

CHAPTER III

METHODOLOGY

This chapter elaborates methodology of research that is conducted to answer the two research questions previously stated in chapter one. Some big points that are covered in this chapter are research method, hypothesis, subject, data collection, research procedure, and data analysis.

3.1 Research Method

3.1.1 Research Design

This study is a quasi-experimental research. There were two groups which were involved in this study. The first group was Experimental Group (EG) which was treated with using baroque music in learning process. The second group was Control Group (CG) which was treated with conventional method. The experimental design in this study is described schematically in table 3.1.

Table 3.1

Sample	Pre test	Treatment	Post test
Experimental group	X1e	T	X2e
Control Group	X1c	0	X2c

Notes:

X1e : Students' reading achievement of experimental group in pre test

X1c : Students' reading achievement of control group in pre test

X2e : Students' reading achievement of experimental group in post test

X2c : Students' reading achievement of control group in post test

T : Treatment using suggestopedia method in learning process

From the table above, it can be seen that pre-test was given to both of experimental and control group. It was conducted in order to know the initial ability of each class. Afterwards, the experimental group was given treatment for six times. After the treatment, post-test was given to both of experimental and control group. It was conducted in order to know whether or not the students who were treated with suggestopedia could achieve higher scores than those who were taught using the conventional method.

3.1.2 Variables

There were two variables in this research: independent variables and dependent variables. According to Hatch and Farhady (1982: 14) “the independent variable is the major variable which you hope to investigate. It is the variable which is selected, manipulated, and measured by the researcher”. Thus, the independent variables of this research were the use of suggestopedia in teaching reading comprehension.

Moreover, dependent variable is the variable which were observed and measured to determine the effect of the independent variable (Hatch and Farhady, 1982: 14). In this research, students’ reading comprehension in reading narrative text was the dependent variable. This variable was observed and measured to determine the effect of the independent variable.

3.2 Hypothesis

Hatch and Farhady (1982: 85-86) state that “hypothesis can be considered as the tentative statement about the outcome of the research.” Thus, the research was conducted to examine the hypothesis which is stated as follows:

H₀ : there was no difference between reading narrative text by using suggestopedia method in experimental and control groups after the treatments given.

From the hypothesis above, if the null hypothesis is rejected, it can be concluded that there was significant difference between control and experimental groups. While, if it is not rejected, it can be concluded that there was not significant difference between control and experimental groups. It means that the treatments did not work well.

3.3 Subjects

3.3.1 Population

Population is the whole subject of research (Arikunto, 2010: 173). Population of this research was the second grade students in one of Junior High Schools in Bandung. There were nine classes and each of class consisted of 38 students. Thus, the total of the population of this research was 342 students.

3.3.2 Sample

The samples of this study were two classes of second grade students of SMPN 1 Lembang. The first class was VIII-C as the experimental group and the

second class was VIII-D as the control group. Each class consisted of about 38 students. Thus, the total numbers of the sample were about 78 students.

3.4 Data Collection

There were three instruments used to collect the data in this study: test, questionnaire and interview. The test was divided into pretest and posttest. Pretest was conducted in order to find out the students' initial ability in reading comprehension. It was given to both experimental and control group. Posttest was aimed at examining whether or not there was significant differences between experimental and control group. At the end of the research, questionnaires and interview were given to find out the students' responses toward the advantages and disadvantages of suggestopedia.

In collecting those data, this study conducted several steps as stated below:

- 1) administering pilot test
- 2) analyzing pilot test result
- 3) giving pre-test
- 4) analyzing pre-test score
- 5) presenting control and experimental group
- 6) administering treatments to experimental group
- 7) giving post-test to the experimental and control group
- 8) calculating the result of post-test
- 9) administering interview to the experimental group
- 10) analyzing the interview result

- 11) discussing the findings
- 12) concluding the findings

3.5 Research Procedure

3.5.1 Organizing Teaching Procedure

In this research, the researcher performed as a teacher in both experimental and control group. In preparing the teaching process, two steps are involved. First, the materials for teaching and learning process during treatments were prepared well. Second, lesson plans were organized for both experimental and control groups.

In the experimental group, teaching processes were related with the implementation of suggestopedia in reading. While in the control one, teaching procedures without suggestopedia were applied.

3.5.2 Administering pilot test

Pilot test was conducted to measure the validity and reliability of the test and also test the difficulty level of the test instrument. It was important to be conducted because it was used as the reflection in making some revisions or changes in the test instrument. The pilot test was administered to different class of the sample in the same grade.

The pilot test was conducted in three sessions. The first and second session were conducted on 27th February, 2012 and the last session was conducted on 29th

February, 2012. Each test consisted of 50 multiple choice items that were administered to 38 students.

