

CHAPTER III

RESEARCH METHODOLOGY

Chapter two has discussed literature related to this research, including mind mapping theory, teaching writing and Exposition text. This chapter will discuss in detail the methodology of the study. It covers the research design, research site and participant of the study, data collection techniques, and data analysis.

3.1. Research Design

The purpose of this study is to find out the effect of mind mapping technique on students' writing in Exposition genre. Based on the purpose, the study seek to address two research problems; they are (1) the effect of use of mind mapping techniques on students' ability in writing exposition genre, (2) How the students perceive the use of mind mapping in teaching writing.

To examine the research problems above, this study employed both qualitative and quantitative methods. It was because the study focused on collecting and analyzing both quantitative and qualitative data. Mixed method research is "research in which the researcher uses the qualitative research paradigm for one phase of a research study and quantitative research

paradigm for another in order to understand a research problem more completely” (Creswell, 2005 cited in Migiro & Magangi, 2011:1).

Integration of the two types of data occurred at several stages in the process of research: the data collection, the data analysis, interpretation, or some combination of places. Integration means that the researcher “mixed” the data. For example, in data collection, the combination of open-ended and closed-ended questions was used on the survey” (Creswell, 2008:209).

Qualitative method was employed to explore the using of mind mapping technique in teaching activity and to discover participants’ perspective. While quantitative method was used in students’ texts analysis by comparing them before and after treatment. It was aimed to emphasize the result of the research.

This research was directed as a case study because it provides a framework for analysis of such material (Heigham & Croker, 2009: 67). this study particularly analyzed students’ teks from pre test and post test and the result from students’ interview about the teaching program using mind mapping techniques.

In line with the objective of this research, to find out the use of mind mapping techniques to improve students’ ability in writing exposition genre, this study used quasi-experimental design too. The design was used because the treatment was not random assignment to create the comparisons from which treatment caused change is inferred (Dornyei, 2007:117).

The design used in the experimental method was a pre and post test designs as shown as follows:

G₁ (Experimental) $\underline{T_1} \times \underline{T_2}$

G₂ (Control) $T_1 T_2$

Comments:

G = group

T₁ = pre – test

T₂ = post – test

X = treatment

3.2. Research Site and Participants

This research was conducted at a second grade class of a Junior high school in West Java. There were several reasons why this school was taken as the setting of the study. First, a qualitative researcher tends to collect data in the field at the site where participants experience the issue or problem under study (Creswell, 2008:53). The school selected is the place where the writer teaches, so it was easier to do this research. Second, the choice of second grade seemed appropriate and relevant because at this level students are required to write an exposition genre (General Management Directorate of Primary and Secondary Education, 2007).

The population of this study consisted of 60 second grade students of secondary school, in which 30 students were as experimental class taken from

class A and 30 students were as control class taken from class D. Experimental class students were taught by using mind mapping technique while control class students were taught by using explanation, and discussion technique.

Students were chosen as they were considered to have a potential to apply their learning from this program. They have learned other kinds of English text which use the same form of sentences as used in Exposition text.

3.3. Data Collection

Data were taken through two ways. *The first*, data were gathered from text analysis on pre and post tests from control and experimental group. They are the data on students' text used mind mapping technique treatment (experimental group) and students' text which did not use mind mapping technique treatment (control group). To do so, the result of students' text analysis data was analyzed using T-test with an SPSS statistic 17.0. *The second* way of data collection was students' interview. Data collection was administrated from 26th of April to the 14th of Mei 2013.

3.3.1. Materials for Treatment

It was necessary to involve the appropriateness of the materials for a particular program. Brown (1995:160) considered five perspectives in deciding suitable materials as follow:

1. Background

This refer to information about the author's and the publisher's credential. Naturally, this includes more than whether the author has significant formal education or type of experience in the field. The author may have a reputation for producing innovative materials or no previous standing in the field.

2. *Fit to curriculums*

The degree of relationship between a set of materials and particular program can best be determined by considering the degree to which the materials fit to the curriculums.

1) *The specific language and situation needs of students*

The match of the materials to these needs can best be assessed by comparing the materials to detailed information that was obtained in the need analysis and the objective-settings phases.

2) *The teachability*

This decision may hinge on whether there is a teacher's edition, an answer key, annotations to help teachers explain and plan activities, unit review, and so forth. Regarding these, the materials were designed related to those elements which were arranged in the lesson plan.

The materials used to gather the data in this study were the materials to conduct a treatment in the form of lesson plan. The theme of materials is about *Human population growth on animal life*. Those materials were selectively taken from internet.

