

CHAPTER III

RESEARCH METHODOLOGY

This chapter discusses a set of methodology of this study. It starts with restating the research objectives, and then it conveys the research design, research site and participants, data collection, and data analysis. Each would be explained in Sections 3.1 through 3.5.

3.1 Research Objectives

As mentioned in Chapter 1, this study aims to, first, describe teaching-learning activities when the product and process based approach combination is implemented in EFL writing classroom. The second is to investigate the effect of applying product and process based approach combination on EFL students' writing skill. The third is to describe the students' attitude toward the implementation of product and process based approach combination in EFL writing classroom.

3.2 Research Design

Since this study is addressed to describe the teaching-learning writing activities when product and process based approach combination is implemented in EFL writing classroom, to investigate the effects of applying the combination of product and process based approaches to teaching writing the students' writing skill, and to explore the students' attitudes, this study uses a mixed methods research.

“Mixed methods research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating two forms of data and using distinct design that may involve philosophical assumptions and theoretical frameworks” (Creswell, 2014: 4). “This is a new approach as it aims to put quantitative and qualitative data together” (Malik & Hamied, 2014: 266). By mixing the data, this study presents the better understanding of the problem than by using either data set one by one.

This study applied an embedded design to answer different questions which need different types of data to answer (Malik & Hamied, 2014: 271). The researcher collected both the quantitative and qualitative data simultaneously during the study. “The collection of qualitative data during an experiment may be to understand the process the participants are going through, whereas the quantitative data assesses the impact of the treatment on the outcomes” (Cresswell, 2012: 545). This study is qualitative in terms of collection and analysis of observation data (field notes and videotapes). Meanwhile, it is quantitative in dealing with test scores and responses to questionnaire.

3.3 Research Site and Participants

This study involved 24 second grade EFL students at a private university in West Java. The participants were chosen regarding two reasons. First, the researcher is one of the lecturers with more than three years teaching experience within the department of English where the population belong. “This helps the researcher to get easy access to the research site, and hence, increases the feasibility of the study” (Bogdan and Biklen, 1998: 54). Second, this study is in line with the curriculum of the institution.

3.4 Data Collection

Before data collections were administered, there were several steps the researcher conducted. The first was identifying the participants and the sites to be studied. The second was gaining an access to these participants and sites by obtaining permission. Next, the researcher considered types of data that would best answer the research questions. Afterwards, the researcher designed the instruments for collecting data. Finally, the researcher administered the data collection. It involved four sources of evidence, namely observations (field notes), audiovisual materials (videotapes), tests (pre-test and post-test), and questionnaires. The research schedule is presented in Table 3.1. Sections 3.4.1 through 3.4.4 present

the data collection procedures which include field notes, videotapes, tests, and questionnaire.

Table 3.1 Schedule of data collection

Meeting	Date	Activities	Data gathered
1.	April, 16 th 2015	Preliminary Stage: - Conducting a Pre-Test. Topic: Should we follow the West? - Lesson Plan Overview	- Students' pre test - Field Notes - Videotapes
2.	April, 20 th 2015	Phase 1 - Stage 1: Modeling and highlighting features. Title: "Would you work for a company or yourself?" - Stage 2: Practicing the linguistic features of discussion text.	- Field Notes - Videotapes
3.	April, 22 nd 2015	Topic: "Is it better to study early in the morning (early bird) than to study at night (night owl)?" - Stage 3: Organizing the ideas through Brainstorming - Stage 4: Organizing the ideas through Planning / Structuring - Stage 5: Organizing the ideas through Mind-mapping	- Field Notes - Videotapes
4.	April, 24 th 2015	Stage 6: Writing the first draft	- Field Notes - Videotapes
5.	April, 27 th 2015	- Stage 7: Peer-Feedback - Stage 8: Editing	- Field Notes - Videotapes
6.	April, 29 th 2015	Stage 9: Writing the final draft	- Field Notes - Videotapes
7.	May, 4 th 2015	Stage 10: Evaluation and Teacher's Feedback	- Field Notes - Videotapes
8.	May, 6 th 2015	Phase 2 - Stage 1: Modeling and highlighting features. Title:	- Field Notes - Videotapes

