

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses the research methodology of the research. This chapter consists of statement of the research problem, the explanation of the research design, population and sample, data collection, instrument, time allocation, procedure of research, procedure of data analysis.

3.1 Statement of the Research Problem

This study is conducted to figure out these following questions:

- a. Is there a significant difference in term of speaking scores between experimental group which the treatment (direct method) is given and the control group in which the treatment is not given in delivering the materials?
- b. What are students' responses toward the application of direct method in their classroom?

3.2 Research Design

This study was conducted to find out whether the use of direct method was effective to improve students' speaking skill or not in terms of pronunciation, stress, intonation, and expression and to identify students' perception toward the use of direct method. This study was conducted through a quantitative research. There are many types of quantitative research design such as pre-experimental, quasi experimental, ex post facto and factorial design. According to Sugiyono (2008), quasi experimental design means that the researcher does not have maximum control in doing the experiment. The design which is used in this research

is quasi-experimental design which uses experimental and control groups. Experimental group receives a treatment, while control group does not receive any treatment (Fraenkel, 2011).

According to Hatch and Farhady (1982), nonequivalent control group design means that there are two groups in the study; experimental group and control group, in which both of the groups are the same level of knowledge but used different treatment or maybe there will be no treatment used. Furthermore, Introduction was used as the material in teaching learning process. Each group was taught how to introduce family and someone else. The experimental group is given some treatments (direct method) to find out the answers of research questions, while the control group did not get any treatment (direct method). The control group may use translation and grammar was taught directly while the experimental group did not.

In this research, both of the groups were given pre-test which was conducted in the beginning of the study. The pre-test was conducted in order to diagnose students' current ability in introducing someone else before the treatment applied. Then, post-test was given in the end of the study in order to find out the effectiveness of the treatment. The effectiveness is measured by the significance different of their speaking scores. The result of pre-test and post-test was used to investigate whether or not there was any difference between the experimental group and control groups. The quasi experimental design which is used could be represented in this following chart:

Table 3.1

Quasi Experimental Design

Sample	Pre-Test	Treatment	Post-test
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Experimental Group	X0A	T	X1A
Control Group	X0B	-	X1B

X0A : Experimental group students' score on oral pre-test

X0B : Control group students' score on oral pre-test

T : Treatment using direct method

X1A : Experimental group students' score on oral post-test

X1B : Control group students' score on oral post-test

Based on the design above, the treatments were only given to the experimental group. Then, questionnaires were distributed to the experimental group to find out students' perception toward the treatment (direct method).

This study started with the null hypothesis (H_0) that the experimental and control groups were similar as follows:

$$H_0: \mu_{\text{experimental}} = \mu_{\text{control}}$$

or

$$H_0 : \mu_1 - \mu_2 = 0$$

Or

$$H_0 : \mu_1 = \mu_2$$

3.3. Variables

According to Hatch and Farhady (1982), variable is “*an attribute of a person or an object which varied from person to person or from object to object*”. There were two kinds of variables which involved in this study, namely, an independent variable and a dependent variable. The independent variable was a

variable which influences the results of the dependent variable (Sugiyono, 2008). It means that the use of direct method was the independent variable and became the major variable to be investigated, while the dependent variable was the students' speaking ability.

3.4. Population and Sample

According to Fraenkel (2011), a sample is the group which is involved. While population is the larger group or it can be said as the whole member of the group. The population in this study is the students of private vocational high school di Bandung and two classes have been chosen as a sample. The classes are divided into experimental and control group. Experimental group consists of 30 students, while control group consists of 30 students. The total member of sample is 60 students.

3.5. Research Instruments

According to Martin (2008), "*data refers to the kind of information researchers obtain on the subjects of their research*". In collecting the data, there were two kinds of instruments were used: a speaking test and questionnaires. Role-play of introducing family and someone else was used as the form of a pre-test and a post-test. The pre-test and post-test were administered to both of the groups. Furthermore, the questionnaire was used to know students' perspective toward the treatment (direct method) given. Martin (2008) also adds that the questionnaire helps the researcher to get the information from a large amount of subject research in the same time.

According to Fraenkel (2011), pre-test is used in order to measure or observed the students before treatment given. While post-test is used to assess the effect of the treatment given. In the pre-test, the students were asked to do the role play of introducing myself and my family. Then, the post-test was administered

for students in the control and experimental groups by asking them to do the role play of introducing family and someone else after the treatment was conducted to experimental group. The treatment which was given to experimental group is no translating the words or dialogue and no grammar taught and the control group was taught by using translation and grammar taught directly. The result of pre-test and post-test applied in Appendix A.

