

CHAPTER III

METHODOLOGY

The previous chapter has elaborated the theories relevant to this study: Writing in EFL, Peer Feedback and Analytical Exposition Text. This chapter focused on the methodological aspects of this study. Research design, research site and participants, data collection, and data analysis are covered in this chapter.

3.1. Research Design

This study applied a mixed method design between quantitative and qualitative as research methodology. The quantitative research design was used in order to find out the effectiveness of peer feedback technique in improving students' ability in writing analytical exposition text. While qualitative research design was employed to find out the responses of students toward the use of peer feedback in improving students' ability in writing analytical exposition. Quantitative research design is a research design that depends on statistical analysis (mathematical analysis) of the data, which is typically in numeric form (Creswell: 2012). One group pretest-posttest design of pre-experimental research was applied in this study. Therefore, a combination of quantitative and qualitative research design is helpful to find out the effectiveness of peer feedback in improving students' ability in writing analytical exposition text. One group pretest-posttest design is a research design which is measured a single group, before and after being exposed to a treatment (Fraenkel, Norman, & Helen; 2012). This design is used to analyze the effects of a treatment. By applying one group pretest-posttest design, the researcher endeavors to discover the change occurred between the result of pretest-posttest due to the treatment that given by the researcher (Creswell: 2012, Fraenkel, Norman, & Helen; 2012). The two tests were analyzed to see effects of peer feedback in improving students' analytical exposition text writing ability.

In the context of one-group pretest-posttest design limitations, qualitative research design was also used to help explain and elaborate the findings and increase the validity of the research. The qualitative research was used in order to answer the second research question. It was used to find out students' responses toward the use of peer feedback and to obtain the factual and in-depth information related to students' responses toward the use of peer feedback in improving students' analytical exposition text writing ability.

3.2. Hypothesis

Hypothesis is a declarative statement in a quantitative research in which advances a prediction about what the researcher expects to find (Creswell: 2012).

The hypothesis of this study is a null hypothesis. The null Hypothesis (H_0) is used to test in the general population that there is no relationship between independent and dependent variables or no difference between groups of an independent variable or a dependent variable (Creswell: 2012).

The hypotheses formulated in this study are:

$$H_0: \mu_{\text{pretest}} = \mu_{\text{posttest}}$$

The formula signifies that there is no difference between students' writing ability before and after peer feedback treatments. If the hypothesis is rejected, it means that the experiment works. Whereas if the hypothesis is accepted, it means that the experiment does not work.

3.3. Research Site and Participants

This study takes place at a Senior High School in Bandung. The school was chosen of several reasons. First, the site tends to be easy to be accessed because the school regularly allows students from college to do research there. Second, the students had learnt various genres of text and tenses in the curriculum particularly Analytical Exposition text which is explained in the Standard Competencies that Fajar Qodariah, 2016

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Analytical Exposition text is taught in the eleventh grade of senior high school. The participants of this study is a class of eleventh grade students, consists of 28 students. By conducting this study, the researcher hoped to find the effectiveness of peer feedback in improving students' writing ability in writing analytical exposition text.

According to Fraenkel, Norman, & Helen (2012), participants are individuals involved in a study who can range from providing data to initiating and designing the study. The participants of this study were 30 students of the eleventh grade of the school. They were the students in combined from science and social classes (*kelas peminatan*). Based on the preliminary observation conducted before treatments, it could be observed that the students got very limited time in practicing writing. They were asked to write some types of text without getting feedback either from the teacher or from their peers. The students did not know what things need to be improved in their writing and whether their writing ability is good or not.

3.4. Data Collection

The data were collected through three instruments: written documents (writing works and writing assessment), questionnaire, and interviews.