Exposition text was used as text material in this study. The reason to chose this kind of text, it was because the text stated on RSBI curriculum for second grade in the second term. Meanwhile, the reason chose the influence of Human Population growth on animal life as a theme of learning material because the teaching learning of English must cover topics which is used in there al science and technology classroom as explain on standard contents and out comes passing grade(SI and SKL)SMPSBI.

Teaching activities in experiment group was used two reading materials, mapping concept, explanation about exposition texts for five meeting. While in control group was still used two reading materials, explanation about exposition texts, it was not used mapping concept but explanation and discussion steps.

Table 3.1

The treatment Materials for the Experimental and Control Group

No	Group	Materials	Source
1	Experimental	Human Population in animal Life	http://www.biologicaldiversity.org/campaigns/overpopulation
		Picture of How to Mind Map	http://www.mind-mapping.co.uk/_images/_Images/
		Steps to create	Mind Mapping for Writers Part 1

		mind map	(by Hobie Swan)
		Human Impact on Animal Life	(http://www.umac.org/ocp/HumanImpact/info.html)
		Exposition Text	Derewianka, 1990:75
2	Control	Human Population in animal Life	http://www.biologicaldiversity.org/campaigns/overpopulation
		Human Impact on Animal Life	(http://www.umac.org/ocp/HumanImpact/info.html)
		Exposition Text	Derewianka, 1990:7

3.3.2 Teaching Procedure

The teaching reading procedure for the experimental and control groups were carried out in the different procedure. On experimental group, the teaching activities used mind mapping steps. While on control group, the teaching activities used explanation and discussing technique (see lesson plans for experimental and control group in appendices). The following table allows a brief sample of classroom activities for experimental and control groups.

Table 3.2

The Sample of Teaching Procedure

No	Experimental Group (Mind Mapping Technique)	Control Group (Explanation, discussion)

1	<p>Meeting 1</p> <p>Teacher and students discuss about mind mapping concept and some questions related to the text</p> <ul style="list-style-type: none"> - Introducing spider web/mind mapping - Students read which has title Human Population in animal life. - Students make a spider web from the text. - Students answer the text's questions 	<p>Meeting 1</p> <p>Teacher and students discuss things relate to the text, for example: discussing vocabularies related to the text, asking for some questions.</p> <ul style="list-style-type: none"> - Students read a text which has title Human Population in animal Life. - Discussing about vocabularies related to the text. - Students answer the questions based on the text
2	<p>Meeting 2</p> <p>The same</p> <ul style="list-style-type: none"> - Students are asked to make an Exposition text based on the 	<p>Meeting 2</p> <ul style="list-style-type: none"> - Read Exposition text which has title Human impact on animal life. - Teacher and students discussing about social function, generic structure, and linguistic picture of the Exposition text. - Students answer questions about the text given by the teacher.

	<p>plan used spider web in group.</p>	<ul style="list-style-type: none"> - Teacher gives plan of Exposition text. - Students are asked to make an Exposition text based on the plane in group.
3	<p>Meeting 3</p> <p>The same</p> <ul style="list-style-type: none"> - Students continuous to write and apply concept map in their texts. 	<p>Meeting 3</p> <ul style="list-style-type: none"> - Teacher reminds students about the plan of Exposition text. - Students continuous to write an Exposition text
	<p>Meeting 4</p> <ul style="list-style-type: none"> - Discussing and revising some students' text in class and related it with map concept which has been made. 	<p>Meeting 4</p> <ul style="list-style-type: none"> - Discussing and revising some students' text in class.
5	<p>Meeting 5</p> <ul style="list-style-type: none"> - Informing to the student that they are going to revise their text by revising it between their friend sit as final draft. 	<p>Meeting 5</p> <p>The same</p>

3.3.2. Tests

There were two tests used in this study, they are pre-test and post test. Pre-test carried out to identify the initial writing skill of the students' before conducting the treatment to the experimental and control groups. The test was writing which has theme about Human population growth on animal life. To analyze students' writing the instrument of test materials was taken from Rose.

Meanwhile, the post test was given to know students' writing ability after the treatment. The students on experimental group were given mind mapping treatment in teaching program. On the other hand, on control group the students were given treatment by using explanation and discussion technique. They were given 60 minutes to write the text.

3.3.3. Interview

Student's interview conducted in the end of meeting within semi-structure setting in which students get freedom to answer the questions in order to obtain information (Nunan, 2008). The questions were directed to discover the weaknesses, the advantages and the suggestions for future refinement.

