

CHAPTER III

PRESENTATION AND ANALYSIS OF THE DATA

This chapter is divided into three subchapters, namely: presentation of the data, analysis of the data, and interpretation of the result. In this study, the writer takes the Diploma III students of English Department of Airlangga University, first semester, in academic year 2003/2004 as her respondents. Then, the writer collects the data from test I and test II. Both are in reading test. The data are score resume of these two tests. In addition, the data are presented in tables and in the form of numbers.

III. 1 Presentation of the Data

The following table is the score of test I. The test I aims to measure the respondents' competence in mastering cohesive devices. Test I shows how far the respondent's understanding to the relations between and within sentence(s) which are formed by cohesive devices in a text, so the textual unity can be seen. There are 60 respondents.

Table 3.1
Test I
(Mastering Cohesive Devices)

No.	Names of Respondents	Score
1.	Ridwan	84
2.	Aulia	92

3.	Gita	76
4.	Adi	84
5.	Wahyudi	76
6.	Vicky	84
7.	Dimas	96
8.	Hikmahwan	80
9.	Dyah	88
10.	Wurry	68
11.	Naomi	80
12.	Rama	64
13.	Rakhmad	84
14.	Nyoman	68
15.	Elies	76
16.	Dian	76
17.	Reni	84
18.	Lulu	56
19.	Neneng	76
20.	Wahyu	76
21.	Yanson	84
22.	Damayanti	88
23.	Galih	84
24.	Tristania	84
25.	Kurnia	80
26.	Chusnul	92
27.	Syahrizad	92
28.	Nailufar	84
29.	Rizky	92
30.	Ani	64
31.	Pepy	88
32.	Fitria	76

33.	Winanda	84
34.	Mariah	84
35.	Putri	72
36.	Akbar	76
37.	Venandra	76
38.	Affan	68
39.	Lukman	88
40.	Sofie	80
41.	Sabella	88
42.	Hana	96
43.	Herdy	88
44.	Ningsih	80
45.	Aditya	92
46.	Adhi	84
47.	Lutfi	72
48.	Niken	92
49.	Rohmi	92
50.	Sukma	68
51.	Sapto	68
52.	Dikman	88
53.	Citra	74
54.	Anggia	76
55.	Kika	84
56.	Shofi	60
57.	Daniati	84
58.	Ade	80
59.	Fajar	80
60.	Rizka	88
TOTAL		4838

In Table 3.1, we see that most respondents have the score above 60. There is only a respondent who has the score less 60. Besides, there are forty-eight or 80% have the score above 75. Nine of these forty-eight respondents have the score above 90. Then, there are twelve respondents or 20% who have the score less 75. We also see that the highest score is 96. There are two respondents or 3.33% who get the highest score. It shows that they just make one mistake in doing the test I. Whereas the lowest score in the test I is 56. There is only one respondent or 1.67% who gets the lowest score. Here, the respondent has made eleven mistakes on this test I. By seeing the table above, it shows that the respondents' competence in mastering cohesive devices is quite good for the lower reading class. The mean value is 80.63.

Table 3.2 presents the score of test II. The second test aims to measure the respondents' competence in reading comprehension. It has been conducted to know how far the respondents' competence in comprehending a reading text. This test is performed a week after test I. Similarly, there are also 60 respondents. The score of test II is as follows:

Table 3.2
Test II
(Reading Comprehension)

No.	Names of Respondents	Score
1.	Ridwan	92
2.	Aulia	96
3.	Gita	92
4.	Adi	96

5.	Wahyudi	92
6.	Vicky	96
7.	Dimas	88
8.	Hikmahwan	84
9.	Dyah	96
10.	Wurry	84
11.	Naomi	96
12.	Rama	80
13.	Rakhmad	92
14.	Nyoman	76
15.	Elies	92
16.	Dian	88
17.	Reni	88
18.	Lulu	76
19.	Neneng	92
20.	Wahyu	88
21.	Yanson	92
22.	Damayanti	100
23.	Galih	92
24.	Tristania	96
25.	Kurnia	92
26.	Chusnul	96
27.	Syahrizad	96
28.	Nailufar	92
29.	Rizky	96
30.	Ani	96
31.	Pepy	96
32.	Fitria	100
33.	Winanda	88
34.	Mariah	100

