CHAPTER III

RESEARCH METHODOLOGY

3.1. Introduction

This research study adopted quasi experimental method. Hatch and Farhady (1982) stated that quasi experimental method is practical compromises between true experimentation and the nature of human language behavior which we wish to investigate. Such designs are susceptible to some of the questions of internal and external validity. Thus, this chapter covers research design, the instruments, population and sample, and data analysis which describe the procedures of the research study to answer the three research questions previously stated in chapter one. It is in line with Nunan's (1992) statement that a methodical investigation consists of a question, a problem, hypothesis, data, and the analysis or interpretation of data. The method of this research study was quantitative that to conclude the data with experimental method chosen to test the hypothesis served.

3.2. Research Design

Since this research study was a quasi experimental design, there were two groups taken as the investigated groups in this research study. Fraenkel and Wallen (1990) say the design as comparison group design. One group was for the

experimental group that received *Total Physical Response* (TPR) as its treatments, while another group was for the control group that did not receive any treatments. The control group run the teaching learning process as they usually do daily, used the lesson plan of the school. On the other words, this group uses conventional method of teaching learning process. While experimental group run teaching learning process in which the classroom activities and lesson plan adopted implemented method activities.

Pre-test and post-test were used in this research study to answer the research question. Hatch and Farhady (1982) say that the pre-test and post-test non equivalent groups design is often used in classroom experiments when experimental and control group are such naturally assembled groups as intact classes which may be similar. Thus, based on quasi experimental design (pre and post design), the research design of the study will be illustrated below.

Table 3.1

The Research Design

Sample	Pretest	Treatment	Posttest
Experimental Group	X_{1E}	✓	X_{2E}
Control Group	X_{1C}	x	X_{2C}

X_{1E}: Student's speaking ability of experimental group in the pre-test

X_{1C}: Student's speaking ability of control group in the pre-test

X_{2E}: Student's speaking ability of experimental group in the post-test

X_{2C}: Student's speaking ability of control group in the post-test

From the research design above, treatment was only given to the experimental group. Pre-test was administered before the implementation of *Total Physical Response* (TPR) as the treatment. At the end of the treatment period, post-test was held to assess students' speaking ability. It can be conclude that in this research study, TPR as the implemented method was the independent variable and become the major variable to be investigated. So, the dependent variable was the students' speaking ability. The dependent variable is the variable which is observed and measured to determine the effect of the independent variable (Hatch and Farhady, 1982).

This research study began with null hypothesis (H_0) that experimental and control group are similar stated as follows:

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

Kranzler and Moursund (1998) states this as there is no difference between experimental class and control class in the mean adjustment level. By using null hypothesis, every possibility of a research study can be shown.

3.2.1. Data Collection

In collecting data, this research study was started from the steps of organizing teaching procedures in experimental and control group classes, organizing the research instruments, trying out test instrument, and then administering pre-test to both control and experimental groups in order to find out initial abilities between the two groups who have the similar level in speaking ability.

After that lesson plans were organized to implement *Total Physical Response* (TPR) in teaching speaking to experimental group students and teach speaking with conventional method to control group. At the end of experimental treatment, post-test was administered to both control and experimental groups in order to find out the result of the treatment. Furthermore, to answer second and third research questions, interview was administered towards experimental group in order to gather further information about students' response in the implementation of *Total Physical Response* (TPR).

3.2.1.1. Population and Sample of the Study

In this research study, the population is fifth grade students of SD Tunas Harapan Bandung. The school was chosen due to several easier accesses to conduct a research study there.

Since sample of a study is smaller than the population, not all the members of the population to assess. Thus, this research study only used two classes as the sample of study. Sample is the group on whom data are collected and for whom comparisons are made (Fraenkel and Wallen, 1990). The first class, 5B was the experimental group and the other, 5A, was the control group. Each class consists of 41 students; therefore the total number of the students of the study is 82 students. To anticipate the absence of some students during the research, there were only 35 students from each class as the sample. So the fix number of the sample is 70 students.

