CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Method

3.1.1 Research Design

The design for this research is the quasi-experimental design. Quasi experimental design uses experimental and control groups, but no random assignment of subjects (Creswell, 2003, p. 167). Marczyk, DeMatteo, and Festinger (2005) view quasi experimental design as one of the best research approaches since it allows researcher to begin to examine the real-world phenomena and begin to establish casual inferences.

Using this design, two classes are investigated. One class is made as the experimental group which is taught the material with Jigsaw strategy as treatment. While the other class is a control group which receives three phases framework treatment.

Since there are several categories in quasi experimental design, pre-test and post-test group design is used in this research. The pre-test and post-test are administered to both groups with the following formula:

Table 3.

Quasi Experimental Study (Creswell, 2003, p. 169)

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

X1e : Students' writing skill of experimental group in pre-test

X1c : Students' writing skill of control group in pre-test

X2e : Students' writing skill of experimental group in post-test

X2c : Students' writing skill of control group in post-test

T : Treatment using Jigsaw strategy

3.2 Data Collection

The data for the study are collected from the sample through questionnaire, pre-test and post-test results. The questionnaire is distributed to find out the challenges that students encounter while writing a recount text. The pre-test and post-test result is used to find out the effectiveness of Jigsaw in improving students' skill in writing a recount text.

3.2.1 Population and Sample

Population is a group of interest whom would like to generalize the result of the study (Fraenkel & Wallen, 2006, p. 93). Whilst, sample is the group of participants in a study which the researcher generalizes to the target population. The population of this research was the eleventh grade students of vocational school in Bandung since recount text is taught in this grade.

For the purpose of the research, two classes have been chosen as the sample. The classes are divided into experimental group and control group. Both experimental and control groups consist of 30 students and. They are selected based on the selection made by the school. Therefore, the total number of sample is 60 students.

3.2.2 Research Instruments

This study uses questionnaire, pre-test and post-test as the instruments to collect data.

3.2.2.1 Questionnaire

Questionnaire is a form of data collection in survey research that participants in a study complete and return to the researcher. Ruddell (2005) states that questionnaires are intended to give an overview of how students view their own literacy abilities and the kind of reading and writing activities they do independently and of their own choice. Questionnaire in this study involves 10 questions. It is intended to obtain information about students' opinion towards the challenges in writing a recount text. The questionnaire used in this research can be seen in Appendix A.

3.2.2.2 Pre-test and Post-test

According to Jackson (2009, p. 63) achievement tests are intended to measure an individual knowledge or skill in an area. Since the research uses quasi experimental design, pre-test and post-test is used in this research. Pre-test is administered to capture the initial differences between the groups on the other hand, post-test served to find out the improvement of their writing achievement. The pre-test and post-test questions can be seen in Appendix B.

3.3 Research Procedure

In the research, Jigsaw strategy is used as treatment for the experimental group.

3.3.1 Administering Pilot test

Before conducting the pre-test and post-test, the pilot test is given to find out the students level of knowledge before actually starting the experiment (Leary, 2012, p. 187). In this research, the pilot test is given to the students who have the same grade with experimental and control group students and already learned recount text. In this test, the students are asked to write a recount text and the topic is about "holiday".

3.3.2 Conducting the Pre-test

Pre-test is carried out to find out the students' skill in writing. In the pre-test, the students are assigned to write a recount text. The writing test that is used in the pre-test is formulated based on the book Effective Communication (Widyantoro, Pratiwi, & Prihatini, 2008).

3.3.3 Distributing the Questionnaire

After the pre-test, questionnaires are distributed to find out the challenges students encounter in writing recount text.

3.3.4 Conducting the Jigsaw Strategy to the Experimental Group

During the experiment, researcher meets experimental group twice a week. The experimental group is given treatment in the period of four meetings, while the control group is taught by conventional method. Both of the groups are given the same pre-test and post-test in order to find out whether or not the experimental group has made progress in their writing skill after the implementation of the Jigsaw strategy in the classroom.

In applying Jigsaw strategy in the classroom, researcher sequences the class activity based on the procedures are as follows:

Table 4.

Jigsaw Strategy Treatment

No.	Procedures in Jigsaw Treatment
1.	Pre-Activity a. Teacher (T) opens the lesson b. T checks Students (Ss) attendance c. T asks Ss about what do they know about recount text that will be given
2.	Main Activity a. T applies jigsaw strategy: • Ss are grouped into groups of 4 called "home groups". • A student from each group is chosen to be a leader. • T divides the material into 4 parts. • Every student in a group is given a different part of material so a group makes a complete text. • Ss are given time to read and find out the generic structure and language features of their own part. • Ss are re-grouped into "expert groups" which have the same part. These groups are assigned to share their understanding and identify whether their part is orientation, record of events, re-orientation or conclusion. • Ss leave their "expert groups" and go back to their "home groups".

	• Ss make presentation on their segment of the text to their home group's members b. T observes the process and gives interventions if needed c. T asks Ss to make a recount text individually
3.	Post Activity a. T and Ss conclude the material which has been learnt b. Ss are given opportunities to ask about their difficulties during learning process

The lesson plan using Jigsaw strategy can be seen in Appendix C.

