

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research design, population and sample, instruments, data collection and data analysis. Each of them is discussed separately in the following sections.

3.1 Research Design

The research used in this study is quasi-experimental study in which the pre-test post test design is to fulfill purpose of this study. This is to find out the significant influence of SWELL method in teaching writing narrative text of tenth grade at SMA Nahdlatul Ulama 2 Gresik.

There are two groups, the control group and the experimental group. Both of them are given pre-test, post-test, and then the treatment is administered to the experimental group, while the control group is taught as usual without manipulation. In this study, the researcher acts as the practitioner who teaches the students using SWELL. In this study, firstly, the experimental group and the control group is determined by using the score. Then, the scores both of the groups are administered to measure the students' writing ability before the treatment. The next step is applying the experimental treatment of independent variable to the experimental group for six times. Then, a posttest is administered to measure the dependent variable of two groups. From those steps, the effect of SWELL was examined.

A quasi experiment design will use in this study, due lo limited time and cost. A true experimental design will not be feasible because of long time period. In addition a true experimental design is conducted in random sampling. In this regard,

it will need more steps to be taken, for example, making a list of junior senior high schools in Gresik, making a list of names of students in all senior high schools, or at least taking a whole of tenth graders in one school. However, the school only gives two classes to be observed. Based on the explanation, a quasi experimental design is simpler than a true experimental design. So quasi experimental design used in this study.

The researcher uses quasi experiment because of a school setting, it is not possible to assign subjects randomly to group. The design chart can be seen in figure below:

Group	Pre test	Treatment	Post test
Experiment	+	+	+
Control	+	-	+

Table 1. Non Randomized Subjects, Protest post-test Quasi-Experiment

Design

Where:

+ : With treatment

- : Without treatment

3.2 Population and Sample

The population of the study is the second semester students in tenth grade academic 2011-2012. In tenth grade students, there are three classes consist of X-A, X-B and X-c classes, the number of the students among + 70 students. This study

conducted at SMA Nahdlatul Ulama 2 Gresik, which is located on Jln. Akim Kayat No. 49 Gresik. The researcher chooses them because in this school the teacher only using teacher center method. They can improve their writing skill in English such as writing narrative texts using SWELL. Here, the researcher hopes that writing English is not difficult for them so that they can pay attention and active in learning process.

The researcher takes two classes class X B and X C as sample of this research. One is the experimental class and the other is the control class. The experimental group was class X B with 24 students while the control group is class X C with 24 students, so the total number of sample is 48 students.

3.3 The Instrument

The researcher him self has the key instrument. It means that he played an important role in doing the research. In other words, the success of the research greatly depends on his role. The researcher uses tests in order to enable him to observe and gather any information on what is going on in the class when the “SWELL” done by the student. The instrument is English test. There are five aspects used as a guideline for scoring writing ability: content, organization, vocabulary, language use and mechanics.

The type of test is subjective one (making English composition, especially writing narrative texts). At the last meeting of the treatment the researcher gives the last written tests to know the effect of using SWELL (social-interactive writing for English language learners) on writing narrative texts.

Based on the standard competence, the researcher decided to use narrative text for pre test and post test. The students must make a short narrative story on and follow the instruction which is given by the teacher. The researcher used the

criterion in scoring writing assessment to calculate the student writing.

The researcher uses three teachers from other schools to correct the pre test and post test. The researcher compares the score after applying the method and the score from the teachers.

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

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

		2	Very poor; no mastery of conventions-dominated by errors of spelling, punctuation, capitalization-etc.
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Table 2. The standard criterion is used in scoring of composition can be seen in the following table (Jacobs et al's: 1981)

3.3.1 Pre test

Pre test was carried out to find out the initial different between experimental and control groups as they had similar level in writing ability. Before receiving the treatment, the test is in form of written test. After making a narrative text, the students submit their work to the teacher. Then their works are assessed by the teacher based on the criteria given.

3.3.2 Post test

Post test was distributed to both groups to find out whether the students make progress in their writing ability or not. In this study, the criteria of writing scoring system proposed by Jacobs are used to assess the result of students score. 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.

3.4 Data Collection

In this research, the data collected from the tests. The researcher made pre test and to the experiment group and control group. It was used to give information about students' ability to write narrative texts before the treatment. The researcher chooses the subjects and defined group who were taught by using SWELL method as

an experimental group and group who were taught without SWELL method as a control group. Here the control group asked to write narrative texts without traditional method. The treatment would done for six times for experimental master permission.