35.	Putri	76
36.	Akbar	88
37.	Venandra	88
38.	Affan	88
39.	Lukman	92
40.	Sofie	96
41.	Sabella	92
42.	Hana	96
43.	Herdy	92
44.	Ningsih	100
45.	Aditya	96
46.	Adhi	92
47.	Lutfi	92
48.	Niken	92
49.	Rohmi	96
50.	Sukma	84
51.	Sapto	80
52.	Dikman	92
53.	Citra	92
54.	Anggia	92
55.	Kika	96
56.	Shofi	84
57.	Daniati	92
58.	Ade	96
59.	Fajar	96
60.	Rizka	96
TOTAL		5492

In Table 3.2, we see that all of respondents have the score above 75. None has the score less than 75. There are forty-three respondents or 71.67% have the

score above 90. In addition, we see that the highest score is 100. There are four respondents or 6.67% who get the highest score. It means that there are not any mistakes on their test II. Then, the lowest score is 76. There are three respondents or 5% who get this lowest score. From this score, the respondents have made six mistakes in doing the test II. It indicates that the respondents' competence in reading comprehension is also good. The mean value is 91.53.

Score of test I and II are entirely presented in the following table:

Table 3.3
Scores of Test I and Test II

No.	Names of Respondents	Score	
		Test I	Test II
1.	Ridwan	84	92
2.	Aulia	92	96
3.	Gita	76	92
4.	Adi	84	96
5.	Wahyudi	76	92
6.	Vicky	84	96
7.	Dimas	96	88
8.	Hikmahwan	80	84
9.	Dyah	88	96
10.	Wurry	68	84
11.	Naomi	80	96
12.	Rama	64	80
13.	Rakhmad	84	92
14.	Nyoman	68	76
15.	Elies	76	92

16.	Dian	76	88
17.	Reni	84	88
18.	Lulu	56	76
19.	Neneng	76	92
20.	Wahyu	76	88
21.	Yanson	84	92
22.	Damayanti	88	100
23.	Galih	84	92
24.	Tristania	84	96
25.	Kurnia	80	92
26.	Chusnul	92	96
27.	Syahrizad	92	96
28.	Nailufar	84	92
29.	Rizky	92	96
30.	Ani	64	96
31.	Pepy	88	96
32.	Fitria	76	100
33.	Winanda	84	88
34.	Mariah	84	100
35.	Putri	72	76
36.	Akbar	76	88
37.	Venandra	76	88
38.	Affan	68	88
39.	Lukman	88	92
40.	Sofie	80	96
41.	Sabella	88	92
42.	Hana	96	96
43.	Herdy	88	92
44.	Ningsih	80	100
45.	Aditya	92	96

46.	Adhi	84	92
47.	Lutfi	72	92
48.	Niken	92	92
49.	Rohmi	92	96
50.	Sukma	68	84
51.	Sapto	68	80
52.	Dikman	88	92
53.	Citra	74	92
54.	Anggia	76	92
55.	Kika	84	96
56.	Shofi	60	84
57.	Daniati	84	92
58.	Ade	80	96
59.	Fajar	80	96
60.	Rizka	88	96

Table 3.3 above shows that the scores of test II are higher than the scores of test I. However, there is a respondent whose the score of test I is higher than test II. That is respondent no. 7. The score is 96 for the test I and 88 for the test II. From the score, there is only one wrong answer in test I and are three wrong answers in test II. It shows that the respondent's competence in mastering cohesive devices is better than his competence in reading comprehension. This phenomenon also shows that the respondent's knowledge in understanding cohesive devices is quite good. In addition, we also see that there are two respondents who have the same score in tests I and II. They are respondents no. 42 and 48 in which get 96 and 92 for both tests, respectively. The writer assumes that

their competence in mastering cohesive devices and in reading comprehension may be the same.

III. 2 Analysis of the Data

Before starting to analyze the data, it is necessary for the writer to restate the hypothesis as follow:

Ho : There is no correlation between mastering cohesive devices in a text and reading comprehension.

Hi : There is a correlation between mastering cohesive devices in a text and reading comprehension.

To prove both hypotheses above, the writer uses the Product–Moment Correlation Coefficient devised by Pearson. Correlation is a positive or negative relation between two variables (Hickey, 1986: 293), so there are at least two variables in this measurement. Moreover, it is the most widely employed in measurement of correlation analysis and it tells the direction and strength of relationship between variables – both how the variables are related and how much they are related (Punch, 1998: 121 – 122). In this study, there are two variables which will be computed, namely independent and dependent variables. Independent or predictor variable is the variable from which the prediction is made (symbolized as X), while the dependent or criterion variable is the variable that is predicted (symbolized as Y). Thus, in analyzing the data, the writer takes the competence in mastering cohesive devices as the independent variable (X) and

the competence in reading comprehension as the dependent variable (Y). The scores of variables X and Y are presented in the following table.

