

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the methodology which is used in conducting the research and getting the answer from the question in chapter I. This chapter consists of design of the study, site and participants, data collection, research procedure and data analysis.

3.1 Research Design

To answer the two research questions; can critical reading strategies improve students' critical thinking skills and how do they help students to think critically in reading narrative text, the present study used mixed methods design. Mixed methods research is defined as “both a method and methodology for conducting research that involves collecting, analysing, and integrating quantitative and qualitative research in a single study or a longitudinal program of inquiry” (Creswell & Clark, 2007). Creswell and Clark (2007) state that mixed methods is intended to depict a better understanding of research problems than either only one approach alone. They further explain that mixed methods is able to cover the weaknesses of both quantitative and qualitative research. The decision of using mixed methods research is” to look at both breadth and depth or at both causality in meaning” as postulated by Hamied (2014:270).

One of mixed methods design is the Embedded Design which is defined as “a mixed methods design in which one data set provides a supportive, secondary role in a study based on primarily on the other data type” (Creswell & Clark, 2007). There are three models of embedded design which are embedded design, embedded experimental model and embedded correlational model (Creswell & Clark, 2007). Embedded experimental model were selected in this study because as stated by Creswell and Clark (2007), the aims of this model is having a qualitative data which

embedded within an experimental design. This model could meet the need of this study in order to embed a qualitative component within a quantitative design in examining the process of an intervention or mechanism that relates variables and to follow up on the results of an experiment. The embedded experimental model which adapted from Creswell and Clark (2007) is illustrated below.

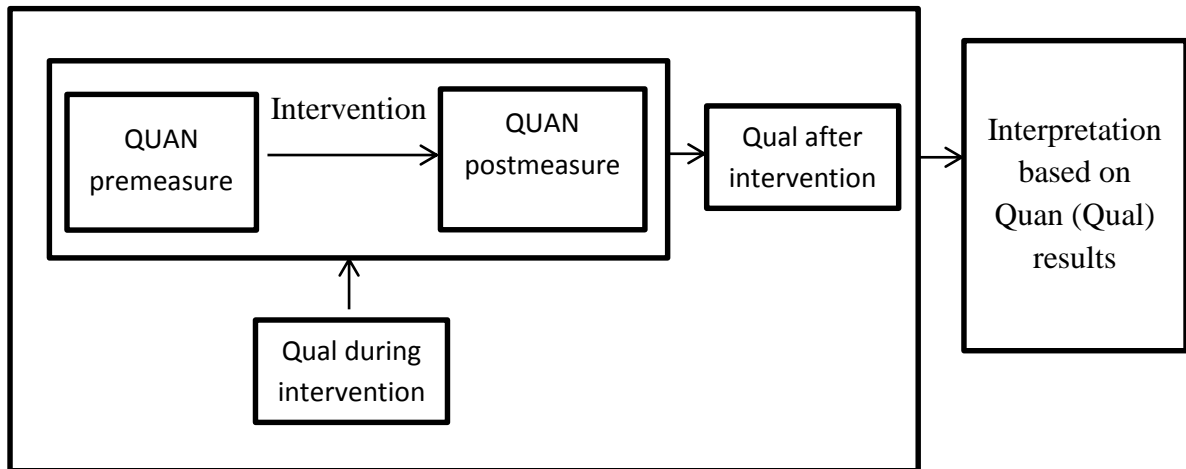


Figure 3.1 Embedded Experimental Model

Adapted from Creswell and Clark (2007)

Hamied (2014) remarks that the principles of mixed methods design is different questions need to be answered by more than a single data type. He further explains that one single data is insufficient to answer the questions. In order to find out the answer of the primary purpose of this study which was Creswell and Clark (2007) stated in the first research question, this study used a pre-experimental design: the one group pretest-post-test. Sheligar and Shohamy (1989) contends that the one group pre-test-post-test design endeavour to use the subjects as their own control and to remove a control group as a need. It is further claimed that this design is efficient because it controls a number of extraneous variables which can affect the homogeneity of subjects when more than one group is included. Since it just focuses on one group in conducting the pre-test and post-test, so it does not need to be

matched to another group. The figure of one group pretest-post-test design is illustrated as follow.

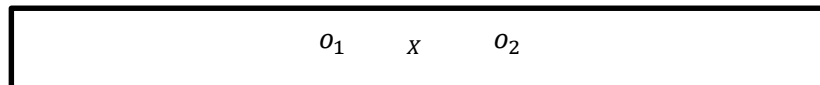


Figure 3.2 The one group pretest-post-test design

Adopted from Cohen, Manion and Morrison (2000)

Where: o_1 = pre-test score of a group on a dependent variable.

x = an experimental manipulation.

o_2 = post-test score of a group on a dependent variable.