		a) Wearing sunscreen is necessary. b) Should students bring mobile phones to school? c) Would you take a vacation in quite, natural places or big cities? - Stage 2: Practicing the linguistic features of discussion text.	
9.	May, 8 th 2015	Topic: “Is it better to marry when you are young or prefer to wait until you are older to marry??” - Stage 3: Organizing the ideas through Brainstorming - Stage 4: Organizing the ideas through Planning / Structuring - Stage 5: Organizing the ideas through Mind-mapping	- Field Notes - Videotapes
10.	May, 11 th 2015	Stage 6: Writing the first draft	- Field Notes - Videotapes
11.	May, 13 th 2015	- Stage 7: Peer-Feedback - Stage 8: Editing	- Field Notes - Videotapes
12.	May, 18 th 2015	Stage 9: Writing the final draft	- Field Notes - Videotapes
13.	May, 20 th 2015	Stage 10: Evaluation and Teacher’s Feedback	- Field Notes - Videotapes
14.	May, 25 th 2015	Closing Stage: - Conducting a Post – Test. Topic: Is it better to marry someone whom you love or someone who gives you money? - Distributing questionnaire	- Students’ post-test - Field Notes - Videotapes - Questionnaires

3.4.1 Field Notes

Field notes were primary data to explore the teaching-learning writing activities during the implementation of product and process based approach combination in teaching writing. “The filed notes contain descriptive information about what is seen, heard and experienced on-site” (Malik & Hamied, 2014: 204). Besides, field notes here also contained reflective information which captured researcher’s personal reactions to observations, researcher’s experiences and thoughts an

observation period. In this case, the researcher played a role as a participant observer who involved in activities at the research site (Creswell, 2012: 214).

Field notes were taken in fourteen meetings, one meeting of pre-test, six meetings of the first phase of treatment, six meetings of the second phase of treatment, and one meeting of post-test. In each meeting the teacher noted the activities during the process of teaching learning writing after leaving the setting.

3.4.2 Videotapes

Audiovisual materials consist of images or sounds that researchers collect to help them understand the central phenomenon under study (Creswell, 2012: 224). Furthermore, he implies audiovisual materials provide an opportunity for the participants to share directly their perceptions of reality and extensive data about real life as people visualize it.

Videotapes were used as the audiovisual materials in this study. Videotapes were used to gain the description of classroom activity during the observation. To keep the accuracy and authenticity of videotapes used, the researcher asked a cameraman to video the teaching-learning writing activities. Videoing took place for fourteen meetings.

3.4.3 Tests

The tests were used to find the effect of the use of the product and process based approach combination in EFL writing classroom on the students' writing skill. In this study, the tests consisted of pre- test and post- test. Pre-test took place at the first meeting. In this meeting, the students were expected to make a discussion text with the topic given. Pre-test was conducted in order to examine the students' prior writing skill in writing discussion texts. The pre-test's instruction was attached in Appendix 3. On the other hand, the post-test was conducted to examine the students' writing skill in writing discussion texts after they had been taught writing by using the combination of product and process based approaches.

The post-test took place at the last meeting, which was in the fourteenth meeting. The post-test's instruction was attached in Appendix 4.

3.4.4 Questionnaire

Based on the third research purpose, this study aimed to describe the students' attitude toward the implementation of product and process based approach combination in EFL writing classroom. Thus, a set of closed-ended questionnaires was used. All students were asked to choose one choice in the questionnaires that best describe their feeling toward the items.

The questionnaires were in Likert-Scale form. It consisted of 25 items which belonged to two major themes, namely the general attitude toward the product and process based approach combination and the attitude toward each steps of product and process based approach combination (see Appendix 6). The first theme consisted of 5 categories, namely motivation, effectiveness, learning situation in the class, comparison with other approach, and the ease of the step. The second theme consisted of 10 categories, namely modeling, practicing, brainstorming, planning, mind-mapping, writing the first draft, peer-feedback, editing, writing the second draft, and evaluation and teacher's feedback. The items were analyzed by three aspects, namely "affective, behavioral, and cognitive views" (Oskamp & Schultz, 2005). Considering the importance of questionnaire items, a pilot study was conducted to maintain the validity of the data. All the items in questionnaire were tried out with five EFL students who were not involved in the study, "for suggestions and advice, particularly regarding whether the questions were ambiguous, vague or confusing" (see Emilia, 2005: 84).