Table 3.4
Hypothetical Score of Two Variables

Respondent	X	Y	XY	X²	Y²
1.	84	92	7728	7056	8464
2.	92	96	8832	8464	9216
3.	76	92	6992	5776	8464
4.	84	96	8064	7056	9216
5.	76	92	6992	5776	8464
6.	84	96	8064	7056	9216
7.	96	88	8448	9216	7744
8.	80	84	6720	6400	7056
9.	88	96	8448	7744	9216
10.	68	84	5712	4624	7056
11.	80	96	7680	6400	9216
12.	64	80	5120	4096	6400
13.	84	92	7728	7056	8464
14.	68	76	5168	4624	5776
15.	76	92	6992	5776	8464
16.	76	88	6688	5776	7744
17.	84	88	7392	7056	7744
18.	56	76	4256	3136	5776
19.	76	92	6992	5776	8464
20.	76	88	6688	5776	7744
21.	84	92	7728	7056	8464
22.	88	100	8800	7744	10000
23.	84	92	7728	7056	8464

24.	84	96	8064	7056	9216
25.	80	92	7360	6400	8464
26.	92	96	8832	8464	9216
27.	92	96	8832	8464	9216
28.	84	92	7728	7056	8464
29.	92	96	8832	8464	9216
30.	64	96	6144	4096	9216
31.	88	96	8448	7744	9216
32.	76	100	7600	5776	10000
33.	84	88	7392	7056	7744
34.	84	100	8400	7056	10000
35.	72	76	5472	5184	5776
36.	76	88	6688	5776	7744
37.	76	88	6688	5776	7744
38.	68	88	5984	4624	7744
39.	88	92	8096	7744	8464
40.	80	96	7680	6400	9216
41.	88	92	8096	7744	8464
42.	96	96	9216	9216	9216
43.	88	92	8096	7744	8464
44.	80	100	8000	6400	10000
45.	92	96	8832	8464	9216
46.	84	92	7728	7056	8464
47.	72	92	6624	5184	8464
48.	92	92	8464	8464	8464
49.	92	96	8832	8464	9216
50.	68	84	5712	4624	7056
51.	68	80	5440	4624	6400
52.	88	92	8096	7744	8464
53.	74	92	6808	5476	8464

54.	76	92	6992	5776	8464
55.	84	96	8064	7056	9216
56.	60	84	5040	3600	7056
57.	84	92	7728	7056	8464
58.	80	96	7680	6400	9216
59.	80	96	7680	6400	9216
60.	88	96	8448	7744	9216
TOTAL	4838	5492	444776	394868	504688

Actually, there are some formulas that can be used in the Pearson Product–Moment Correlation Coefficient. However, the writer in her calculation applies *raw score correlation formula* which uses original measurement. It is because the raw score correlation formula is the easiest formula (Sudjana, 1996: 47), so it can be computed on an automatic calculator. By applying this formula, the correlation coefficient or the r value will be computed which is based on the data of Table 3.4. The raw score correlation formula used in the calculation of the Pearson Product–Moment Correlation Coefficient is:

$$r = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\left[\sum X^2 - \frac{(\sum X)^2}{n} \right] \left[\sum Y^2 - \frac{(\sum Y)^2}{n} \right]}}$$

Where:

r : The correlation coefficient between X and Y

$\sum XY$: The sum of the cross product of X and Y

$\sum X$: The sum of X scores

$\sum X^2$: The sum of squares of X

$\sum Y$: The sum of Y scores

$\sum Y^2$: The sum of squares of Y

n : The sample size (number of respondents)

The result is as follows:

$$r = \frac{444776 - \frac{(4838)(5492)}{60}}{\sqrt{\left[394868 - \frac{(4838)^2}{60}\right]\left[504688 - \frac{(5492)^2}{60}\right]}}$$

$$r = \frac{444776 - \frac{(26570296)}{60}}{\sqrt{\left[394868 - \frac{(23406244)}{60}\right]\left[504688 - \frac{(30162064)}{60}\right]}}$$

$$r = \frac{444776 - 442838.266}{\sqrt{[394868 - 390104.066][504686 - 502701.066]}}$$

$$r = \frac{1937.734}{\sqrt{(4763.934)(1984.934)}}$$

$$r = \frac{1937.734}{\sqrt{9456094.57}}$$

$$r = \frac{1937.734}{3075.076}$$

$$r = 0.630$$

From the computation above, the r value is 0.630. The strength of the correlation coefficient is usually interpreted according to the nearest of r to the

perfect correlation of + 1.00 and – 1.00. It means that a perfect positive relation reflected by the r of + 1.00, a perfect negative relation reflected by the r of – 1.00, and a lack of any relation reflected by the r of zero (0). According to Hadi (cited in Arikunto, 1989: 209), there is another way that is simpler and easier to interpret the r value. That is by using the table of interpretation of r value. The table is as follows:

