

CHAPTER III

RESEARCH METHODOLOGY

This chapter elaborates the methodology used in conducting this study. It describes four main parts of the investigation which are research design, data collection technique, research procedures, and data analysis technique.

1.1 Formulation of the problems

This study mainly focuses on the implementation of PWIM to improve students' ability in writing a recount text. Therefore, two questions were formulated in this research as follow.

1. Does the use of PWIM improve the students' ability in writing recount text?

1.2 Research Design

The purpose of this study is to investigate whether there is any improvement of students' ability in writing a recount text after implementing PWIM. This study employs a quasi-experimental design and focuses on two variables which are the PWIM as an independent variable and students' writing ability as a dependent variable. Quasi-experimental design is used in this study since the design is aimed to find out the influence of independent variable which is in line with the purposes of the study (Sugiono, 2008). The quasi-experimental used is the non-equivalent control group design with pretest and posttest. This design is also used since students are naturally organized in groups as classes within school and considered to share similar characteristics (Best & Kahn, 2006). Non-equivalent groups specifically mean that participant's characteristics may not be balanced equally between the control and experimental group. In addition, non-equivalent groups mean that participants' experiences during the study may be different (Heiman, 1999). The non-equivalent control group design with pretest and posttest is represented in the following figure.

| Group | Pretest | Treatment | Posttest |
|--------------|---------|-----------|----------|
| Experimental | O1 | X | O2 |
| Control | O1 | - | O2 |

Figure 3.1 Research Design

In this design, O1 represents pretest, X represents the treatment implemented, and O2 represents posttest (Cohen et al., 2007). Therefore, both control and experimental groups completed pretest and posttest. The experimental group is the only group that receives the research treatment. The experimental group receives a treatment while the control group does not (Hatch&Farhady, 1982). The experimental group receives PWIM in teaching recount text as a treatment, while the control group refers to a group of students that receives direct instruction in writing recount text.

1.3 Hypothesis

The hypothesis of this study is in the form of Null Hypothesis (Ho) and alternative hypothesis (Ha). According to Coolidge (2000), hypotheses are stated as follow:

- Ho : There is no significance difference between students' posttest scores in the experimental group and students' posttest scores in the control group
- Ha : There is a significance difference between students' posttest scores in the experimental group and students' posttest score in the control group.

If the result of the test shows that the implementation of PWIM in teaching writing recount text does not improve students' writing ability, it means that Ho (null hypothesis) is accepted. Yet, if the result shows that the implementation of

PWIM in teaching writing recount text improves students' writing skill, null hypothesis (Ho) is rejected, and alternative hypothesis (Ha) is accepted.

1.4 Data Collection

1.4.1 Population and Sample

As stated by Sugiyono (2010), population is generalization area consisting of subjects that has certain quality and characteristics decided by the researcher to be researched and taken conclusion then.

The population of this research is taken from students of SMPN 1 Bandung in the academic year of 2016/2017. The research takes place during second semester. Eighth grade students are selected as the population because recount text is taught in the first and second semester of this grade. The samples are only two classes which are class VIII-2 as the control group and VIII-4 as the experimental group. The total population is 60 students coming from both classes. The two classes are selected since they got similar and equal pretest results.

1.4.2 Research Instrument

This quasi-experimental research employs two instruments to collect the data that further are used to answer the research questions of this study. The first instrument is test that is divided into pretest and posttest. Pretest was administered before giving the treatment in order to identify the students' ability in both groups; experimental and control groups. While, the posttest was administered only to the experimental group after the students got the treatment which is used to know whether or not there is a significance improvement of students' ability in writing recount text. The students' scores of pretest and posttest then were calculated by using t-test. Further, the result of the computation was analyzed and interpreted by the researcher.