3.5 Data Analysis

In analyzing the data obtained, the researcher used qualitative and quantitative data analysis according to the types of data gathered. Data analysis of each instrument would be described in Sections 3.5.1 through 3.5.3.

3.5.1 Field Notes and Videotapes

Since field notes and videotapes belong to qualitative data, they need to analyze qualitatively. There were some steps the researcher conducted to analyze the qualitative data, namely:

1. Watching the videotapes and reading the field notes.
2. Comparing the activities taken from the videotapes with the field notes.
3. Comparing the evidences of videotapes and field notes with lesson plans.
4. Identifying the teaching-learning writing activities in every stage of teaching writing.
5. Identifying the changes of the students' attitude and the students' writing skill in every meeting.
6. Presenting the evidences of every activity of each meeting into a written form.

3.5.2 Tests

To maintain the validity of the study, both pre-test and post-test were scored by two raters. The first rater was the researcher, and the second rater was a writing lecturer in that university. In order to have the same perception in assessing the students' tests, the researcher had explained the writing scoring rubric assessment used in the study for the second rater before they assessed the students' tests. Afterwards, the pre-test of the first rater (see Appendix 11) was calculated with the pre-test of the second rater (see Appendix 12) to find the final scores of the students' pre-test (see Appendix 13). Furthermore, the post-test of the first rater (see Appendix 16) was calculated with the post-test of the second rater (see Appendix 17) to find the final scores of the students' post-test (see Appendix 18).

The scores would be calculated to examine the effect of the product and process based approach combination on the students' writing skill. This aimed to test the null hypothesis of the study which stated that the product and process based approach does not effect the students' writing skill. There were several steps to test the hypothesis, namely normal distribution test, homogeneity of variance test, and comparing means. Each test would be explained in Sections

3.5.2.1 through 3.5.2.3. To avoid the error in calculating the data, data taken from the test were analyzed by SPSS 20.0 for Windows. According to Morgan (2004: 1) “SPSS is as a tool to interpret the outputs of a statistic that is based on the design of the research.”

3.5.2.1 Normal Distribution Test

Normal distribution test is used to determine whether the data were normally distributed. There are two basic assumptions of the normal distribution test, namely:

1. If the level of significance value is less than ($<$) 0.05, the data will not be normally distributed.
2. If the level of significance value is more than ($>$) 0.05, the data will be normally distributed.

As the result, if the data is normally distributed, the hypothesis testing will use the parametric statistics. On the other hand, if the data is not normally distributed, the hypothesis testing will use the non-parametric statistics. In this study, the normal distribution test used was Kolmogorov-Smirnov Statistic.

There are several steps to analyze the normal distribution, namely:

- Set the alpha level at 0.05 (two-tailed test).
- Analyze the normality distribution of the students’ pre-test and post-test score using the Kolmogorov-Smirnov Statistic on SPSS 20.0 for Windows. The steps are as follows:
 1. Open SPSS 20.0 for Windows.
 2. Click *Variable View* on SPSS data editor.
 3. Type *PreTest* (the students’ pre test score) and *PostTest* (the students’ post test score) on the *Name* column.
 4. Change the decimal into 0 and type *PreTest* in the label *PreTest* and *PostTest* in the label *PostTest*.
 5. Click *Data View* on SPSS data editor.

6. Input the students' pre test score into column *PreTest* and the students' post test score into column *PostTest*.
 7. On the toolbar, click *Analyze >> Descriptive Statistics >> Explore*.
 8. Click variable of *PreTest* and *PostTest*, and input into *Dependent List*.
 9. Click *Plots*
 10. Choose *Stem-and-Leaf*, *Histogram* and *Normality Plots with Tests*, then click *continue*.
 11. Click *OK*.
- Interpret the data based on the basic assumption of the normal distribution test. If the level of significance is less than ($<$) 0.05, the data will not be normally distributed. Thus, the hypothesis testing would use the non-parametric statistics, namely wilcoxon test. In contrast, if the level of significance is more than ($>$) 0.05, the data will be normally distributed. Thus, the hypothesis testing would use the parametric statistics, namely t-test.