Table 3.5
Interpretation of the r value

The r value	Interpretation
Between 0.800 to 1.00	High
Between 0.600 to 0.800	Sufficient
Between 0.400 to 0.600	Rather Low
Between 0.200 to 0.400	Low
Between 0.000 to 0.200	Very Low (No Correlation)

According to table of interpretation of r value (see Table 3.5 above), the r value of this study is in the second group (that is between 0.600 to 0.800). It means the correlation is sufficient. In another word, the r value indicates that the respondents' competence in mastering cohesive devices has a sufficient correlation to their reading comprehension. Besides, the r value also interprets that the strength of correlation is positive relation.

Furthermore, to prove that the computed r value is strong, the writer compares it with the table of r Product-Moment (see Appendix). Here, the writer takes the level of significance 5% and 1% because she assumes that this study is not 100% correct. It can be seen that:

$$\Rightarrow n = 60 \text{ and level of significance } 5\% \rightarrow r = 0.254$$

$$\Rightarrow n = 60 \text{ and level of significance } 1\% \rightarrow r = 0.330$$

It shows that the r value for 60 students with level of significance 5% and 1% are equal to 0.254 and 0.330, respectively. In this study, the correlation coefficient (the r value) computed above equals to 0.630 which means that it is higher than r value as seen in the table of r Product–Moment. Seemingly, it indicates that the correlation between mastering cohesive devices and reading comprehension is sufficient to strong. Lastly, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted.

Moreover, it is necessary to compute the coefficient of determination or r^2 . This quantity indicates how much of the variance in Y is explained by X . In the correlation between mastering cohesive devices in a text and reading comprehension, the r^2 is:

$$r^2 = (0.630)^2$$

$$r^2 = 0.3969$$

The value of r^2 suggests that 39.69% of the variance in reading comprehension (Y) is explained by competence in mastering cohesive devices (X). In addition, the r^2 also represents the ratio of unexplained variance of Y to the total variance of Y . This interpretation then allows a statement concerning unexplained variance, which is one way to look at error of prediction. In this study, 60.31% of the variation in reading comprehension (Y) is unexplained by the mastering cohesive devices (X).

Later, If the correlation coefficient is moderate to strong (positive or negative), it is necessary to understand the general relation between two variables. For that reason, the writer also makes reasonable prediction for independent variable. The statistical technique used to make such prediction is linear regression. Regression tells us how important independent variable is in predicting the dependent variable (Sudjana, 1996: 5). The equation regression is as follows:

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

Where

\tilde{Y} (Y tilde) : The predicted criterion score for a respondent who obtains score X on the predictor or independent variable.

a : The intercept of the regression line.

b : The regression coefficient.

X : The predictor or independent variable.

Here, the value of \tilde{Y} can be predicted from the value of X . Then, the value of a and b , the basic components of the regression equation, are determined from a set of sample data where scores for both X and Y are available. Both a and b are understood by referring to the regression line formed if the regression equation is plotted on graph.

However, we need to compute some various formulas that use to find the value of a and b , namely: $\sum x^2$, $\sum xy$, \bar{X} , and \bar{Y} which are:

- The first formula:

$$\sum x^2 : \sum X^2 - \frac{(\sum X)^2}{n}$$

The result is:

$$\sum x^2 = 394868 - \frac{(4838)^2}{60}$$

$$\sum x^2 = 394868 - \frac{23406244}{60}$$

$$\sum x^2 = 394868 - 390104.066$$

$$\sum x^2 = 4763.934$$

- The second formula:

$$\sum xy : \sum XY - \frac{(\sum X)(\sum Y)}{n}$$

The result is:

$$\sum xy = 444776 - \frac{(4838)(5492)}{60}$$

$$\sum xy = 444776 - \frac{26570296}{60}$$

$$\sum xy = 444776 - 442838.266$$

$$\sum xy = 1937.734$$

- The third formula:

