

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

This chapter presents the research methodology which has been briefly introduced in chapter I. In detail, this chapter covers research questions, research design, research variables, population and sample, research instruments, research procedures, and data analysis.

#### **3.1 Research Questions**

There were three problems investigated in this study. The problems were formulated in the following questions.

4. Is peer feedback effective for improving student's writing skills?
5. Is peer feedback better than conventional method in improving student's writing skill?
6. What are student's perceptions toward peer feedback?

#### **3.2 Research Design**

This research was conducted based on quasi experimental design (non equivalent pre-test post test control group design). This design was chosen because there was not feasible to use random selection and random assignment since the population did not consist of individuals but group of individual or cluster. Schematically the research design is as follow:

$$\begin{array}{c} G_1 T_1 X T_2 \\ G_2 T_1 T_2 \end{array}$$

(Gibson, 1996)

In this research there was one class taken as the investigated class that divided into two groups. One group served as the experimental group ( $G_1$ ) that treated using peer feedback (X), while, another group served as the control group ( $G_2$ ) that was treated using conventional method. Both groups received pre-test ( $T_1$ ) and post-test ( $T_2$ ).

### **3.3 Research variables**

There were two types of variables in this research, independent variable and dependent variable. In this research the independent variable was peer feedback, while the dependent variable was student's writing skill.

### **3.4 Population and sample**

#### **3.4.1 Population**

The population of this research was the entire first grade students of MTsN Ciwaringin Cirebon enrolled in academic year 2006/2007, which spread into twelve classes from VII A to VII L.

MTs N Ciwaringin Cirebon was chosen as the place of conducting the research because based on the observation during teaching; MTs N Ciwaringin Cirebon was the place the writer worked and taught English. Based on the observation the students of MTs N Ciwaringin Cirebon had difficulties in writing.

Moreover, the English Teachers in the school also had difficulties in correcting student's writing product because there were so many students in each class.

The first grade students were taken as the population because they had learnt the texts in which peer feedback technique is suitable and appropriate to be applied. Besides, based on the observation, the first grade students of MTs N Ciwaringin made more mistakes in writing rather than their senior in second grade and third grade.

### **3.4.2 Sample**

To determine the sample of this research cluster sampling was used. According to Sugiyono (2006:93) cluster sampling is used to determine sample if the object of study is very wide. All the members of the selected groups have similar characteristics. The sample of this research was class VII B. The students of the class were then divided into two groups; experimental group and control group. VII B consists of 42 students. Because of that the experimental group consists of 21 students and control group 21 students.

### **3.5 Research Instruments**

In collecting the data, two kinds of instruments were used; writing test and questionnaire.

#### **1. Writing test**

Writing test was used to investigate student's writing skill. It consisted of two kinds of text. They are making a descriptive text based on the question that is

given by the teacher and complete a text. These tests were given to both experimental group and control group.

## **2. Questionnaire**

Questionnaire was used to investigate the student's perception towards peer feedback. The questionnaire was only given to the experimental group in the end of the program.

## **3.6 Research Procedures**

### **3.6.1 Organizing Teaching Procedures**

In conducting the research, the writer acted as a teacher and facilitated the students in the classroom writing process in the experimental group. There were two steps taken in preparing the teaching process. First, the writer was preparing appropriate materials for teaching and learning process during the treatment. It consisted of analyzing the English curriculum KTSP and the textbooks arranged based on the English curriculum KTSP. The books that were used namely (1) *Stepping More for Junior High School or Madrasah Tsanawiyah grade VII* by Firmansyah Diyata; (2) *English on Sky for junior High School 1* by Mukarto; (3) *English in Context Grade VII* by Kasihani K.E. Suyanto, Faisal Ahda, Selvi Lumingkewas, Sri Andreani. Secondly the writer was organized teaching procedures in the control group and experimental group.

### 3.6.2 Administering Try-out Test

Try out test was administered in order to investigate the validity and reliability of the instrument before it was used in the research. The try out test consisted of two kinds of test, making a descriptive text and complete an incomplete text. The materials of the tests were adapted from Stepping More used by first grade students of junior high school. The try out test was conducted to class VII a of MTs Negeri Ciwaringin on May 24<sup>th</sup>, 2007 before the experimental teaching began.

### 3.6.3 Experiment

Peer feedback technique was used for implementing feedback in the experimental group. The control group was treated using conventional method. However, the materials and the teaching procedures, except the reading technique, that were conducted to the control group were the same as the experimental group.