The following steps were taken in order to gather the data:

1. Preparing and organizing lesson plan
2. Designing research instruments:
 - The instruction of writing test
 - Questionnaire
 - Interview
3. The teaching phases

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The teaching phases were done in two fold. The first was conducted with my supervisor and the second was conducted at school. Details are as follows:

- Collaborating with supervisor in writing analytical exposition text to ensure that the researcher has capabilities and competence needed in teaching analytical exposition text. (See details of the collaboration in appendix C).
- Administering pretest to investigate student's initial ability before treatments.
- Conducting treatments for six meetings in which the students were asked to give feedback on their peer writing about Analytical Exposition text.
- Administering posttest to know the result of students' writing scores after treatments.
- Distributing the questionnaire to gather data about students' responses toward the implementation of peer feedback in improving students' ability in writing Analytical Exposition text.
- Conducting interview to know the underlying students' responses in the questionnaire.

3.5. Research Procedures

According to Creswell (2012), research procedure is a process of a study which consists of some steps used by the researchers in conducting a study. The procedures of this study were obtained by the following steps:

3.5.1. Designing Lesson Plans

The lesson plan was prepared to teach Analytical Exposition text. It involved related topic in writing Analytical Exposition text. It also involved the peer feedback technique that was set up as the treatments in this experiment. There were 5 lesson plans designed by the researcher. The lesson plans cover the activity of students in conducting this study such as pretest, exercising before the peer

feedback treatment, implementing peer feedback treatment and posttest (Details can be found in appendix A).

3.5.2. Instrument of The Research

Instrument is a tool used to gather data (Creswell: 2012). The instruments of this study were written documents (students' writing works and writing assessment), questionnaire, and interviews.

The first instrument was written documents. It was used to answer the first research question which is to examine the improvement of students' writing ability in writing Analytical Exposition text. The Written documents were consisted of students' writing works and writing assessment. Students' writing works were collected to be the evidence of students' improvement in writing Analytical Exposition text. It was analyzed based on Coffin's numeric and rubric scoring guide (Emilia, 2012) to see how the peer feedback technique improves students' writing ability by conducting pretest and posttest. The second and the third instruments were questionnaire and interviews. Those instruments were conducted to answer the second research question which is to offer the information about students' responses toward the implementation of peer feedback in improving students' writing ability in writing Analytical Exposition text.

3.5.3. The Teaching Phases at School

In order to facilitate the teaching phases, the research schedule was organized by the researcher. The research schedule can be seen in Table 3.1 and will be elaborated in the next section.

Table 3.1 the Research Schedule

No	Date	Activity
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1	15 September 2015	Pretest
2	29 September 2015	<p>Explaining about Analytical Exposition Text</p> <ul style="list-style-type: none"> - Students completed task on categorizing the organization of analytical exposition text <p>Treatment 1:</p> <ul style="list-style-type: none"> - Brainstorming (generating possible topics with peers) - Outlining (Students read and respond to the outlines of their peer) - Students make their first draft of writing
3	6 October 2015	<ul style="list-style-type: none"> - Students completed task on categorizing the organization of analytical exposition text <p>Treatment 2: Students continue making their first draft of writing</p> <ul style="list-style-type: none"> - Students give feedback to their peers' first draft (content, organization, and grammar)
4	13 October 2015	<p>Treatment 3:</p> <ul style="list-style-type: none"> - Students revise their draft based on their peers' comments. - Students hand in their revised draft to the teacher. - Teacher gives feedback on students' revised
5	20 October 2015	<ul style="list-style-type: none"> - Teacher turns students' revised draft back which

has been given feedback before.

- Students write their final draft
 - 6 27 October 2015 - Posttest and distributing the questionnaire
 - Conducting the interview
-

3.5.3.1. Pretest

Pretest was carried out at the first meeting of the treatment session. Pretest is a measure on some characteristics assigned for participants in an experiment before the treatment is implemented (Creswell, 2012). It is aimed to collect the data of students' initial writing performance after they passed building knowledge of the field stage. In this stage, students were asked by teacher to make an analytical exposition text in 30 minutes based on the video played by the teacher. This pretest was carried out on Friday, 11 September 2015.

3.5.3.2. Treatments

In this research, peer feedback treatment was given to the participants after conducting pretest. While implementing the treatment, teacher gave some examples of analytical exposition texts and activities in every meeting to help the students to be able to write a good analytical exposition text. Time allocation for each meeting consists of four hours instruction in which one hour instruction is forty five minutes. The treatment was given starting from making outline of analytical exposition text until writing the final draft. The treatments were conducted for six meetings.