\bar{X} : The mean value of X or $\frac{\sum X}{n}$

The result is:

$$\bar{X} = \frac{4838}{60}$$

$$\bar{X} = 80.633$$

- The fourth formula:

\bar{Y} : The mean value of Y or $\frac{\sum Y}{n}$

The result is:

$$\bar{Y} = \frac{5492}{60}$$

$$\bar{Y} = 91.533$$

Those formulas above are used to solve a and b (the basic components of regression equation), but the b must be computed firstly by using the following formula:

$$b = \frac{\sum xy}{\sum x^2}$$

The result is:

$$b = \frac{1937.734}{4763.934} = 0.40675 \approx 0.4068$$

If the b has been known, then the a can be found:

$$a = \bar{Y} - b\bar{X}$$

The result is:

$$a = 91.533 - (0.4068) 80.633$$

$$a = 91.533 - 32.802 = 58.731$$

Form the computation above, the regression equation can be set up as follows:

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

$$\tilde{Y} = 58.731 + 0.4068X$$

By using this formula, the writer can predict the respondents' competence in reading comprehension. That is by inserting the respondents' score in mastering cohesive devices (variable X) into the formula \tilde{Y} above. For example, respondent A gets the score 92 for his competence in mastering cohesive devices, so it can be predicted that the respondent A will get 96 for his reading comprehension. To make it clearly, the computation is as follows:

$$\tilde{Y} = 58.731 + 0.4068(92)$$

$$\tilde{Y} = 58.731 + 37.426$$

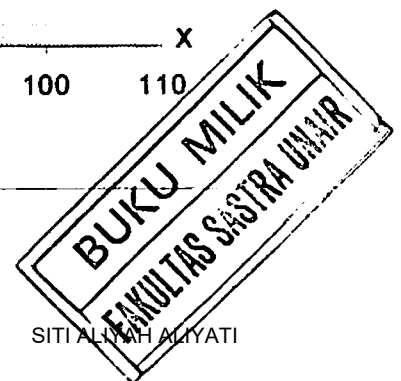
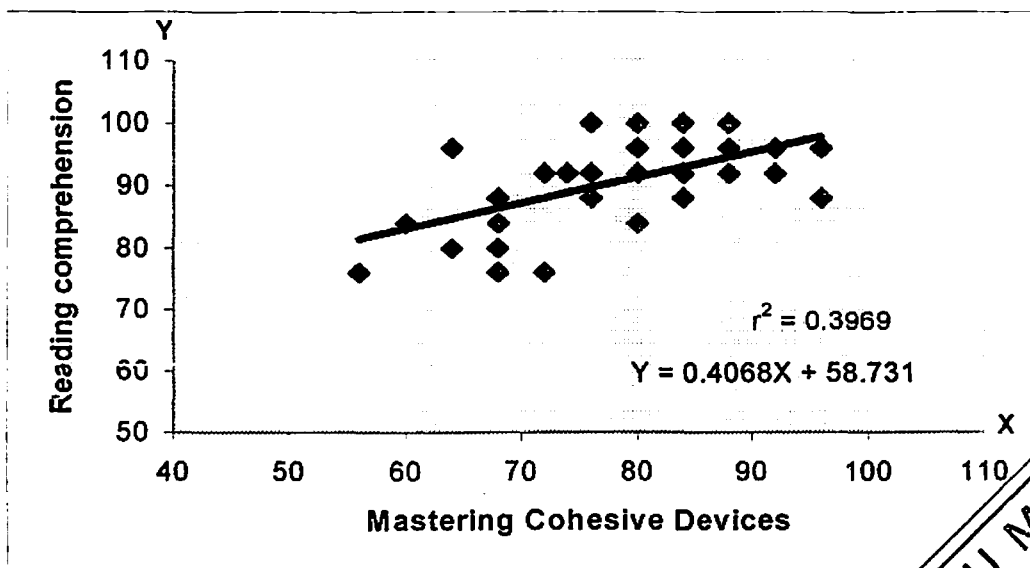
$$\tilde{Y} = 96.157 \approx 96$$

In this case, it needs to be noted that the value of \tilde{Y} from the regression equation above is interpreted as the average value of the group not of individual. Thus, it can be concluded that if the group has the score 92 in mastering cohesive devices, so it is expected that the score of reading comprehension for the group is approximately 96. In addition, it also explains that the range will be no more than

96 from the actual Y score on which the respondent will get. On the other word, the increase of X is followed by the increase of Y. Its increase is about 0.4068.