1.5 Research Procedure

1.5.1 Testing the validity of the pretest and posttest through pilot test

Pilot study is pre-testing or 'trying out' of a particular research instrument (Baker, 1994). One of the advantages of conducting a pilot study is that it might give advance warning about where the main research project could fail, where research protocols may not be followed, or whether proposed methods or instruments are inappropriate or too complicated (De Vaus, 1993). The pretest and posttest are valid to be tested to the students if the face validity and content validity are possessed by the tests. In order to find out whether or not both pretest and posttest have face and content validity, the test instruments can be checked through administering the pilot test. The pilot test of the study was conducted before giving the pretest. The test was given to five students who were not included in the experimental and control groups but still at the same grade. In the pilot test, the five-students were given an instruction to make a recount text based on selected topic to identify whether they understand the instruction or not by checking their final writing.

1.5.2 Administering pretest

As the first step of the study, pretest was given before the treatment. It was performed to both groups; experimental and control group. The pretest was administered by using written test. Both experimental and control group were asked to write a recount text based on selected topic. Furthermore, the pretest is aimed to investigate whether or not the students from both groups are equal in terms of test result before receiving the treatment.

1.5.3 Conducting treatment

The treatment was only implemented in the experimental group, while the conventional method was implemented in the control group. Even though the methods were different but the teaching materials were similar. The treatment given was in the form of the implementation of PWIM to assist students in writing recount text. The treatment was implemented four times. The lesson plans were designed according to the standard competence written in syllabus used at the school. The schedule of the treatments given can be seen on the following time table

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Table 3.2 The Schedule of Treatments

| CLASS | MEETING | ACTIVITY | TOPIC |
|---------------------------|----------------|--|--|
| Experimental group | 1 | Pre-Test | In pre-test, the students were asked to write a recount text based on their holiday experience. |
| | 2 | Introduction to Recount Text | Recount text: definition, social function, generic structure, and language feature. |
| | 3 | Introduction to PWIM (Writing recount text using PWIM strategy) | After introducing PWIM, the students were assigned to make a recount text based on the picture given using PWIM strategy. The phases are: Phase one: shake out, vocabulary development and word study. Phase two: classifying and analyzing word properties (group). Phase three: titles, topics and main ideas (group). Phase four: Sentences (group). Phase five: Paragraph (individually). |
| | 4 | <ul style="list-style-type: none"> • Language feature of recount text • Editing and Revising | Language features of recount text: past tense. |
| | 5 | Writing recount text using PWIM | The students were assigned to make a recount text based on the picture given using PWIM strategy for the second time. The phases are: |

| | | | |
|----------------------|---|---|--|
| | | | Phase one: shake out, vocabulary development and word study. Phase two: classifying and analyzing word properties (individually). Phase three: titles, topics and main ideas (individually). Phase four: Sentences (individually). Phase five: Paragraph (individually). |
| | 6 | <ul style="list-style-type: none"> • Post-Test • Questionnaire | |
| Control Group | 1 | <ul style="list-style-type: none"> • Introduction • Pretest | In pre-test, the students asked to write a recount text based on their holiday experience. |
| | 2 | Introduction to recount text | Recount text: definition, social function, generic structure, and language feature. |
| | 3 | Writing recount text | The students assigned to make a recount text based on the theme given |
| | 4 | <ul style="list-style-type: none"> • Language features • Editing and Revising | Language features of recount text: past tense. |
| | 5 | Writing recount text | The students assigned to make a recount text based on the theme given for the second time. |
| | 6 | Post test | |

1.5.4 Administering posttest

The posttest was administered to the research participants after the whole treatments had been implemented. The posttest was administered to both experimental and control groups. The test is aimed to find out the differences between scores gained by experimental and control group students after implementing the treatment. Furthermore, the instruction given in posttest is almost similar to the pretest in which the students were asked to write recount text based on selected topic.