In addition, questionnaire is a form of data collection in order to survey a research based on the participants' view. According to Ruddell (2005), the aim of questionnaire is to give an overview of students' point of view about the material. The questionnaire in this study involves 10 questions and it can be seen in Appendix C.

The lesson plan was designed based on the curriculum 2013 and the syllabus of the school. The teaching material was appropriate material for students in the tenth grade of private vocational high school in Bandung.

3.6 Data collection

The data are collected from the sample through questionnaire, pre-test, and post-test. The questionnaire is distributed in order to find out the challenge that students encounter while speaking in English. The pre-test and post-test is used to find out the effectiveness of Direct Method in improving low achiever students' speaking skill.

3.6.1 Time allocation

The study was conducted in four weeks. Both the experimental and control groups were taught once a week. The treatment (direct method) was only given to the experimental group. Meanwhile, the control group got no any treatment (direct method). In addition, pre-test was given to both of the groups in the first meeting of the research. Moreover,

treatments were applied in second to fifth meeting. Then, post-test was conducted in both of the experimental and control groups in the last meeting.

3.6.2 Procedure of the research

Procedure of this research consisted of some steps. First, pilot test was required to analyze the validity, reliability and practicality of the test. The result was determined whether or not the test could be used in the study. Furthermore, pre-test, post-test and questionnaire were conducted to answer research questions. In addition, some treatments were done to the experimental group after doing pre-test.

3.6.2.1 Administering Pre-test

In the pre-test, students are asked to do the role play. According to Hughes (2007), one of appropriate techniques in assessing students' oral ability is role play in which the students are asked to assume a role in a particular situations. In this pre-test, the students are asked to introducing yourself and their friends.

3.6.2.2 Conducting the Treatments

During the experiment, the researcher met the experimental and control group once a week in each. The experimental group was given a treatment (direct method) while the control group was not given any treatment. This treatment was used in the second meeting until sixth meeting before post-test. The treatment in this study was direct method and asking students to do the role-play. The treatment was conducted in the experimental group. The design of the lesson plan was based on Curriculum 2013.

3.6.2.3 Administering Post-test

Post-test is carried out to assess the effect of the treatment (direct method) to the students' speaking skills. The oral test ability which was used was role play and the particular situation in the role play was introducing my family and someone else.

A post-test was also administered to both of the groups after the treatments given. The purpose of the test was to find out whether there are any significant differences between the experimental group and control group score. The post-test was the same as the pre-test by asking students to do the role-play. The scores of post-test were used to measure whether the implementation of direct method influences the experimental group or not.

3.6.2.4 Questionnaire

Questionnaires are distributed after post-test in order to know what on their mind about direct method was and how they can learn. According to Sugiyono (2008), questionnaire is used to collect the data when the researcher wants to know the perception of the students toward the use of direct method deeply. Questionnaire was distributed to the experimental group in order to investigate students' perspective toward the use of direct method in improving students' speaking ability in introducing someone. The questionnaire was only given to the experimental group because this group was only a group who received the treatment. The questionnaire was created by using English. The questions of the questionnaire consisted of 7 questions with close-ended questionnaire form. The research question was divided into 3 aspects as follows:

1. Students' responses toward the use of direct method in classroom.
2. Students' responses toward direct method can give motivation in speaking.
3. Students' responses toward direct method as a facility.

3.7 Data Analysis

The data analysis is conducted after collecting pre-test, post-test, and questionnaire. In order to analyze the effectiveness of the use of direct method in improving low achiever students' speaking skill, Microsoft Excel 2010 and SPSS 16 are used in this study.

3.7.1 Scoring Technique

After the pre-test and post-test have been administrated to control and experimental group, the scoring rubric was used in this study in order to analyze the data of pre-test and post-test. The scoring rubric was used because it was one of forms in spoken test document. The criteria of scoring rubric were taken from O'Malley (1996). The aim of using the scoring rubric was to measure the result of pre-test and post-test.