3.5.3 Administering pre-test and post-test

Pre-test was conducted in both experimental and control group. It was conducted to know students' initial scores. It was expected that their scores were relatively similar to each other so that it could be assumed that what improve their scores was the treatment. Post-test was conducted after giving some treatments. It was conducted in order to know whether or not there were any significant differences after the experimental group was given the treatment.

3.5.4 Conducting treatment

After pre-test was administered, the treatments were conducted to experimental and control group. In conducting the treatment, the experimental group was taught with suggestopedia technique and the control group was taught without suggestopedia technique. The treatments were conducted in six meetings. The schedule of research can be seen in the appendix A.

3.5.5 Conducting Questionnaire and Interview

Questionnaires and interview were distributed to the experimental class at the end of the treatment. Questionnaires were delivered to find out students' responses to the use of suggestopedia techniques. Interview was administered as well as questionnaires in order to get additional information and to clarify information contained in questionnaires.

3.6 Data Analysis

3.6.1 Data Analysis on Pilot Test

Pilot test was conducted to find out whether the instrument was reliable and valid. Therefore, after the pilot test data were collected, it was proceeded to measure its validity, reliability, and difficulty level. Thus, only the reliable and valid items were used as the instrument.

3.6.1.1 Validity Test

Validity is a measurement that shows the level of validity of an instrument (Arikunto, 2010:211). In order to check the validity of an instrument, *Pearson Product Moment Correlation* was used. Then, the categorization suggested by Arikunto (2010) was used to compare the result from the computation data using SPSS 17 for windows.

Table 3.2
Coefficient Correlation of Validity

r value	Interpretation
0.800 – 1.00	Very high
0.600 – 0.800	High
0.400 – 0.600	Moderate
0.200 – 0.400	Low
0.00 – 0.200	Very low

Arikunto (2010: 319)

3.6.1.2 Reliability Test

According to Arikunto (2010: 221), an instrument can be said reliable if it is trusted as a good instrument to obtain some data. Trusted instrument will give a trusted data, so that, it is important to test the reliability of the instrument before it is used.

Cronbach's Alpha was used to measured the reliability of the test by using SPSS 17 for windows. Then, the test result was interpreted using the coefficient correlation of reliability as follows:

Table 3.3
Coefficient Correlation of Reliability

Coefficient Interval	Relation Degree
0.800 - 1.000	Very High
0.600 - 0.800	High
0.300 - 0.600	Moderate
0.000 - 0.300	Low

(Arikunto, 2002: 245)

3.6.1.3 Testing of Difficulty Level

The difficulty level test was conducted to check the level of difficulty for each item of the instrument (Arikunto, 2010). By testing the difficulty level of the instrument, it could be determined which items were easy, too easy, medium, difficult, or too difficult. Therefore, only items which were not too difficult and not too easy were involved to the test. To test the difficulty level, the formula is:

Where;

Putri Aulia Dhitareka, 2012

The Use of Suggestopedia in Teaching Reading Comprehension

Universitas Pendidikan Indonesia | repository.upi.edu

$$P = \frac{B}{JS}$$

P = index of difficulty

B = the number of students who can answer the item correctly

JS = the number of students

Furthermore, the scores gained from the formula above were interpreted by using the classification of difficulty level as follows:

Tabel 3.5

Difficulty Test Item Interpretation

Index of Difficulty	Difficulty Degree
0,0 - 0,30	Difficult Item
0,30 - 0,70	Moderate Item
0,70 - 1,00	Easy Item

(Arikunto, 2011: 210)

3.6.2 Data Analysis on Pretest and Posttest

After data of pretest and posttest from both experimental and control group were obtained, they were analyzed statistically using SPSS 17 for windows. There were four steps to analyze the pretest and posttest covered normality test, homogeneity test, independent *t*-test, and effect size. Before performing the independent *t*-test, the output data of the pretest and posttest should have three criterias (Coolidge: 2000) as follows:

- 1) The participant must be different in each group;
- 2) The data should have a normal distribution;
- 3) The variance of the two groups must be homogeneous.

For that reason, normal distribution and homogeneity of variance test were performed before calculating the data using t-test.

3.6.2.1 Normality Distribution Test

Normal distribution test is aimed to investigate whether or not the distribution of pretest and posttest were normally distributed (Coolidge, 2000). The calculation of normality test used *Kolomogrov-Smirnov* in SPSS 17 for windows including three steps as follows:

- 1) Setting the level of significance at 0.05 and stating the hypothesis.

Ho : the scores in experimental and control groups were normally distributed.

- 2) Analyzing the normality distribution with Kolomogrov-Smirnov test in SPSS 17 for windows.

- 3) Comparing score between test result and the level of significance value. If the Asymp.sig was more than the level of significance ($\text{Asymp.sig} > 0.05$), the null hypothesis (H_0) was not rejected and the data was normally distributed. In contrast, if the Asymp.sig was less than the level of significance ($\text{Asymp.sig} < 0.05$), the null hypothesis (H_0) was rejected and the data was not normally distributed.