3.5.3.3. Posttest

Posttest is conducted to measure students' achievement in writing analytical exposition text after receiving peer feedback treatment. According to Creswell (2012), posttest is a measure on some characteristics assigned for participants in an experiment after a treatment. It was conducted to find out the effectiveness of the treatment. Whether there was a significant difference in students' analytical exposition text in sixty minutes. The form of written text was same as the pretest because this study was conducted to find out the effectiveness of the treatment.

3.5.3.4. Questionnaire

Questionnaire is a form used in a study where the participants are asked to complete and return to the researcher (Creswell, 2012). In this study, the questionnaire consists of twenty questions about students' responses toward the use of peer feedback technique as a tool for learning to write analytical exposition texts. The questions from the questionnaire are closed statements which are used to measure respondents' opinions, attitudes or knowledge (Fraenkel, Norman, & Helen, 2012). Then, data from the questionnaire was used to answer the second research question.

The questionnaire in this study was presented in the form of rating scale. A Likert scale was applied in this study to give the score (Fraenkel, Norman, & Helen, 2012). According to a Likert scale (Fraenkel, Norman, & Helen, 2012), the participants are allowed to choose the answers of the statements with four alternative answers as follows: strongly agree, agree, disagree, and strongly disagree. This scale consisted of values from 1 to 4 (see Table 3.2).

Table 3.2. The scoring system of the questionnaire

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree
Positive	4	3	2	1

Table 3.3 presents the framework of the questionnaire. The detail framework completed with the statements can be seen in Appendix B.

Table 3.3 The Framework of the Questionnaire

No	Categories	Indicator	Total
1	Students' personal feelings, attitude, and goals	Students' personal feeling toward writing, analytical exposition texts and the use of peer feedback. Students' attitude feeling toward the use of peer feedback. Students' learning goals toward the material.	13
2	The sensory nature of stimulus	The implementation of peer feedback in improving students' writing ability.	2
3	The setting of the stimulus	Students' learning process. Teacher's role in the learning and teaching process.	2
4	Students' learning	The advantages of using peer feedback	3

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experience	in learning process.
Total	20

3.5.3.5. Validity and Reliability of the Questionnaire

After collecting and calculating the questionnaire, the validity and reliability of each item in the questionnaire was analyzed by using computer program of Statistical Product and Service Solution (SPSS) 18.0 for Windows. The validity test was carried out to measure stability and consistency of the answer of the participants. The value of corrected item-total correlation was used to test the validity of the item. If $r_{obt} \geq r_{crit}$, the item is valid but if $r_{obt} \leq r_{crit}$ the item is not valid. The item which is not valid must be omitted or revised. The alpha (α) level used was 0.05, thus it can be found that the value of r_{crit} is 0,349. The result of Cronbach's Alpha was used to measure the reliability of the instrument whether the item is reliable or not.

3.5.3.6. Interview

The interview was used to obtain the factual and in-depth information related to students' responses toward the use of peer feedback technique in improving students' writing ability (Sugiyono, 2008). The interview is counted to qualitative design which was conducted due to the limitations of one group pretest-posttest design. In this study, the interview was conducted after finishing the treatments. Ten students were chosen as the sample to reveal the data about the students' responses toward the implementation of peer feedback technique in teaching writing analytical exposition text. The samples were chosen based on their categories; three of them are high achievers, three of them are middle achievers, Fajar Qodariah, 2016

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and four of them are low achievers. The interview's questions were similar to the questionnaire's statements because the interview was tended to investigate in-depth information of the students' responses toward the use of peer feedback technique. The interview was conducted using interview guides which are similar to the statements in the questionnaire and it was recorded by an audio recorder.

3.6. Data Analysis

3.6.1. Scoring Technique

The data collected from pretest and posttest were analyzed using Coffin's numeric and rubric scoring guide (Emilia, 2012) (see appendix G). There are three categories that should be examined in this scoring guide, namely content and form; organization; sentence structure and vocabulary (Emilia, 2012). In this study, the categories that are used to analyze the tests are content and form; and organization. This scoring guide was used because it provides clear description of what are being analyzed and scored. Also, the rubric is specifically used to analyze argumentative texts so that it can be applied easily.