Table 3.2
Scoring Rubric

Speaking rubric for fluency activities

Name: _____ Rating: _____

WV Level / Segment: _____ Activity: _____

Comments:

Rating	Demonstrated competence
4	<ul style="list-style-type: none"> • Uses a variety of vocabulary and expressions • Uses a variety of structures with only occasional grammatical errors • Speaks smoothly, with little hesitation that does not interfere with communication • Stays on task and communicates effectively; almost always responds appropriately and always tries to develop the interaction • Pronunciation and intonation are almost always very clear/accurate
3	<ul style="list-style-type: none"> • Uses a variety of vocabulary and expressions, but makes some errors in word choice • Uses a variety of grammar structures, but makes some errors • Speaks with some hesitation, but it does not usually interfere with communication • Stays on task most of the time and communicates effectively; generally responds appropriately and keeps trying to develop the interaction • Pronunciation and intonation are usually clear/accurate with a few problem areas
2	<ul style="list-style-type: none"> • Uses limited vocabulary and expressions • Uses a variety of structures with frequent errors, or uses basic structures with only occasional errors • Speaks with some hesitation, which often interferes with communication • Tries to communicate, but sometimes does not respond appropriately or clearly • Pronunciation and intonation errors sometimes make it difficult to understand the student
1	<ul style="list-style-type: none"> • Uses only basic vocabulary and expressions • Uses basic structures, makes frequent errors • Hesitates too often when speaking, which often interferes with communication • Purpose isn't clear; needs a lot of help communicating; usually does not respond appropriately or clearly • Frequent problems with pronunciation and intonation

3.7.2 Data Analysis on Pre-test

The pre-test was given to both of the groups in the same procedures. The pre-test was done in the beginning of the study. The result of the pre-test was aimed to investigate the students' initial ability in speaking and was analyzed by the independent t-test. A hypothesis used

the alpha level at 0.05. According to Hatch and Farhady (1982) there are three assumptions which underlie the t-test as follows:

- 1) The subject was given to one group in experiment;
- 2) The variances' scores were equal and normally distributed;
- 3) The scores on the independent variable were continuous.

Based on the statement above, it can be concluded that the normal distribution test and homogeneity of variance test were calculated before the t-test by comparing the level of significance.

3.7.2.1 Normality of Distribution

The aim of testing the normality of the distribution is to find out whether the sample is normally distributed or not. In this research, the *Kolmogorov-Smirnov* Sample Test in SPSS version 16.0 was used to analyze the normal of distribution.

3.7.2.2 Homogeneity of variance

After conducting normality of distribution and the result was found, the researcher also need to test the homogeneity of the variance in order to get to know if there is any difference between the control and experimental group because after this test, *Levene* test formula in SPSS was used to analyze the homogeneity of variance. Then, the independent t-test applied in order to discover the null hypothesis (H_0).

3.7.2.3 The independent T-test

According to Kranzler (1999), t-test is used to determine whether the means of two groups are different to significant degree. The independent T-test is calculated by SPSS program. The result of this test was analyzed by comparing the significance value with the level of significance to the null hypothesis. If the degree of probability (p) $< 0,05$, the null hypothesis is accepted. If the null hypothesis is rejected, then the hypothesis moves to find out which group is better.

3.7.3 Data Analysis on Post-test

After the treatments are given to experimental group, the post-test was conducted to both of the group in order to find out whether there is significant difference between students after the treatment was conducted to the experimental group. In analyzing the date of post-test, The procedures were also similar to the procedures of analyzing data of pre-test and also the independent t-test was conducted in analyzing the post-test result of experimental and control groups.

In order to investigate whether there is significant difference between the two groups, a paired t-test was used in this study. In analyzing paired t-test, the researcher compared the scores of experimental group's pre-test and post-test.

3.7.4. Effect Size

In order to check the level of the treatment effect, an effect size was conducted in this study. This test was administrated after the t-test was calculated. By using t obtained from the independent t-test of post-test, the effect size was calculated. The effect size was used to determine

the effect of the treatment which was given to experimental group. The formula used manually based on the formula from Coolidge (2000) as follows:

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

Where:

r = effect size

t = t_{obt} or t_{value} from the calculation of independent t-test (post-test score)

df = degree of freedom

In order to interpret the result, the scale from Coolidge (2000) was adapted as follows:

Table 3.3

The Effect Size Scale

Effect size	r value
Small	.100
Medium	.243
Large	.371

3.7.5. Data Analysis on Questionnaire

The questionnaire was conducted in order to answer the second research questions in this study. According to Ningrat (as cited in Kusuma

2004), the questionnaire is analyzed quantitatively by using the formula of percentage with some categories and criteria of percentage. The formula of percentage of this study is described as follows:

$$P = \frac{F \times 100\%}{N}$$

P = Percentage

F= Frequency

N= Response

There some categories of this percentage as follow:

1%-25%	= A small number of students
26%-49%	= Nearly a half of students
50%	= Half of students
51%-75%	= More than half of students
76%-99%	= Almost all of students
100%	= All of students

Questionnaire was distributed in the experimental group after some treatments given to them in order to get closer and information from the students based on the treatments given and to reveal students' perspective toward the use of direct method. The questionnaire consisted of 7 questions of close-ended form.