3.2.1.2. Research Instruments

Since the study was quasi experimental, pre-test and post-tests were be used as instruments to collect the data. The collected data were the scores obtained from pre and post test that are given to both control and experimental group. The scores from pre-test were used to see that the initial ability of both group were similar before conducting treatment. On the other hand, the scores from post-test were used to measure whether the implemented method influences the experimental group or not.

. In addition, to answer second and third research questions and to support the validity of the collected data, open interview was administered to students to find out the advantages and disadvantages of implementation of the method in

learning speaking from students' point of view, and to see the students' strategies to overcome the obstacles in learning speaking by using TPR.

In this research study, speaking test served as the first research instrument. The speaking test was held twice, in the pre-test and post-test. It was used to reveal the implementation of *Total Physical Response* (TPR) in teaching speaking ability of the experimental group students.

Speaking Ability to be measured in this research study was the ability to *introduce oneself and other, make invitation, ask for permission, give permission, express agreement and disagreement, express prohibition, give suggestions, give order and command), give instructions, ask for help, give help, ask for something, give something, and politely offer or request something (Shall we … , Do you mind … ?).*

Oral test was given to experimental and control group in pre-test and post-test. The aim of pre-test was to measure the students; initial ability in speaking while the post-test was conducted to assess students' ability after receiving treatment.

Before applying the instrument to the experimental and control group, the instrument was tried out in the pilot test to check its validity and reliability. In formulating the test instrument, the points to be considered are the relevance of the test instruments to the purpose of the study, and the relevance of the test instruments to the curriculum. The following is the syllabus for fifth graders in

speaking aspect that were taken as the considerations in formulating test instruments.

Table 3.2

Syllabus of Elementary School

Aspect	Standard Competence	Basic Competence
Speaking	Giving simple instruction and information in school context	1. Using expressions to give suggestions, command, order, and direction 2. Using expressions to ask for help, offer help, ask for something, and give something 3. Using expressions to introduce oneself, make invitation, ask permission, give permission, express agreement, express disagreement, and express prohibition 4. Using polite utterance such as: *Do you mind …* and *Shall we …*

Open interview was then administered to the students to find out the advantages and disadvantages of implementation of the method from students' point of view , and the students' strategies to overcome the obstacles in learning speaking by using TPR.

It aimed in getting a description about information related to the process of implementation of *Total Physical Response* (TPR) which was not described in results of speaking test instruments-pre-test and post-test. It can also be used to draw a conclusion relate to the students' behavior or response concerning the implementation of *Total Physical Response* (TPR). There were five open-ended questions asked to the students of the experimental group after the posttest was conducted.

3.2.2. Research Procedure

It was previously mentioned that this research study started from organizing teaching procedure. After organizing the teaching procedure, pilot test was conducted to check the validity and reliability of the instrument. To answer the research questions of the study, pre-test, post-test and interview were conducted.

3.2.2.1. Organizing Teaching Procedure

This quasi experimental study was to see the effect of the two different groups: experimental and control group. The experimental group was taught using *Total Physical Response* (TPR), while the control group used the conventional method of teaching learning process.

Pre-test was conducted before the treatment while post-test was after the treatments. Such activities were conducted to both groups to see the improvement of speaking ability. The research schedule is figured out in the next following table.

Table 3.3

Research Schedule

No	Experimental Group		Control Group	
	Date	**Theme/Material**	**Date**	**Theme/Material**
1.	28-09-2009	Pre-test	29-09-2009	Pre-test
2.	30-09-2009	Treatment 1: **Getting to Know Each Other** (Introducing and Making Invitation)	01-10-2009	Treatment 1: Given Expressions of Introducing and Making Invitation
3.	03-10-2009	Treatment 2: **Family**	03-10-2009	Treatment 2:

