CHAPTER III
RESEARCH METHODOLOGY

This chapter discusses research design, research hypothesis, population and sample, data collection techniques, research procedures, research instruments and data analysis.

3.1 Research Design

Experimental design was used to find out whether indirect corrective feedback can improve students' writing skill in writing narrative text. The essential feature of experimental research is that introduces an intervention and measure the difference that it makes. An experiment involves making a change in the value of one variable – called the independent variable – and observing the effect of that change on another variable – called the dependent variable (Cohen, Manion, and Morrison, 2007)

According to Cohen et al. (2007) an experimental design is divided into several types, true experimental, quasi, natural. In this research, quasi experimental will be applied because both experimental and control groups are not chosen randomly. Thus, the research design can be described as follows.

Table 3.1 Research Design

Group Category	Pre-test	Treatment	Post-test
Experimental Group	T_1	X	T_2
Control Group	T_1	-	T_2

Based on the Table 3.1, T1 is a symbol for pre-test given to the experimental group and the control group. Whereas X is symbol for treatment given to experimental group, in this case X stands for indirect corrective feedback given in writing narrative texts. Meanwhile, T2 will be used as a symbol for post-test, both control and experimental group will be given this test. Furthermore, the result of pre-test and post-test will be compared and analyzed to find out the effect of the treatment given.

3.2 Research Hypothesis

Hypothesis is important to be proposed in a quantitative research, because hypothesis is a preliminary overview of the research. Dornyei (2007) states Hypothesis are statements that formulate specific predictions about the outcomes and the empirical results will either confirm or refute these. Hypothesis was made based on researcher's assumption about the result of the result of the research.

This hypothesis can be accepted or rejected, so it is important to define a null hypothesis. As Cohen et al. (2007) defined that a null hypothesis happened if there is no relationship between two variables, or that there has been *no* change in participants between a pretest and a post-test, or that there is *no* difference between three school districts in respect of their examination results, or that there is *no* difference between the voting of males and females on such-and-such a factor (Cohen, et al. 2007)

Therefore, the hypothesis must first turn into null hypothesis (Ho) along with alternative hypothesis (Ha). It means the hypothesis was stated as follows.

Ho= There is no significance difference between students in terms of grammatical errors number.

Ha= There is a significance difference between students in terms of grammatical errors.

Acceptance of null hypothesis based on the result of one way analysis of variance (ANOVA) is obtained from the number of errors in the control group and experimental group

3.3 Data Collection

3.3.1 Variable

Variable is characteristic or attribute of an individual or an organization, it can be measured or observed and that varies among the people or organization being studied (Creswell, 2014). There are two kinds of variable in this research, independent variable and dependent variable.

Creswell (2014) states dependent variable depended on the independent variables; they are the outcomes or results of the influence of the independent variables. Thus, dependent variable in this research is writing skill. Meanwhile, the independent variable is a tribute or characteristics that influences or affects an outcome or dependent variable. Independent variable of this research is indirect corrective feedback because this corrective feedback is a treatment used in the experimental group.

3.3.2 Population and Sample

Population is the group of people whom the study is about (Dornyei, 2007). Population can be small or large depend on what kind of group that will be studied. The populations used in this research are eight grade of junior high school students. They were chosen as population because they have already learned about narrative text.

With his this population, the research should select the sample of research. Sample is the group of participants whom the researcher actually examines in an empirical investigation (Dornyei, 2007). Thus, researcher selects two classes in one of junior high schools in Sumedang district.

3.3.3 Research Instrument

During an experiment, researcher obtains measures using instruments at a pretest or posttest (or both) stage of the procedures. This research is focused on the use of indirect corrective feedback to improve writing skill and also to find out students' response toward indirect corrective feedback given as treatment. Therefore, students' writing and questionnaire were used as instrument in this research.

After that, in the process of writing, indirect corrective feedback used as a treatment in this research and it was applied on students' writing in experimental group only. Meanwhile, control group did not receive any feedback. Afterwards, the questionnaire consists of 15 closed-ended questions related to writing,

feedback, and grammar. In this research, the researcher use Likert scale, characteristic statement and respondents are asked to indicate the extent to which they 'agree' or 'disagree' with it by (Dornyei, 2007). Furthermore, that instrument was analyzed to answer the research questions.

3.4 Research Procedures

There are several steps that conducted in this research.

3.4.1 Procedure for Feedback Provision

Indirect corrective feedback was provided to experimental class as treatment. As stated in the previous chapter, indirect corrective feedback involves indicating that the student has made an error without actually correcting it. However this research only focuses on three types of error. Articles and past tense are two of three most frequently made grammatical errors by ESL/EFL student writers (Bitchener et al., 2005; Ellis et al., 2008; Sheen, 2007) so these errors are indicated as follows.

1. Article error = orange highlight
2. Subject-verb agreement error = yellow highlight
3. Past tense error = blue highlight

Meanwhile, the control group was not provided any feedback. Students from control group only asked to write a do self-revision toward their writings.

3.4.2 Conducting Pilot Test

A pilot test was conducted for students at the same grade, but these students are outside the control group and the experimental group. A pilot test was conducted to find out the reliability and validity of the instruments used in this research before the test was applied in pretest. On the test, researcher asked students to write a narrative text. Theme of writing, length of time, and length of writing was determined by researcher.