Figure 1 represents the plot of regression of the correlation between mastering cohesive devices and reading comprehension. Here, the mastering cohesive devices is symbolized as X, while the reading comprehension is symbolized as Y. From the Figure 1, it can be seen that by the r value equals 0.630, the writer can draw a straight line. Besides, if all the data and the predicted values of $\tilde{Y} = 58.731 + 0.4068X$ are pointed at Figure 1, the writer will get the oval shape scatter graph. The regression line and the oval shape scatter graph extend from upper right to lower left. It means that a positive r is presented. Then, it shows that the correlation between two variables is sufficient to strong. The regression line for $\tilde{Y} = 58.731 + 0.4068X$ is shown in the following figure.

Figure 1
Linear Regression Graph
(Correlation between Mastering Cohesive Devices in A Text and Reading Comprehension)



From the statistical computation and the figure above, the writer finally concludes that the correlation between mastering cohesive devices and reading comprehension is sufficient. On the other words, it means that there is a correlation between the variables X and Y (the mastering cohesive devices and the reading comprehension, respectively), its correlation is rather strong.

III. 3 Interpretation of the Result

Reading for second language is not an easy task. There are some difficulties concerning with the comprehension. One of them is how to understand the message or information sent by the text. Here, the reader must comprehend and interpret the meaning of the words written in second language to get the complete information. It may be by understanding the relationships between and within sentence(s) in the text. Cohesive devices form these relationships.

Previously, it is explained that cohesive devices or formal links are used to see a particular stretch of language that **hangs together**, or **has unity** in a discourse. They describe how part of sentence(s) in a text should be relevant to each other. Cohesive devices can show facts inside language written in the text, namely relationships between and within sentence(s) in a text. It is a way to understand the relationships that are formed in a text. Indeed, it makes us, as readers, easier to determine the inferences of the intended meaning over the text. Related to the explanation above, it is assumed that the reader's mastering on cohesive devices will influence his/her reading comprehension.

Moreover, the writer tries to find out how is the correlation between mastering cohesive devices and reading comprehension. In this study, most respondents get the score above 75 for their mastering cohesive devices although there are several respondents who get the score between 75 – 60 and only one respondent whose score is less than 60. It indicates that their mastering cohesive devices is quite good with the mean value is equal to 80.63 (see Table 3.1). In reading comprehension, however, all of respondents get the score above 75. The mean value of reading comprehension score is 91.53 (see Table 3.2). It indicates that their skill in reading comprehension is also good. From the explanation above, we may know that the respondents' competence in mastering cohesive devices and in reading comprehension are quite good even they are still in the lower reading class, that is the class of reading comprehension I. It is proved by two respondents who get the same score for the mastering cohesive devices and the reading comprehension.

In addition, the data also shows that there is one respondent whose score of test I is higher than the test II. It is probably that our competence in mastering cohesive devices may be better than in reading comprehension. It also explains that even our mastering on cohesive devices is good but we lack attention in comprehending the text, it will influence our reading comprehension.

Furthermore, the data analysis shows that there is a correlation between the mastering cohesive devices and reading comprehension, that is a sufficient correlation. The value of correlation coefficient is equal to 0.630 and its linear regression is $\tilde{Y} = 58.731 + 0.4068X$. It means that the correlation between

mastering cohesive devices and reading comprehension is positive and rather strong. However, it is not a perfect correlation since a sufficient correlation describes that the independent variable (the mastering of cohesive devices in a text) moderately influences the dependent variable (reading comprehension).

The result is also supported by its coefficient of determination (39.69%). It means that 39.69% of Y (reading comprehension) is influenced by X (mastering cohesive devices) and the remaining 60.31% is determined by other factors. Here, we see that mastering is not the dominant factor. As stated by Steffensen (cited in Mc Carthy, 1991: 168) that both macro- and micro-level in introducing the discourse dimension, in the case of cohesion, and focusing on cohesive devices for reading purposes may not guarantee any better route for the coherent interpretation of the text.

Lastly, this correlation explains that our mastering cohesive devices may influence our reading comprehension. Here, our mastering on cohesive devices will help us to know the relationships between and within sentence(s) in a text, so we can get good interpretation. It is important in reading activity. In addition, by having good interpretation, we may get the message or information written in the text. We see that our knowledge in discourse constraints, particularly the mastering cohesive devices, is one of the factors—not the dominant one—that may influence our reading comprehension.

CHAPTER IV

CONCLUSION