		Discussion (Permission and Agreement)		Given Expressions of Permission and Agreement
4.	05-10-2009	Treatment 3: **School Regulation** (Prohibition and Suggestions)	05-10-2009	Treatment 3: Given Expressions of Prohibition and Suggestions
5.	07-10-2009	Treatment 4: **Go to the Restaurant** (Command, Order, Polite Request)	07-10-2009	Treatment 4: Given Expressions of Command, Order, Polite Request
6.	10-10-2009	Treatment 5: **Travelling** (Help and Directions)	10-10-2009	Treatment 5: Given Expressions of Help and Directions
7.	12-10-2009	Review	12-10-2009	Review
8.	14-10-2009	Post-test	15-10-2009	Post-test

3.2.2.2 Administering Pilot Test

A research instrument is good if it has a high relevance level (Faisal, 1981). The pilot test as try out of the research instrument is necessarily administered to find out the validity and reliability of the instrument (Arikunto, 2006). It is aimed to measure the instrument's relevance. The test used in the research is categorized into standard test so it is not necessary to be tried out to find its validity and reliability. As well Arikunto (2006) adds that a standard test conducted is not necessary to be tried out.

On the other hand, though considering the relevance to the curriculum, the speaking test instruments in this study need a pilot test since it is developed by the researcher. The pilot test was administered towards ten respondents drawn from respondents of the research beside the research study sample to check test instruments' validity and reliability.

3.2.2.3. Conducting the Treatment

The experimental group will be treated using *Total Physical Response* (TPR) as explain previously. On the other hand, the control group will not be given the mentioned method as treatments. They will be taught using conventional method of teaching learning process. Nevertheless, both groups are in similar condition. One thing differs the two groups is only the implemented method that used to teach speaking to the experimental group.

The implementation of *Total Physical Response* will be shown in the lesson plans in the appendices.

Implementing TPR, teaching learning process in the experimental group adopted Series Method and Dialogue Generation. The Series Method involves getting the teacher to tell students the steps involved in doing something. In this case related to useful expressions learned. Before that, students ideally have learned list of general body movement words and general verbs that students can use with objects, as follows:

Table 3.4

List of Words in TPR Implementation

General Body Movement	General Verbs to be Used with Objects	
Stand up	Where is	Take (back)
Sit Down	Touch	Throw
Walk (2steps, 3steps	Show me	Catch
Stop	Move	Turn over
Turn (left, right, around)	Put (down, back)	Put
Jum	Give (me, him)	Push

Students might not understand the list of words at first, but eventually they understand along with the meaning after listening to the teacher several times without any translation. They made some notes and took up a lot of time memorizing, thus they instead were able to elicit and learn to understand many different Series Method. Furthermore, they can adapt them to the particular context and needs.

Adapting Dialogue Generation help the students learned typical interactions between two people in different situations with difficulty or complexity of the dialogue being aimed at their ability level.

It has previously mentioned that TPR was only implemented in experimental group whereas the control group ran the teaching learning process conventionally. They were given useful expressions and asked to remember the expressions along with the functions and the meaning whereas translation method is avoided in TPR implementation.

3.2.2.4. Administering Pre-test and Post-test

Pre-test was administered to both experimental and control group before the treatment conducted to experimental group. After series of treatment was implemented, post-test was also administered to both groups. The scores from pre-test were used to see that the initial ability of both group were similar before conducting treatment. On the other hand, the scores from post-test were used to

measure whether the implemented method influences the experimental group or not.

3.2.2.5. Administering Interview

In order to get descriptions of information concerning the implementation of *Total Physical Response* (TPR), such as to find out the advantages and disadvantages of implementation of the method from students' point of view, and their strategies to overcome the obstacles in learning speaking by using TPR, the students of experimental group were interviewed.

The data collected from the interview were interpreted and grouped into the advantages and disadvantages of implementation of *Total Physical Response* (TPR) from the students' point of view, and students' strategies to overcome the obstacles in learning speaking by using TPR.

Moreover, the data taken from interview can support the validity test result. The data can show the students' language behavior towards the implemented method. Students' language behavior were then be interpreted into their response to the implemented method. Positive response of students such as being involve in the teaching learning process or being lively can support the data that mention the advantages of the implemented method. On the other hand, any possibly negative response such as hesitance of the students can support the data that mention the disadvantages of the implementation of *Total Physical Response* (TPR) to the experimental group.