The experiment lasted from 26<sup>th</sup> of May to 25<sup>th</sup> of June 2007 covering eight treatments. It covered two meetings a week, each meetings consisting of two hours of instruction (one hour of instruction was forty minutes). The research schedule can be seen in the table 3.1 below:

Table 3.1

#### Research Schedule

No.	Date	Experimental group	Control Group
1.	May 26, 2007	Pre-test	Pre-test
2.	May 27, 2007	Market	Market

3.	June 2, 2007	Traditional market near my house	Traditional market near my house
4.	June 3, 2007	Our Neighborhood	Our Neighborhood
5.	June 9, 2007	Our Neighborhood	Our Neighborhood
6.	June 10, 2007	Place where I Grew Up	Place where I Grew Up
7.	June 11, 2007	My family	My family
8.	June 25, 2007	Post-test and questionnaire	Post-test

### **3.6.3 Administering Try-out, Pre-test, Post-test, and Questionnaire**

Before the implementation of peer feedback, try-out test was carried out to find out the validity and reliability of the instrument. After that, pre-test was carried out to investigate the student's initial ability in writing. It was given to the experimental and control group. Pre-test was carried out not only to find out student's initial ability but also to find out the equivalent of experimental and control group. Then, in the end of the program post-test was given to both groups of which the purpose was to investigate the effectiveness of peer feedback in teaching writing. Finally the questionnaire was given to the students of the experimental group to investigate their perceptions towards peer feedback.

### 3.7 Data Analysis

#### 3.7.1 Data Analysis on Try-out

The data obtained in try out test were analyzed to investigate the validity and reliability of the test items. The valid and reliable items further used as the research instrument.

##### 1. Validity

There are two kinds of test items in this research. Each test items had a different character in measuring validity of the test item. For the first test item, which was making a descriptive text, content validity was used. Furthermore for the second test item Pearson product moment correlation can be used to analyze the validity of each item.

$$r = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

Kranzler and Moursound, 1999:56)

The result of the calculation was compared to the  $r_{table}$ . The item is valid if  $r_{xy} > r_{table}$  (Arikunto, 2003:72). Furthermore, the item is valid if the  $r_{xy}$  is positive. The result of statistical computation on try out test can be seen in the following table:

Table 3.2

The result of validity test

Test item	r.coefficient	Interpretation
1	0.421	Valid
2	0.439	Valid
3	0.401	Valid

4	0.403	Valid
5	0.467	Valid
6	0.625	Valid
7	0.629	Valid
8	0.445	Valid
9	0.510	Valid
10	0.443	Valid
11	0.497	Valid
12	0.524	Valid
13	0.491	Valid
14	0.561	Valid
15	0.458	Valid
16	0.608	Valid
17	0.409	Valid
18	0.422	Valid
19	0.488	Valid
20	0.429	Valid
21	0.459	Valid
22	0.417	Valid
23	0.420	Valid
24	0.445	Valid
25	0.440	Valid

## 2. Reliability

According to reliability is synonymous with the consistency of a test, survey, observation, or other measuring device. In investigating the reliability of the test items, try out test was conducted in one meeting consisting of two hours instruction (2 x 40 minutes) and the students



should do the test at that time. They were not allowed to take the test at home. To find the reliability of the tests it was needed a scoring system that represented the ability of student's writing skill.

As mentioned previously, the tests used in this study were making a descriptive text and complete a text with the right answers. In assessing student's descriptive text the writer used Nebraska Department of Education Scoring guide for descriptive writing 2006 scoring system. According to Nebraska Department of Education Scoring guide for descriptive writing 2006 scoring system covers five points:

1. Content
2. Organization
3. Diction
4. Grammar
5. Mechanic.

In this study the scoring system that will be used only two of five. There are grammar and mechanic. It is due to the fact that the significance of this study only to find out the effectiveness of peer feedback through the number of grammatical and mechanical mistakes in writing descriptive text. The scoring system is based on Nebraska Department of Education Scoring guide for descriptive writing 2006 scoring system. They are as follow:

1. Grammar

It covers the accuracy of the use of structure

- 1 : Errors in grammar throughout distract the readers
- 2 : Errors in grammar may distract the reader
- 3 : A few errors in grammar do not distract the reader
- 4 : Grammar mostly correct and may be manipulated for stylistic effect