When the target of 6 meetings has been conducted by researcher, researcher gave post test to the control group and experimental groups to determine the outcome of the Swell method succeeded or not. Finally, from the results of statistical calculations, interpretations and conclusions made. The teacher collected the result of pretest. The last was analyzing the data from pre-test and post-test by using SPSS 14.0 program.

3.5 Technique of Analyzing Data

The data analysis was carried out in order to answer the research problems with the data obtain through pre-test and post-test. The researcher analyzed the data by using Independent sample t-test. Since the samples were small and the groups are independent, the t-test for independent samples are carried out to determine whether the differences between experiment group and control group. The researcher used SPSS version 14 to conduct in order to find the effect of the treatment whether there is positive effect by using SWELL (social-interactive writing for English language learners) method on writing narrative texts.

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 scores in each population must be normally distributed and (3) Homogeneity of Variance: The two populations must have equal variances (the

degree to which the distributions are spread out is approximately equal). The steps of analysing the result are:

3.5.1 Normality Distribution Test

In this study, Kolmogorov Smirnov Sample Test in SPSS version 14.0 is used to analyze the normal distribution. It is aimed to find whether or not the distributions of pre test score in the two groups are normally distributed. In this case, the result of the normality the distribution is also used to find out whether or not the hypothesis that has been determined is accepted.

The first step in calculating the normality distribution test state that the hypothesis: H0: the score of the experimental and the control group are normally distributed. The second step in calculating the normality distribution test tried to compare the Asymp. Sign. (probability) with the level of significance for testing the hypothesis. If the Asymp is more than the level of significance (0,05) the null hypothesis is accepted; the score are normally distributed.

3.5.2 Homogeneity Test of Variance

The analysis of variance, assume that variances are equal across groups or samples. For homogeneity test, the researcher uses Levene's test of homogeneity in SPSS 14.0 version. The test of Levane's test, P , define as follow:

$$P = \frac{(N - k) \sum_{i=1}^k N_i (Z_i - Z_{...})^2}{(k - 1) \sum_{i=1}^k \sum_{j=1}^{N_i} (Z_{ij} - Z_i)^2}$$

Where

P is the result of the test,

k is the number of different groups to which the samples belong,

N is the total number of samples,

N_i is the number of samples in the i^{th} group,

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

$$Z_{ij} = \begin{cases} |Y_{ij} - \bar{Y}_i|, \bar{Y}_i \text{ is a mean of } i^{\text{th}} \text{ group} \\ |Y_{ij} - \tilde{Y}_i|, \tilde{Y}_i \text{ is median of } i^{\text{th}} \text{ group} \end{cases}$$

The significance of P is tested against $F(\alpha, k - 1, N - k)$ where F is a quintile of the F test distribution, with $k - 1$ and $N - k$ its degrees of freedom, and α is the chosen level of significance (0.05).

3.6.3 t-test Computation

Independent t-test in SPSS version 14.0 was used to find out the significant differences between the pre-test mean for experimental and control groups after the treatments. There was a procedure to calculating t test. First, open the SPSS 14.0 for windows program. Second, typing “Nilai” in the first row and “Group” in the second row of Variable view, change “values” in the “group” rows. Typing “1” in the “value”, and “experiment” in the “label” and continuing with typing “2” in the “value” and “control” in the “label”. Third, insert the post-test scores of experiment and control groups in the “data view”. Fourth, click “analyze”, “compare means”, and “Independent Samples T Test”. Fifth, typing “nilai” in the “test variable”, and “group” in the “group variable”. Change the define groups, Group 1 with 1 and group 2 with 2. And then continue and oke.

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

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 larger sample to weight more heavily.

Formula:

$$S^2_{pooled} = \frac{(df_1)s^2_1 + (df_2)s^2_2}{df_1 + df_2} \quad \text{OR} \quad S^2_{pooled} = \frac{SS_1 + SS_2}{df_1 + df_2}$$

df_1 = df for 1st sample; $n_1 - 1$

df_2 = df for 2nd sample; $n_2 - 1$

Estimated Standard Error of the Difference

$$s_{\bar{x}_1 - \bar{x}_2} = \sqrt{\left(\frac{SS_1 + SS_2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}$$

CHAPTER IV

FINDINGS AND DISCUSSIONS