3.2.3. Data Analysis

The analysis of the data is done after collecting the required data and the conclusions are made after completing the whole process of this research study (pre-test, post-test, and interview).

3.2.3.1. Scoring Technique

According to Cameron (2001), a speaker needs to find the most appropriate *words* and the correct *grammar* to convey meaning accurately and precisely, and needs to organize the discourse so that a listener will understand. The aspects of speaking ability to be measured are the fluency, grammar, context and vocabulary. Each aspect will be measured as follows:

Fluency

10 = the speaker speaks naturally and continuously.

8 – 9 = the speaker generally speaks naturally and continuously but there are some pauses in the utterances.

6 – 7 = there are some pauses in the utterances but the speaker manages to rephrase and continue.

5 – 6 = the speaker speaks less continuously, and there are many pauses in the utterances.

<5 = there are long pauses, and utterances are left unfinished or there is no response.

Grammar

10 = the utterances of the speaker are clear and logical.

8 – 9 = the utterances are uttered clearly by the speaker.

6 – 7 = the utterances are uttered logically by the speaker.

5 – 6 = the utterances of the speaker are unclear.

Context

10 = the speaker includes context to present sufficient information.

8 – 9 = contextual information is not presented in detail by the speaker.

6 – 7 = some contexts are not included in the utterances by the speaker.

<6 = the utterances present no contexts.

Vocabulary

10 = the words used are selected, varied, and relevant with the situation and condition.

8 – 9 = the chosen words are varied and generally relevant with the situation but there are some inappropriate words.

6 – 7 = the words have already been relevant with the topic and situation; they however do not have any variation.

5 – 6 = there are lots of words used inappropriately.

<5 = poor and irrelevant words related to the topics and situation are used in the utterances.

3.2.3.2. Data Analysis on Pilot Test

The aim of administering pilot test was to check the validity and reliability of speaking test. If the respondents had the ability to understand the instruction of the instrument and were able to give appropriate responses, it can be conclude that the instrument can be used to conduct pre-test. The data from the oral pilot test were transcribed to check respondents' response and to see whether or not the responses fulfill all the speaking aspects to be measured

3.2.3.3. Data Analysis on Pretest and Posttest

The data obtained from the pre-test was aimed to investigate students' initial ability in speaking and was analyzed by the independent sample t-test statistics. Beforehand, hypothesis was stated with the alpha level at 0.05. Hatch and Farhady (1982) states three assumptions underlying the t-test that the subject is allotted to one group in experiment, the variances' scores are equal and normally distributed, and the scores on independent variable are continuous. For that reason, test of normal distribution test and the homogeneity of variance test were done before the t-test calculation by comparing the level of significance. SPSS 16 for windows was used in this research study. In detail, Kolmogorov-

Smirnov was used in analyzing the normal distribution, Levene Test Formula in SPSS was used to analyze the variance homogeneity, and finally independent samples t-test was used to test the null hypothesis (H_0) whether or not any difference between control group and experimental group students' initial ability in speaking.

Independent samples t-test was also conducted in analyzing the post-test scores of control and experimental group students to compare mean of both group. Then, the calculation of effect size was conducted by using t obtained from the independent sample t-test of post-test.

To investigate whether or not the difference of pre-test and post-test means of each group is significant, matched t-test was used in this research study following the nearly similar steps as in comparing pre-test of both groups. The scores of pre-test and post-test for the experimental group were also computed to find the level of speaking ability of students of the group before and after TPR implementation. Furthermore, to check the level of effect of the treatment, test of effect size was administered after t-test calculation.

3.2.3.4. Data Analysis on Interview

The interview data were transcribed and classified to obtain information about *Total Physical Response* (TPR) implemented in the experimental group class. The administering of interview was aimed to answer second and third research questions or to find out the advantages and disadvantages of TPR

implementation from the students' point of view and the students' strategies to overcome the obstacles in learning speaking with TPR implementation. The interview result interpretation is given in the next chapter.