## 2. Mechanic

It covers punctuation, spelling and capitalization

- 1 : Errors in punctuation, spelling and capitalization throughout distract the readers
- 2 : Errors in punctuation, spelling and capitalization throughout may distract the readers
- 3 : A few errors in punctuation, spelling and capitalization do not distract the readers
- 4 : Punctuation, spelling and capitalization are mostly correct

But in assessing the other test, that is complete the text the writer used no punishment formula. Clearly the formula is as follow

S = R in which: S: Score

R: Right

(Arikunto, 2003)

### 3.7.2 Data Analysis on the Pre-test

The pre-test is given not only to investigate the student's initial's ability but also to investigate the initial equivalence between the groups. The t-test formula was used to determine whether the means of two groups of scores differ to a

statistically significant degree (Kranzler and Moursund, 1999:89). Certain assumptions ought to be met in order to use the t-test. The assumptions underlying the t-test are:

1. The subject is assigned to one group in the experimental
2. The scores in each group are normally distributed, and
3. The variances of the scores of the two groups are equal.

(Hatch & Farhady, 1982)

Therefore, the normality distribution and variance homogeneity tests were done before the data was calculated by using t-test formula.

#### 3.7.2.1 Normality Distribution Test

Kolmogorov-Smirnov formula in SPSS 13 windows was used to analyze the normality distribution. The steps of analyzing the normality distribution are as follow:

1. Stating the hypothesis and setting the alpha level at 0.05 (two tailed test)  
 $H_0$  = the scores of the experimental and the control group are normally distributed  
 $H_1$  = the scores of the experimental and the control group are not normally distributed
2. Analyzing the normality distribution using Kolmogorov-Smirnov formula in SPSS 13 for windows.
3. Comparing the Asymp Sig. (probability) with the level of significance for testing the hypothesis. If the Asymp Sig. is more than the level of significance (0.05) the null hypothesis is accepted; the scores are normally distributed.

### 3.7.2.2 Variance Homogeneity Test

Levene Test formula in SPSS 13 for windows was used to analyzing the variance homogeneity is as follow:

1. Stating the hypothesis and setting the alpha level at 0.05

$H_0$  = the variance of the experimental and the control group are homogenous

$H_1$  = the variance of the experimental and the control group are not homogenous

2. Analyzing the variance homogeneity using Levene test formula in SPSS 13.
3. Comparing the probability with the level significance for testing the hypothesis. If the probability is more than the level of significance (0.05) the null hypothesis is accepted; the variance of the experimental and the control group are homogenous.

### 3.7.2.3 T-test computation

The calculation of t-test follows the steps below:

1. Finding the t value with independent test formula
2. Comparing  $t_{obt}$  and  $t_{crit}$ . If  $t_{obt}$  is less than  $t_{crit}$ , the null hypothesis is accepted; the two groups are equivalent.

### **3.7.3 Data Analysis on the post-test**

The steps taken in calculating the post-test data were the same as in calculating the pre-test data, Case II studies or independent sample test was used to analyze the post-test data.

### **3.7.4 Data Analysis on the Experimental and the Control Group Scores**

The pre-test and post-test scores of each group were analyzed by using the matched t-test to investigate whether or not the difference of the pre-test and post-test means is significant. The steps of analyzing the pre-test and post-test scores using matched t-test formula are as follows:

1. Stating the hypothesis and setting the alpha level at 0.05 (two tailed test)  
 $H_0$  = there is no significance between the pre-test and the post test scores  
 $H_1$  = there is a significance between the pre-test and post-test scores
2. Finding the t value
3. Comparing the probability with the level significance, the null hypothesis is accepted; the two scores are homogenous.

### **3.7.5 Data Analysis on the Questionnaire**

The data gained from questionnaire were analyzed using Likert scale formula. In analyzing the questionnaire data firstly, the numbers of respondent choosing the options were counted. They are as follow:

SS = Sangat Setuju	Score	5
ST = Setuju	Score	4

RG = Ragu-ragu	Score	3
TS = Tidak Setuju	Score	2
STS = Sangat tidak setuju	Score	1

Secondly the number of respondent was changed into the percentage form.

After that the results of the computation were consulted to the following table.

Table 3.3

R % (percentage of respondent) Criterion

No.	R %	Criterion
1.	0	None
2.	1 – 25	Small number of
3.	26 – 49	Nearly half of
4.	50	Half of
5.	51 – 75	More than half of
6.	76 – 99	Almost all of
7.	100	All of

(Kuntjaraningrat in Yuliani, 2003)