In this study, students' writing texts were analyzed based on two from three aspects of writing, namely, are content and organization. The content aspect assesses the form of the text, and ideas delivered by the writer. The organization aspect assesses students' ability in introducing the issues, establishing the arguments and/ or relationships between the arguments, and bringing closure to the writing (Emilia, 2012). Thus, this study focused on the two aspects of writing, those are content and organization.

3.6.2. Normality distribution Test

The Kolmogorov-Smirnov test was applied to test the normality distribution of a set of data. The test compared the samples' scores to a normally distributed set of scores with the same mean and standard deviation (Field, 2005). The test was employed through SPSS 18.0 for Windows. There are three steps included in conducting the normality distribution test according to Field (2005): stating the

hypothesis and setting the alpha level; analyzing the scores using the Kolmogorov-Smirnov formula; and interpreting the output data. The alpha level set is at 0,05 and the hypotheses are as follows:

- H_0 : The score of pretest is normally distributed
- H_1 : The score of pretest is not normally distributed

If the result is non-significant ($p < 0,05$), the distribution of the sample is significantly different from normal distribution (probably normal). If the result is significant ($p > 0,05$), the distribution is not significantly different from normal distribution (Field, 2005).

3.6.3. Data Analysis on Pretest and Posttest

Both of pretest and posttest were analyzed by using Coffin's numeric and rubric scoring guide (Emilia, 2012) (see appendix G). The scoring guide was chosen as the criteria of scoring because it is specifically used to analyze argumentative texts (Emilia, 2012). Then, the data of pre and posttests scores were statistically analyzed by using dependent t -test with level of significance 0.05 and the t critical with $df = N-1$. It was aimed to analyze the pretest and posttest scores and to investigate whether or not the difference of pretest and posttest means are significant (Kranzler & Moursund, 1998). After that, it was determined whether the null hypothesis should be rejected or retained by comparing the obtained t with the critical t (if $t_{obt} \geq t_{crit}$, H_0 can be rejected but if $t_{obt} \leq t_{crit}$, H_0 cannot be rejected) (Kranzler & Moursund, 1998). In this study, the significance of the test was analyzed by using computer programme of Statistical Product and Service Solution (SPSS) 18.0 for Windows.

3.6.4. Index Gain Data Analysis

After the pre-pest and post-test scores were analyzed and calculated, index gain was calculated to investigate the improvement of students' writing score between

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pre-test and post-test. As stated by Hake (1999), the formula used to calculate the index gain is:

$$g = \frac{\text{post test score} - \text{pre test score}}{\text{maximum score} - \text{pre test score}}$$

Then, the index gain was interpreted by using the criteria proposed by Hake (1999) as follows:

Index gain < 0,3 = low-gain

0,7 > Index gain > 0,3 = medium-gain

Index gain > 0,7 = high-gain

Since this study focused on the two aspects of writing, namely: content and organization, index gain score was used to find out the students' improvement in those two aspects of writing. The calculation result of index gain score can be seen in appendix H.

3.6.5. Data Analysis on Questionnaire

A questionnaire was used in this study to answer the second research question. The data collected from the questionnaire were analyzed based on the participants' answer frequency. Then, the data were calculated and interpreted into percentage (Ningrat, 2000 as cited in Mulyadi, 2010). The formula of percentage for calculating the questionnaire as follows:

$$P = \frac{fo}{n} \times 100\%$$

Note:

P = Percentage

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fo = Frequency observed

n = Number of sample

3.7. Concluding Remark

This chapter has presented the methodological aspects employed in this study including the research design, research site and participants, data collection, and data analysis. This study used one-group pretest-posttest design and it was conducted in the eleventh grade of a Senior High School in Bandung. The data collected from pretest and posttest results, questionnaire, and interview. Then, the data were analyzed quantitatively and qualitatively by using computer program of Statistical Product and Service Solution (SPSS) 18.0 for Windows. The next chapter will focus on findings and discussion of the study

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