A pilot test was conducted to 5 students who were not included in the control group or experimental group, but these students were in the same grade as control and experimental groups. In the pilot test, students were asked to write a

personal narrative text based on instruction given. After that, particular error on students writing were marked using different color.

Furthermore, errors in students' writing were calculated to find out the efficacy of indirect corrective feedback to improve writing skills in writing narrative text. Students' writing result on the pilot test shown that the students were capable in writing narrative text based on instruction given.

3.4.3 Conducting Pretest

Pretest was conducted to find out the number of particular errors which occur in students' writing before treatment. Pretest will reveal the number of errors made by students in writing narrative text. In this stage, the students were asked to write narrative text based on the instruction given

3.4.4 Conducting Treatment

Treatment was conducted to find whether the number of particular errors still occur during the treatment. In this case, indirect corrective feedback was given as treatment. Indirect corrective feedback was given to students in the experimental group. Students from experimental group were asked to write fable themed narrative text and they also made 3 drafts in the process of writing.

Indirect corrective feedback was also applied in the process of making draft. Indirect corrective feedback was a treatment used and applied by the researcher to answer the questions. Treatment was applied on drafting process because based on approach in the writing process, writing the first draft, revising, editing, and writing final draft are several steps that ideally should be applied in a writing process

3.4.5 Conducting Posttest

Posttest was conducted to find out the number of particular common errors after treatment. In the posttest, both of students from the control group and the

experimental group were asked to write a fable themed narrative text. Posttest was conducted to identifying, classifying, and calculating the numbers of errors which occur after treatment

Table 3.2 Research Schedule

No	Experimental Group	Control Group
1	Writing a narrative text	Writing a narrative text
2	Writing first draft based on the feedback	Writing first draft with self correction
3	Writing second draft based on the feedback	Writing second draft with self correction
4	Writing final draft based on the feedback	Writing final draft with self correction
5	Writing new essay & answering Questionnaire	Writing new essay.

3.4.6 Questionnaire

Questionnaire was used to find out students' response toward indirect corrective feedback given in the writing process. The questionnaires consist of 10 closed ended questions related to indirect corrective feedback, writing and grammar. Questions in the questionnaire were distributed into several aspects such as students' attitude toward indirect corrective feedback, the importance of writing and grammatical error.

Table 3.3 Questionnaire

Questions' Number	Writing Aspect Measured
3, 4, 7, 8, 10, 14, 15	Students' attitude toward indirect feedback.
1, 2	The importance of writing

5, 6, 9, 11, 12, 13	Grammatical error

3.5 Data Analysis

The procedures of analyzing the data comprised several steps:

1. Instrument analysis
2. Analyzing the number of particular errors made by students in the pretest and posttest
3. Analyzing the average number of particular error made by students in the pretest and posttest
4. Conducting one way ANOVA test using SPSS Statistics 19.0
5. Analyzing the result data from the questionnaire

3.5.1 Validity

Measuring validity of the instrument is very important because instrument is a tool for researcher to collect data. Validity is one of the strengths of qualitative research and is based on determining whether the findings are accurate from the standpoint of the researcher, the participant, or the readers of an account (Creswell & Miller, 2000 as cited in Creswell, 2014)

3.5.2 Reliability

Reliability of the instrument is also an important aspect to be measure. It means the score of the instrument should be stable and consistent, although the same instrument was given at different time to the same subject, under the same situation.

3.5.3 Analyzing the Occurrence of Errors

The occurrence of error was identified from students' essay in the control group and the experimental group. First draft and final draft were used to determine the number of errors in each essay. Errors from first draft and final draft were classified based on the categories of errors such as Prepositions, past tense and definite article.

Furthermore, to find out whether the number of errors were reduce or nor in each essay, researcher made comparison table to measure the effect of indirect corrective feedback on students' writing. The tabled showed the number of errors made by each student in both group and the mean number of errors for each group. Indirect corrective feedback will show an impact if the number of errors in students' writing reduce.

3.5.4 One way Analysis of Variance (ANOVA)

The one-way analysis of variance (ANOVA) is used to determine whether there are any significant differences between the means of two or more independent (unrelated) group (Land & Land, 2013). In this research, one way ANOVA was used to find out the significance level of errors number between groups. The one way ANOVA result will show whether indirect corrective feedback can give significance difference toward students' writing, in terms of errors' number.

The significance level on this research was set at $p<0.5$. Thus, students' grammatical errors were analyzed both in the control group and the experimental group. According to Fraenkel & Wallen (2012) when only two groups are being compared, the F test is sufficient to tell the researcher whether significance has been achieved. Therefore, one way ANOVA test was performed to determine the number of grammatical errors between groups on each stage of the writing.

3.5.5 Variance Homogeneity

Equality of variance was calculated using one way ANOVA. The homogeneity of variance score was calculated after hypothesis stated in the first

step. The result of homogeneity test was compared with the level of significance t 0.05. If the significance level is <0.05, it means the variance of the data is not homogenous. In contrary, if the significance level is >0.05, the variance of data is homogenous.

3.5.6 Analyzing the Questionnaire

Questionnaire is the last step to collect data. Likert scale was used to construct the questionnaire. The data from questionnaire were interpreted and analyzed based on the frequency of students' answer. Moreover, percentile formula also used to analyze the questionnaire data.

$$P=100 \text{ x } \frac{F}{N}$$

P= Percentile

F= Frequency of students' answer

N= Respondent