1.6 Data Analysis

3.6.1 Scoring Technique

Scores and criteria were settled beforehand to give a brief explanation for every score given in assessing students' writing ability. Moreover, it is also aimed to acquire valid scores that define students' writing ability. Thus, this research adopted the rubric proposed by Harri (1969) in Hughes (2003). The criteria involved content, vocabulary, generic structure, and language features. The details of the rating scale are shown in the following table:

Table 3.2 Scoring Rubric

| No | Aspect | Score | Description |
|----|---------|-------|---|
| 1 | Grammar | 6 | Few (if any) noticeable errors of grammar of word order |
| | | 5 | Some errors of grammar or word order which do not, however, interfere with comprehension. |
| | | 4 | Errors of grammar of word order fairly frequent; occasional re-reading necessary for full comprehension |
| | | 3 | Errors of grammar or word order frequent; efforts of interpretation sometimes required on reader's part |
| | | 2 | Errors of grammar or word order frequent; efforts of interpretation sometimes required on reader's part |
| 1 | | | |

| | | | |
|---|------------|---|--|
| | | | <p>Errors of grammar or word order very frequent; reader often has to rely on own interpretation</p> <p>Errors of grammar or word order so severe as to make comprehension virtually impossible</p> |
| 2 | Vocabulary | <p>6</p> <p>5</p> <p>4</p> <p>3</p> <p>2</p> <p>1</p> | <p>Use of vocabulary and idiom rarely (if at all) distinguishable from that of educated native writer</p> <p>Occasionally uses inappropriate terms relies or circumlocutions; expression of ideas hardly impaired</p> <p>Use wrong or inappropriate words fairly frequent; expression of ideas may be limited because of ideas inadequate vocabulary</p> <p>Limited vocabulary and frequent errors clearly hinder expression of ideas</p> <p>Vocabulary so limited and so frequently misused that reader must often rely on own interpretation</p> <p>Vocabulary limitation so extreme as to make writing virtually impossible</p> |
| 3 | Mechanics | <p>6</p> <p>5</p> <p>4</p> <p>3</p> <p>2</p> <p>1</p> | <p>Few (if any) noticeable lapses in punctuation or spelling</p> <p>Occasional lapses in punctuation or spelling which do not, however, interfere with comprehension</p> <p>Errors in punctuation or spelling fairly frequent; occasional rereading necessary for full comprehension</p> <p>Frequent errors in spelling or punctuation; lead sometimes to obscurity</p> <p>Errors in spelling or punctuation so frequent that reader must often rely on own interpretation</p> <p>Errors in spelling or punctuation so severe as to</p> |

| | | | |
|---|--------------|---|---|
| | | | make comprehension virtually impossible |
| 4 | Style | 6 | Choice of structures and vocabulary consistently appropriate; like that of educated native writer |
| | | 5 | Occasional lack of consistency in choice of structures and vocabulary which does not, however, impair overall ease of communication |
| | | 4 | ‘Patchy’, with some structures or vocabulary items noticeably inappropriate to general style |
| | | 3 | Structures or vocabulary items sometimes not only in appropriate but also misused, little sense of ease communication |
| | | 2 | Communication often impaired by completely inappropriate or misused structures or vocabulary items. |
| | | 1 | A hotchpotch of half- learned misused structures and vocabulary items rendering communication almost impossible. |
| 5 | Organization | 6 | Highly organized; clear progression of ideas well linked; like educated native writer |
| | | 5 | Material well organized; links could occasionally be clearer but communication not impaired |
| | | 4 | Some lack of organization; re-reading required for clarification of ideas. |
| | | 3 | Little or no attempt at connectivity, though reader can deduce some organization |
| | | 2 | Individual ideas may be clear, but very difficult to deduce connection between them |
| | | 1 | Lack of organization so severe that communication is seriously impaired |

The score of each aspect range from 1 to 6, in which the maximum score of five aspects is 30. The score are calculated using this formula:

$$\text{The student's score} = \frac{\sum \text{aspects (G+V+M+S+O)}}{\text{the maximum score}} \times 100$$

After getting all students' score in the classroom, the researcher compared the results of pretest and posttest to know whether there is any improvement or not after applying the PWIM.

1.6.2 Data analysis on pilot test

The pilot test was administered to check the validity and reliability of the instruments. If the respondents had the ability to understand the instruction of the instruments and were able to give appropriate responses, it can be concluded that the instruments can be used as the pretest and posttest.

