.948, then the r_{value} was consulted with the table of the interpretation coefficient correlation r as follows:

Table 4.8 The interpretation coefficient correlation r.

Interval Coefficient	Level of Correlation
0,80 – 1, 000	Very High
0,60 – 0,799	High
0,40 – 0,599	Fair
0,20 – 0,399	Poor
0,00 – 0,199	Very Poor

From the table of the interpretation coefficient correlation above, it can be seen that the r_{value} (0.948) was at the level "very high" of correlation. So it meant that the correlation between vocabulary mastery and speaking ability of the sample class was in very high correlation.

Table 4.9 The result of manual calculation.

Variable	r_{value}	r_{table}		Df/db
		5%	1%	
X – Y	0.948	0.396	0.505	25

The next step was calculating the contribution. To know the contribution between both of variables (X and Y), coefficient determination formula was used as calculated below:

$$KP = r^2 \times 100$$

$$KP = 0.948^2 \times 100\% = 89.87\ \%$$

Where:

KP = determinant coefficient value

r = correlation coefficient value

The calculation above showed that the vocabulary mastery (variable X) gave about 89.87 % contribution to the speaking (variable Y) of the sample class and 10.13% was influenced by other aspects.

Based on the result of hypothesis test calculation, it was found that the value of r_{value} was higher than the value of r_{table} at the level of significance in 5% or 1% that was 0.396 <0.948> 0.505.

It meant that Ha was accepted and Ho was rejected and the vocabulary gave significant contribution to the speaking ability of sample class. So, there was a significant positive correlation between vocabulary mastery and speaking ability of the eleventh grade students at MAN Model Palangka Raya. On the other hand, the students with large vocabulary performed comparably with the students with much smaller vocabulary in speaking activities.

b. Testing Hypothesis using SPSS Program

The writer applied SPSS 16 program to calculate the Pearson Product Moment Correlation in testing hypothesis of the study which the result also supported the result of manual calculation. The result of the test using SPSS 16 program can be seen as follows:

Table 4.10 The Calculation of Pearson Product Moment Correlation Using SPSS 16 Program.

Correlations

		vocabulary	speaking
vocabulary	Pearson Correlation	1	.949**
	Sig. (2-tailed)		.000
	N	27	27
speaking	Pearson Correlation	.949**	1
	Sig. (2-tailed)	.000	
	N	27	27

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

The table showed the result of calculation using SPSS 16 Program. From the table above, it meant that Ha was accepted. It was found that the result of r_{value} = 0.949 was higher than r_{table} = 0.396 at df 25 at the significant level of 5% and 0.505 at df 25 at the significant level of 1% as explained in the table below:

Table 4.11 The result of Pearson Product Moment Correlation Test observed.

Variable	r_{value}	r_{table}		Df/db
		5%	**1%**	
X – Y	0.949	0.396	0.505	25

It meant that vocabulary gave significant contribution to the speaking ability of sample class. So, there was a significant positive correlation between vocabulary mastery and speaking ability of the eleventh grade students at MAN Model Palangka Raya. On the other hand, the students with large vocabulary performed comparably with the students with much smaller vocabulary in speaking activities.

3. Interpretation

The hypothesis testing was measured by using Pearson Product Moment Correlation to measure the significant correlation between vocabulary mastery and speaking ability. Based on the result of manual calculation, it can be concluded that the r_{value} was higher than the r_{table} at 5% and 1% significant level or $0.396 < 0.948 > 0.505$. It meant Ha was accepted and Ho was rejected.

Furthermore, the result of calculation using SPSS 16 Program found that there was a high positive correlation between students' vocabulary mastery and speaking ability. It proved by the value of r_{value} was higher than the r_{table} at 5% and 1% significant level or $0.396 < 0.949 > 0.505$.

It can be interpreted based on the result of calculation that alternative hypothesis stating that there is a significant positive correlation between vocabulary mastery and speaking ability of the eleventh grade students at MAN Model Palangka Raya was accepted and the null hypothesis stating that there is no a significant positive correlation between vocabulary mastery and speaking ability of the eleventh grade students at MAN Model Palangka Raya was rejected. It

meant that students' whose much vocabulary performed speaking better than the student whose lack of vocabulary.

C. Discussion

The result of analysis showed that there was significant positive correlation between vocabulary mastery and speaking ability of the eleventh grade students at MAN Model Palangka Raya. It meant that the students whose much vocabulary, they got high score of speaking test and the students whose lack of vocabulary, they got low score of speaking test. Moreover, after the data was calculated using the Pearson Product Moment Correlation, it was found that the r_{value} was 0.948 and the r_{table} was 0.396. it meant that $r_{value} > r_{table}$.

To support the result of testing hypothesis, the writer also calculated the hypothesis using SPSS 16 Program. The result of the analysis showed that the students whose much vocabulary performed speaking better than the student whose lack of vocabulary. It was proved by the value of $r_{value} = 0.949$ was higher than $r_{table} = 0.396$ at df 25 at the significant level of 5% and 0.505 at df 25 at the significant level of 1%.

The findings of the study indicated that alternative hypothesis stating that there is a significant positive correlation between vocabulary mastery and speaking ability of the eleventh grade students at MAN Model Palangka Raya was accepted and the null hypothesis stating that there is no a significant positive correlation between vocabulary mastery and speaking ability of the eleventh grade students at MAN Model Palangka Raya was rejected. It meant that the students with large vocabulary performed comparably with the students with much smaller

vocabulary in speaking activities. The r$_{value}$ was 0.949, it was interpreted as strong correlation, so there was a high positive correlation between the students' vocabulary mastery and speaking ability. On the other hand, when the vocabulary increased, the speaking ability increased at the same time.

These findings were suitable with the theories as stated in chapter II. First, according to James Milton, the volume of vocabulary a learner knows is diving the acquisition of other aspects of language and overall proficiency, then a much closer association might be expected. Learners with small or poorly developed vocabularies could not be as proficient nor as fluent in performing through the foreign language.[74] It could be assumed that the students' vocabulary stock gave much contribution in their acquisition of other aspects of learning the language skills, as the result of calculating the scores of vocabulary and speaking test, it showed the mean vocabulary scores was 79.7 and the mean of speaking scores was 77.56. Vocabulary played an important role in improving the four skills in English especially for communication purposes. The students with large vocabulary performed comparably with the students with much smaller vocabulary in speaking activities. They could arranged the words into sentences to made them meaningful and understandable.

Second, McCarthy stated that coversation also contains a large amount of vocabulary whose function is mainly relational and interactional.[75] It meant that to make a communication, vocabulary is needed than grammar for this purposes. Having a good conversation could make the satisfying interaction between the

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[74] James Milton, *Measuring the Contribution of Vocabulary Knowledge To Proficiency In The Four Skills*.

[75] Michael McCarthy, *Spoken Language and Applied Linguistics*, p. 109.

speaker and the listener. Conversation that contained a large amount of vocabulary transfered more clearly about the point of the communication.

Related to this, Norbert stated that vocabulary of 2000 words would be ralistic goal as found people regularly use about this many different words in their daily conversation. Of course, this will not enable a conversation on every topic, and certainly not an in-depth coversation on most topics. But it should still allow satisfying interaction with native speakers on topic focusing on everyday events and activities.[76] It meant that 2000 words represented as the size of minimum vocabulary for having the daily conversation even did not cover all the topics an not in depth conversation.

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[76] Norbert Schmitt, *Vocabulary in Language Teaching*, New York: Cambridge University Press, 2000, p. 142.