3.3.5 Teaching the Control Group

The method to teach the control group is presented below:

Table 5.

Three Phases Framework Control Group

No	Teaching Activity
1.	Pre-Activity a. T opens the lesson b. T checks Ss attendance c. T asks about students' knowledge of recount text that will be given
2.	Main Activity a. Ss are given explanation about the purpose, focus, types, generic structure, and language features of a text

	b. T distributes sample text of recount to Ss c. Ss are asked to make a list of the purpose, focus, types, generic structure, and language features of the text d. T asks Ss to make a recount text
3.	Post Activity a. T and Ss conclude the material which has been learned b. Ss are given opportunities to ask about their difficulties during learning process

The lesson plan of control group can be seen in Appendix D.

3.3.6 Conducting the Post-test

Post-test is carried out to find out students' skill in writing a recount text after being taught using Jigsaw as the learning strategy. The writing test that is used in the pre-test is formulated based on Effective Communication book (Widyantoro, Pratiwi, & Prihatini, 2008).

3.4 Data Analysis

In this research, two kinds of analyses are carried out, they are questionnaire data analysis and pre-test and post-test data analysis.

3.4.1 Data Analysis on Pilot test

The pilot test is conducted to another class on the same grade. The pilot test is aimed to check the validity and reliability of the instrument. It is conducted

before doing the pre-test. If the respondents are able to write the given instruction, it could be concluded that the instrument could be used for pre-test and post-test.

3.4.1.1 Validity

Validity refers to a measurement procedure actually measures what it is intended to measure rather than measuring something else or nothing at all (Leary, 2012, p. 61). In this research, SPSS 20.00 program is applied to reveal the validity of instrument. The correlations of a certain value are associated with a certain nominal degree of relationship in validity test such that:

Table 6.

The Correlations of Certain Value of Validity (Salkind, 2012)

Correlations between	Are said to be
.8 and 1.0	Very strong
.6 and .8	Strong
.4 and .6	Moderate
.2 and .4	Weak
.0 and .2	Very weak

3.4.1.2 Reliability

"Reliability refers to the consistency or dependability of a measuring technique" (Leary, 2012, p. 53). In this research, SPSS 20.00 program is applied to reveal the reliability of instrument. To interpret the coefficient of realibility, the following criteria are employed:

Table 7.

Coefficient Reliability (Salkind, 2012)

Coefficient Reliability	Interpretation
0.00 – 0.19	Very Poor
0.20 – 0.39	Poor
0.40 – 0.59	Moderate
0.60 – 0.79	Good
0.80 – 1.0	Excellent

3.4.2 The Data Analysis of Questionnaire

The analysis of questionnaire is drawn from the frequency of students' answers. The formula of percentage of this analysis described as follows:

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

P = percentage

F = frequency

N = response

100% = constant

The criteria of percentage category are:

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

3.4.3 Scoring Rubric

After the pre-test and post-test on control and experimental group have been administered, the result are scored using recount text scoring rubric from Coffin, 2003 & Hyland, 2004 (cited in Emilia, 2011). There are three aspects of writing ability in recount text to be measured; content, schematic structure, and language use. The scoring rubric can be seen in Appendix E.

3.4.4 Data Analysis on Pre-test and Post-test

The collected data through pre-test and post-test are computed using IBM SPSS program. Coolidge (2000) stated that before performing the independent t-test, the output data of the pre-test should fulfilled the criteria underlying t-test as follows:

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

For the reason, normal distribution test, homogeneity of variances test, and independent t-test are performed before calculating the data using t-test formula.

3.4.4.1 Normal Distribution Test

The normal distribution is used in this study to find out whether or not the distribution of pre-test and post-test scores are normal. This test is calculated before t-test. Kolmogorov-Smirnov formula is used in this study by using SPSS program. The output data is simply concluded as: if Asymp. Sig>0.05, the null hypothesis is accepted. It means the sample scores are normally distributed.

3.4.4.2 Homogeneity of Variance Test

In an experimental research, one of requirements that should be fulfilled is the variances of experimental and control group are approximately the same (Corder & Foreman, 2009, p. 14). To analyze that, Levene's test is used by using SPSS 20.00 program.

If Asymp. Sig<0.05, the null hypothesis is rejected, it infers that the two groups are not equal. On the contrary, if Asymp. Sig>0.05, the null hypothesis is accepted, it infers that the variance data of the two groups are equal; the data are homogenous.

3.4.4.3 The Independent T-test

Independent t-test is used to analyze a causative relationship between two groups' means. The independent test is calculated by computation of SPSS program.

Therefore, the result of this test is analyzed by comparing the significance value with the level of significance to test the hypothesis. If $\boldsymbol{t_{obs} < t_{crit}}$, or if the degree of probability (p) < 0.05, the null hypothesis is accepted. If the null hypothesis is rejected, then move to the alternative hypothesis to figure out which group is better. The result is then ready to be interpreted.