CHAPTER III
RESEARCH METHODOLOGY

1.1 Research Design

This study employs experimental research design to test hypothesis by reaching valid conclusions whether there is significant influence of collaborative writing for students' writing narrative text. The kind of this research method is quasi experimental. A quasi experimental design with non randomized pre-test and post test (table 1) was applied.

Group	Pretest	Treatment	Posttest
Experiment	+	+	+
Control	+	-	+

Table 1. Non Randomized subjects, Pre-test, Post-test quasi experiment design where:
+ : with treatment
- : without treatment

To apply thesis design to our work experience study, the researcher gives pre-test to the experimental and control groups to measure writing achievement before the treatment. The groups which get low score will get treatment that is teaching collaborative writing, for example experimental group, whereas the control group was needed for comparison purpose without get treatment. After give treatment to the experimental group for four times, the researcher give post test to the experimental and control groups to analyze the result of getting treatment during the research in experimental group and comparison with the last result in control group. Then find the mean different between the result pre-test and post-test. And the last is analyzing the data using t-test formula to prove the hypothesis.

The researcher uses four treatments because in the standard competent the time teaching learning process in the writing skill especially in 12.2 basic competent was 8 hours. In the one meeting include 2 hours in the teaching learning process. So there are 4 meeting in the teaching learning process in writing skill and the treatment will apply for four times.

1.2 Population and Sample

The population of this research is all the second semester students of eight grade at SMP N 1 Manyar in the academic year of 2012/2013 which is consist of eight classes, those are: A, B, C, D, E, F, G, and H. meanwhile the researcher decided to the only two classes from the populations as the sample of the study. The samples of this study are: G class as experimental group, consists 25 students and H class as control group, consists 25 students. The total number of the sample was 50 students.

1.3 Data Collection

1.3.1 Research Instrument

In this study there is instrument for collecting the data. This is a test, are include pre-test and post-test. Before the students receiving treatment from researcher, the students will get pre-test in form of written test. After making a text, the students submit their work to the teacher, and then their works are assessed by the teacher based on the criteria given. Pre-test is used to measure the initial differences ability for students in experimental and control group in English lesson. The post test had the same procedure with the pre-test. It was administered in the last program of this research after giving some treatment and exercise to the experimental group in a period of time. The post-test is used to measure the influence of the treatment given.

The type of test is subjective (making composition, especially writing ability). The instrument is English test, there are five aspects used guideline for scoring writing ability: content, organization, vocabulary, language use and mechanic. Based on the standard competence, the researcher decides to use narrative text for pre-test and post-test.

The standard criterion is used in scoring of composition can be seen in the following table (Heaton 1975).

No	Aspect	Score	Criterion
1	Content	30-27	Excellent to very good; knowledgeable substantive.
		26-22	Good to average; some knowledgeable- little substance.
		21-17	Fair to poor, limited knowledgeable of subject substantive
		16-13	Very poor; knowledgeable non substantive.
2	Organization	20-18	Excellent to very good; fluent expression ideas clearly stated.
		17-14	Good to average; some what choppy loosely organized but main ideas stand out.
		13-10	Fair to poor, non fluent ideas confused or disconnected.
		9-7	Very poor; doesn't communicate, no organization.

3	Vocabulary	20-18 17-14 13-10 9-7	Excellent to very good; sophisticated range effective word/idiom choice and usage. Good to average; adequate range occasional errors of words/idiom, choice, usage but meaning not obscured. Fair to poor, limited range frequent errors of words/idiom form, choice, usage. Very poor; essential translation little knowledge of English vocabulary.
4	Language use	25-22 21-19 17-11 10-5	Excellent to very good; effective complex construction. Good to average; effective but simple construction. Fair to poor, major problem in simple construction. Very poor; virtually no mastery of sentence construction rules.
5	Mechanics	5 4 3	Excellent to very good; demonstrate mastery of conventions. Good to average; occasional errors of spelling, punctuation. Fair to poor, frequent errors of spelling,

		2	punctuation, capitalization. Very poor; no mastery of conventions dominated by errors of spelling, punctuation, capitalization.

Before conducting pre-test and post-test as instrument of the research, the item of test must valid. Validity is measure to indicate the level of validity instrument. The instrument called valid if it has validity, in order to check the validity of test the researcher checking content validity. To determine contents validity, the researcher asks the English teacher to help to check the instrument validity and also based on English curriculum and syllabus. Based on Gleen (2007) content validity is defined as any attempt to show that the content of the test is a representative sample from the domain that is to be tested. In the content validity in writing it would be necessary to show that the text selected for the test should result in responses to the text. For this study, the content of the test matched with the courses objective and syllabus design. Beside that the book was match for the pre-test given. The book is containing about narrative text. There are some examples in the book, for example: snow white story, Tangkuban Prahu Story and many others.