3.5.2.2 Homogeneity of Variance Test

Homogeneity of variance test is used to determine whether the data are homogenous. There are two basic assumptions of the homogeneity of variance test, namely:

1. If the level of significance value is less than ($<$) 0.05, the data will not be homogenous.
2. If the level of significance value is more than ($>$) 0.05, the data will be homogenous.

In this study, the homogeneity of variance test used was Levene Statistic. There are several steps to analyze the homogeneity of variance, namely:

- Set the alpha level at 0.05 (two-tailed test).
- Analyze the homogeneity of variance of the students' pre-test and post-test score using the Levene Statistic on SPSS 20.0 for Windows. The steps are:
 1. Open SPSS 20.0 for Windows.

2. Click *Variable View* on SPSS data editor.
 3. Type *PreTest* (the students' pre test score) and *PostTest* (the students' post test score) on the *Name* column.
 4. Change the decimal into 0 and type *PreTest* in the label *PreTest* and *PostTest* in the label *PostTest*.
 5. Click *Data View* on SPSS data editor.
 6. Input the students' pre test score into column *PreTest* and the students' post test score into column *PostTest*.
 7. Click *Analyze >> Compare means >> One way anova*.
 8. Click *PreTest* variable and input it into *Dependent* list, and click *PostTest* variable and input it into *factor*.
 9. Click *options*.
 10. Click *homogeneity of variance*, then click *continue*.
 11. Click *OK*.
- Interpret the data based on the basic assumption of the homogeneity of variance test. If the level of significance is less than ($<$) 0.05, the data will not be homogenous. In contrast, if the level of significance is more than ($>$) 0.05, the data will be homogeneous.

3.5.2.3 Comparing Means Test

Since the data of the students' pre-test and post-test were normally distributed and homogenous, in this study, the paired t-test was used to test the hypothesis. There are several steps to test the hypotheses, namely:

- First, stating the hypotheses and setting the alpha level at 0,05.
 - H_0 : The product and process based approach combination does not affect the students' writing skill.
 - H_1 : The product and process based approach combination affects the students' writing skill.
- Second, analyzing the students' pre-test and post-test score using paired t-test on SPSS 20.0 for Windows. The steps are as follows:

1. Open SPSS 20.0 for Windows.
 2. Click *Variable View* on SPSS data editor.
 3. Type *PreTest* (the students' pre test score) and *PostTest* (the students' post test score) on the *Name* column.
 4. Change the decimal into 0 and type *PreTest* in the label *PreTest* and *PostTest* in the label *PostTest*.
 5. Click *Data View* on SPSS data editor.
 6. Input the students' pre test score into column *PreTest* and the students' post test score into column *PostTest*.
 7. Click *Analyze >> Comparing Means >> Paired T-Test*
 8. Click *PreTest* variable and input it into *Variable 1*, and click *PostTest* variable and input it into *Variable 2*.
 9. Click *OK*.
- Third, interpreting the data. If the level of significance is more than ($>$) 0.05, the null hypothesis will be accepted. It means that the product and process based approach combination does not affect the students' writing skill. In contrast, if the level of significance is less than ($<$) 0.05, the null hypothesis will be rejected which means the product and process based approach combination affects the students' writing skill.

3.5.3 Questionnaires

The questionnaires were analyzed by descriptive statistics. Descriptive statistics is used to summarize data (Hatch & Farhady, 1982: 39). Before being calculated, the sets of closed-ended questionnaires were sorted. If the whole items were not filled, the data were not taken, avoiding the invalid data. The questionnaire used the five-point Likert Scale. The scales were Strongly Agree (5), Agree (4), Uncertain (3), Disagree (2), and Strongly Disagree (1). The scores were calculated by using Microsoft office excels in order to simplify their tabulation. The scores were analyzed based on five level of the students' attitude, namely highly positive, positive, normal, negative, and highly negative as attached in Table 3.2.

Table 3.2 The categorization of students' attitude level

Students' Attitude Level	Range of Score
	Item Level
Highly Positive	4.201-5.0
Positive	3.401-4.20
Normal	2.601-3.40
Negative	1.801-2.60
Highly Negative	1.00-1.80