The interviews were guided by several questions focusing on the students' understanding of mind mapping implementation. For example, the students were asked about to what extent mind mapping helps them improve their writing skills and about the process of how they wrote using not taking and note making as state in mind mapping concept. They were asked whether the model of teaching writing process using mind mapping concept was helpful or not, what

words and expressions they have taken from the model, and whether or not they realized the meanings of those words and expressions. Other possible questions included what activities the students found useful to help them write, what difficulties they found in writing, how they solved the difficulties and what they expected the teacher to do to help them write. The researcher recorded the interviews using handwritten notes and audio taping.

3.4. Data Analysis

Data analysis in this research was done in two phases: (1) students' text analysis; and (2) interview data analysis. Therefore, this research was conducted inductively because this method gave more chances for researcher to identify the reality from different aspects (Alwasilah, 2002:105).

Mixing at the stage of data analysis and interpretation involved transforming qualitative themes or codes into quantitative numbers and comparing that information with quantitative results in an "interpretation" section of a study (Creswell, 2008:209).

3.4.1. Score Data Analysis of the Tests

The data were collected from the writing test (pre-test) given to the participants. Pre-test was given to the students without any treatment of mind mapping technique. In the pre-test, they were asked to write a composition with a certain theme, for example, human population on animal life. From this pre-test,

the students' initial skill of writing were obtained, and compared later with their text in the post-test after mind mapping treatment to reveal the technique's strength to promote the students' writing a text.

Students' texts were analyzed by using student text assessment based on rubric and figures by Rose started with Genre included purpose and staging, register includes field, mode, and tenor, discourses included phases, lexis, conjunction and appraisal, grammar, and graphic feature included spelling, punctuation and presentation. For detail the following is its rubric.

**Table 6.2 Student Text Assessment Based on Rubric and Figures
(Rose, 2007 cited from Emilia, 2011:196)**

Genre	PURPOSE	Is the genre written in accordance with the author's purpose? (For example, if the type of exposition text, whether the text is consistent with the objectives of exposition)	SCORE 0-3
	STAGING	Is the text through the appropriate stages?	0-3
Register	FIELD	Is the text presents the topic clearly	0-3
	TENOR	Is the text shows a clear relationship between the writer and the reader?	0-3

		Who is the author, to whom?	
	MODE	Is the text already shows characteristics of written language or are close to the spoken language? Usually the more intelligent a person writes, they write texts written language has the characteristics of a much more prominent and has the technical terms more.	0-3
Discourse	PHASES	Are the phases of the text tied or linked together to form a single unit of meaning.	0-3
	LEXIS	Is the choice of words to indicate the relationship between a word and group of words with other words?	0-3
	CONJUNCTION	Is it clear logical relationship between each of the phases in the text and between clauses or sentences clearly using proper conjunction?(See further chapter 2 about the characteristics of a good text, one of	0-3

		which is that the text should use appropriate conjunctions).	
	REFEREN CE	Is it clear who and what is intended, for example, in a conversation? If the first sentence of the name, as in the second sentence refer to reference, a she or she, reference should be clear.	0-3
	APPRAIS AL	Is there an expression about the attitudes, including feeling happy, sad, an assessment of the person (kind, nice) and the appreciation of something (interesting, boring). The expression of this attitude can be positive or negative and can be strong or weak(Stronger: I really like..., it is absolutely true ...or it is rather boring ..., it's really fairly slow....	0-3
Grammar		Are the terms of use grammar correctly?	0-3
Graphic Features	SPELLING	Is the spelling correct?	0-3
	PUNCTUA TION	Is the punctuation used correctly?	0-3

	PRESENT ATION	Is presented with interesting text, well, including margins, heading or subheading, spacing between paragraphs, does illustrations and neatness	0-3
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3.4.2. Interview

Data were also collected from the interviews conducted to get the information from experimental students. The interview involves presentation of oral-verbal stimuli and reply in terms of oral-verbal responses (Kothari, 2004: 93). It was recorded to obtain accurate and detailed data. The interviews were conducted after the students' texts have been analyzed. The students were interviewed together. This was done to reduce the students' nervousness and to promote their free expressions (Alwasilah, 2002:192). The student interviews were conducted in Bahasa to allow the participants to express their ideas in a more elaborated way. However, the interview was later translated into English.

The interviews were guided by several questions focusing on the students' response towards learning activities using mind mapping techniques, their understanding of mind mapping technique and their opinions on mind mapping implementation. For example, the students were asked about to what extent mind mapping technique helped them improve their writing skills, what key words they have taken from the text and how to apply it in their own text. Other questions included what activities the students found useful to help them write, what

difficulties they found in writing, how they solved the difficulties and what they expected the teacher to do to help them write.

3.5. Conclusion

An explanation of methodology aspect underpinning the present study has been presented in the previous sections including research questions, research design, research site and participants, data collection, and data analysis. The next chapter will concern description of the teaching program done by the researcher.