After the researcher looked the book, syllabus, and then the researcher makes a pre-test was matching in the syllabus and book. The pre-test will give the students if the item in the pre-test was valid. Valid or not the item it can be looked in the content of item. The content of item must be match from syllabus, Lesson plan and books.

1.3.2 Procedure

To collect the data, the researcher conducted the following procedure: for the first, after this proposal accepted, the researcher made English test for pre and post test which of them consist of making a story. The second, the researcher make the subject into two group as experimental and control group. Then both of the groups are given pre-test as first data. The third, the researcher give the treatment to the experimental group by using Collaborative Writing method and without treatment for control group. The treatment will do for four times for experimental. The fourth, researcher give post test to the control and experimental groups to determine the outcomes of the Collaborative Writing method, it success or not. Finally, from the result of statistical calculations, interpretations and conclusions are made. The teacher collects the result of pretest. The last is analyzing the data from pre-test and post-test by using SPSS 16.0 program.

1.4 Data Analysis

The next step after collecting the data is analyzing the data. Data analyses method is very important in a research. The data analysis is carried out in order to answer the research problem from pre-test and post-test. The researcher transcribed the students' test in written form and the scores the result of test. The researcher analyzes the data by using independent sample t-test, because the subjects were small and the groups were independent. The t-test independent sample is carried out to determine the significance influence of collaborative writing for students' writing ability. The researcher uses SPSS version 16.0 to compute descriptive statistic.

Assumptions for the independent t-test are: (1) Independence: observations within each sample must be independent (they don't influence each other), (2) Normal Distribution:

the score in each population must be normally distributed and (3) Homogeneity of Variance: the two populations must be equal variances (the degree to which the distributions are spread out is approximately equal). The steps of analyzing the result are:

1.4.1 Homogeneity Test of Variance

For homogeneity test, the researcher used one Levene's test of homogeneity test in SPSS version 16.0. The purpose of this test was to find out whether the variance of pre-test and post-test of experimental and control group are homogenous.

The test statistic of Levene's test (W) is defined as follows:

$$\mathbf{W}=\frac{(N-k)}{(k-1)}\frac{\sum_{i}^{k}=1\ Ni(\mathrm{Zi}-\mathrm{Z})^{2}}{\sum_{i}^{k}=1\sum_{j}^{Ni}=1(Zij-Zi)^{2}}$$

Where

W : the result of the test

K : the number of different groups to which the samples belong

N_i : the total number of samples

Ni :the number of samples in the i^{th}group

Y_{ij} : the value of the j^{th} sample from the i^{th}group

$$Z_{ij} = \begin{cases} |Yij - \bar{Y}\mathrm{i}|, \bar{Y} \text{ is mean of i} - \text{th group} \\ \left|Yij - \tilde{Y}\mathrm{i}\right|, \tilde{Y} \text{is a median of i} - \text{th group} \end{cases}$$

The significance of W is tested against F ($\propto$, *k -1*, *N –k*) where F is a quintile of the F test distribution, with k – 1 and N – k its degrees of freedom, and $\propto$ is the chosen level of significance (usually 0.05 0r 0.01).

1.4.2 Calculation of T-Test Formula

Independent t-test was used to find out the significant differences between experimental and control groups. The steps of t-test calculation are:

The first step tastes the hypothesis of this research. The hypothesis can be formulated as follow:

H_0: there is no significant difference on students writing narrative who were taught by using collaborative writing and who were taught without collaborative writing.

H_1: there is significant difference on students writing narrative who were taught by using collaborative writing and who were taught without collaborative writing.

The second step is finding t-value using independent t-test formula hypothesis. T-test was calculated to find out the comparison of two means between experimental and control groups pre and post test. In analyzing the data, the researcher used independent t-test formula. The formula used in calculating t-test is:

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{S_{\bar{x}_1 - \bar{x}_2}}$$

Where

$$S_{\bar{x}_1 - \bar{x}_2} = \sqrt{\frac{S^2\ pooled}{n_1}} + \frac{S^2\ pooled}{n_2}$$

Pooled variance: the average of the two sample variances, allowing the large sample to weight more heavily.

Formula:

$$S^2pooled = \frac{(df_1)S^2_1 + (df_2)S^2_2}{df_1 + df_2} \; or$$

$$= \frac{SS^2_1 + SS^2_2}{df_1 + df_2}$$

df_1=df for 1st sample; n_1-1

df_2=df for 2nd sample; n_2-1

Estimated standard error of the difference

$$\sqrt{\left(\frac{SS_{1+}SS_2}{n_{1+}n_2 - 2}\right)\left(\frac{1}{n_2} + \frac{1}{n_2}\right)}$$