3.6.2.2 Homogeneity of Variance Test

Before analyzing the data, the condition between control and experimental groups should be checked in order to find out whether it is normal and

homogenous or not. It was conducted because it is important to have the normal and homogenous data before we analyze it (Arikunto, 2010: 357). In this study, Lavene test was used to analyze the homogeneity of variance in SPSS 17 follows the steps below:

- 1) Setting the level of significance at 0.05 and stating the hypothesis.

H_0 : the variances of the experimental and control groups were homogeneous.

- 2) Analyzing the homogeneity of variance by using *Levene test* in SPSS 17 for windows.

- 3) Comparing the Asymp.sig (probability) with the level of significance for testing the hypothesis. If the Asymp.sig was more than the level of significance (Asymp.sig > 0.05), the null hypothesis (H_0) was not rejected.

It means that the variance of data were homogeneous. In contrast, if the Asymp.sig was less than the level of significance (Asymp.sig < 0.05), the null hypothesis (H_0) was rejected. It means that the variance of data were not homogeneous.

3.6.2.2 The Calculation of Independent t-test

Independent t-test was used to find out whether there are any differences between two means of experimental and control group or not (Arikunto, 2010).

These are the steps taken to calculate the independent *t-test*:

- 1) Setting the level of significance at 0.05 (two-tailed test) and stating the hypothesis.

Ho : there was no difference between the mean in experimental and control groups.

- 2) Analyzing the independent *t*-test using SPSS 17 for windows.
- 3) Comparing score between test result and the level of significance value. If the significance value was more than or equal to the level of significance (0.05), the null hypothesis (H_0) was not rejected. It means that there was no significant difference between the two means. In contrast, if the significance value was less than the level of the significance (0.05), the null hypothesis (H_0) was rejected, and it means that there was significant difference between the two means.

3.6.2.3 Effect Size

In order to see how much the effect of the influence of the independent variable (the use of suggestopedia) upon dependent variable (students' reading comprehension on narrative text), the effect size was calculated.

This is the formula of effect size:

$$r = \sqrt{\frac{t^2}{t^2 + df}}$$

Where:

r = effect size

$t = t_{\text{obt}}$ or t value from the calculation of the independent t-test

$df = N_1 + N_2 - 2$

After the r value was gained, the score was interpreted by using the scale below:

Table 3.6
Effect Size Value

Effect Size	r Value
Small	0.100
Moderate	0.243
Large	0.371

(Arikunto,2010)

3.6.3 Data Analysis of Questionnaire

According to Arikunto (2010: 268), “questionnaire is a set of questions that used by the researcher to gain the information from the respondents as a self report”. In this research, the questionnaire is used to answer the research question number two about the students’ responses toward the teaching reading method by using suggestopedia. After the data were gained, they were calculated in the percentage below:

$$P = \frac{fo}{n} \times 100\%$$

Where,

P = Percentage

fo = Frequency of observed

n = Number of population

The questionnaire consisted of 14 positive statements with the following categories:

Table 3.4
Questionnaire Categories

No	Aspects	Item number	Total
1	Students' response to the use of music in learning activity	1, 2, 3, 4 and 5	5
2	Students' response to the classroom setting in learning activity	6, 7	2
3	Students' response to the relation with teacher during learning	8	1
4	Students' response related to the activities during learning	9, 10, 11 and 12	4
5	Students' response to the implementation of suggestopedia	13 and 14	2
Total			14

3.6.4 Data Analysis of Interview

According to Arikunto (2010: 198), interview is a dialog between the interviewer and the interviewee which is aimed to gain some information related to the research. The interview was in the form of semi structured interview which the order of question can be changed depending on the direction of interview (Kajornboon) .

According to Miles and Huberman (1994), the interview data was analyzed through four steps such as transcribing the interview, categorizing the data into selected categories, presenting, and interpreting the result of interview. Therefore, to analyze the data, the interview recording was replayed and the contents of the data were transcribed. After that, the data was categorized related to implementation of the method used in this research. After categorizing the data, it was presented and interpreted as the result of interview.

3.6.5. Scoring Technique

The test used in this research was multiple choice items. After the data were collected, then, the data were analyzed by using scoring technique. The scoring technique which is used to analyze pre-test and post-test data is as follows:

$$S = R$$

Where,

S: Score

R: Right answer

3.7 Clarification of Terms

To avoid misinterpretation in understanding this writing, it is important to clarify the following definitions of key terms.

- a. *Effectiveness* refers to different effects which determine a better result in reading teaching process through the implementation of suggestopedia

- b. *Suggestopedia* is a teaching method using music as a tools to create relaxation
- c. *Reading comprehension* is the process of understanding the text and also the process of interaction between the readers' background knowledge on the text.