1.6.3 Data analysis on pre-test and post-test

Pretest and posttest were given in both experimental and control groups. In analyzing the data of pretest and posttest, t-test is used to compare the means' difference between both tests. According to Coolidge (2000) the following criteria should be fulfilled before the data is analyzed by t-test. First, the data should have normal distribution. Second, the variance of two groups must be homogenous. Third, the participants must be different in each group. Therefore, the data will be analyzed using normality distribution, homogeneity of variance test, and will be continued using independent t-test, dependent t-test, and effect size. The data computation used Microsoft Excel 2010, SPSS 23 for Windows and some statistical formulas. The details were explained as follows.

1.6.3.1 Normality distribution test

This test is performed to determine whether the data of both experimental and control groups are normally distributed or not. The statistical calculation of

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normality distribution test used Kalmogorov-Smornov test guided by following three steps.

- 1) Setting the level of significance (p) at 0.05 and establishing the hypothesis as follows:
Ho: the scores of experimental and control groups are normally-distributed
Ha: the scores of the experimental and control groups are not normally-distributed
- 2) Analyzing the normality distribution with Kalmogorov-Smirnov test in SPSS 23 for windows.
- 3) Comparing the Asymp.sig with the level of significance (p), if the asymp.sig is higher than level of significance (0,05), the null hypothesis is not rejected, while the alternative hypothesis is rejected. It means that the score are normally distributed.

1.6.3.2 Homogeneity of Variance

Other requirement that should be fulfilled in conducting experimental research is the control and experimental groups must be homogenous and having similar characteristics (Sugiyono, 20011). The variance homogeneity test was conducted to find out whether the two groups in the t-test are equal or approximately equal (Coolidge, 2000). The homogeneity of variance test used Lavene test in SPSS 23 for Windows. The steps are described as follows.

- 1) Setting the level of significance (p) at 0,05 and establishing the hypothesis as follows:
Ho: the variances of the experimental and the control groups are homogenous
Ha: the variances of the experimental and the control groups are homogenous
- 2) Analyzing the homogeneity of variance by using Lavene test.
- 3) Comparing the Asymp.sig with the level of significance (p) for testing the hypothesis. If the asymp.sig is more than the level of significance (0,05), the null hypothesis is not rejected, while the alternative hypothesis is rejected. It means that the scores are homogenous.

1.6.3.3 Independent t-test

Independent test is aimed to determine whether or not the means of two groups differ to a statistically significant degree (Kranzler&Moursound, 1999). The purpose of independent t-test is to determine whether there is a significant difference between the experimental and control groups' means on the dependent variable (Coolidge, 2000). The procedures of testing the independent t-test were as follows.

- 1) Setting the level of significance (p) at 0.05 and establishing the hypothesis as follows:
Ho : there is no significant difference between students' score of experimental and control groups.
Ha : there is significant difference between students' score of experimental and control groups.
- 2) Analyzing the independent test by using SPSS 23 for Windows.
- 3) Comparing the asymp.sig with the level of significance (p) for testing the hypothesis, if the asymp.sig is higher than level of significance (0,05), it can be concluded that there is no significant difference between the means of these two samples; on the other hand, the null hypothesis is accepted.

1.6.4 The calculation of Effect Size

The effect size here refers to the effect size calculated in the independent t-test of the research. Furthermore, calculation of the effect size is important to be administered to determine the effect of the influence of independent variable upon the dependent variable (Coolidge, 2000). The formula of effect size is as follows.

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

Where:

r : effect size

t : t observe from the calculation of independent t-test

df : degree of freedom

(Coolidge, 2000)

After the value of effect size was calculated, the score was matched with the following scale.

Table 3.3 Effect size value

| Effect Size | r Value |
|--------------------|----------------|
| Small | 0.100 |
| Medium | 0.243 |
| Large | 0.371 |

(Coolidge, 2000)

1.7 Concluding Remark

This chapter has presented the methodology of this study where the statement of the problem was presented first. Then, it was continued by the design of the study, site and participants of the study, data collection, and data analysis. This study used quantitative and qualitative approaches and conducted in the eighth grade of Junior High School in Bandung. The data collected from questionnaire was analyzed descriptively. Furthermore, the next chapter will focus on findings and discussion of the study.