Moreover, the secondary purpose of this study was gained through qualitative design during and after intervention. The reason for collecting the secondary database was to examine the process of the implementation of critical reading strategies to embed students' critical thinking skills as a support for the primary purpose of the study. In addition, to enrich the quantitative result, the qualitative data was gained after intervention. Qualitative design was needed because Gay (1996 as cited in Jefferson et.al, 2004) contends that the purpose of qualitative research is to understand the phenomenon in depth which is based on the participants in the research perceived it. In addition, qualitative design makes the researcher seek for creating the significance of a phenomenon from the participants' views, or attitude of past event which means identifying a culture sharing group and studying how it expand shared patterns of behaviour over time (Creswell, 2009).

As this study was purposed to investigate whether critical reading strategies can improve students to think critically and how was the process of the implementation of critical reading strategies in learning reading narrative text to help students to think critically, mixed methods between a pre-experimental design: the one-group pre-test-post-test and qualitative design were chosen as a design in this study because it suited the need of the present study.

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3.2 Site and Participants

The study was conducted in a public junior high school in West Bandung Regency. It was chosen since the school is opened for conducting research and studies. One class from eighth grade was selected based on the data from English teacher in the school and with the approval of school's rules and policy. The participants consisted of 35 students.

The study was conducted to investigate whether critical reading strategies improve students to think critically and how the critical reading strategies help students to think critically. Therefore, eight graders suited the need of the study because as stated in 2013 Curriculum narrative text is required to be taught in that grade.

3.3 Data Collection

Some instruments were used in gaining the data to answer the research question which gained a richer and deeper insight into the phenomenon under the study. The processes of data collection are elaborated as follows.

3.3.1 Instruments

The instruments used in this study were tests (pre-test and post-test), classroom observation, and interview. The detail explanation is explained as follow.

3.3.1.1 Tests

There were two tests in this study. First, a pre-test was conducted in the first meeting for 80 minutes. This test was aimed to discover students' previous critical thinking skills in reading narrative skills. Second, a post test was administered in 80 minutes as well after the students received treatments for three meetings. The aim of post-test was to reveal the differences between the result of pre-test and post-test. The forms of the test were minimal structure of essay as suggested by Ennis (2003). Each

test consisted of 10 questions. The questions and the text were different but have the same difficulty level.

3.3.1.2 Classroom Observation

Mackey and Gass (2005) remark that observation provides careful descriptions of students' activities without overly influencing the events in which the students engaged. One of the advantages of observation is that it provides the researcher with the opportunity to collect rich data on the participants' behaviour and actions within a particular context (Mackey & Gass, 2005). Additionally, the researcher could gain a deeper understanding of the participants and their context. In this study, observation was aimed to investigate the process on how critical reading is implemented in teaching narrative text to embed critical reading. Specifically, this study used semi structured observation which allow for issues to emerge from the observation but still considered to be relevant to the evaluation.

The instrument used in this observation was observation sheet. In addition, the teaching and learning process in each meeting was recorded using video recorder to enable the researcher to watch repeatedly and recheck it easily. There were two observers in this study; a teacher researcher as a participant observer and a colleague as an external observer to increase the validity of instrument. The observation sheet was filled by the external observer during the treatment. Meanwhile the participant observer filled it soon after the treatment was finished. The observation sheet was about the teacher and students activities in implementation of critical reading strategies and how they related to critical thinking skills. Those activities were formulated to find the process of critical reading strategies in helping students to think critically. The activities were listed in every step of critical reading strategies which are linked to critical thinking skills. The detail of observation sheet can be seen in the Appendix F.

3.3.1.3 Interview

The aim of the interview is to investigate phenomena that are not observable such as students' self-reported perception or attitudes (Mackey & Gass, 2005). Interview also can elicit additional data if the initial answers are considered not enough. The interview in this study was to gain a deeper and better understanding based on students' view toward critical reading strategies in the learning reading process. This study used semi structured interview, in which Mackey and Gass (2005) state that the researcher can use a written list of questions as a guide, while still having the freedom to investigate for more information. There were 10 participants who were selected to be interviewed. All the participants were coming from the representation from low achievers, middle achievers and high achievers which were considered from the result of pre-test and post-test.

The interview was conducted after the post-test was done. It was delivered in Indonesian language as their native language to ease students' difficulty in expressing their thought, opinion and critiques. The questions formulated in the interview were aimed to reveal students' responses toward the implementation of critical reading strategies, how do critical reading strategies help them to think critically and what are their obstacles during learning narrative text using critical reading strategies.

3.4 Research Procedure

The procedures of this study are gathered by several steps that can be described as follows.

3.4.1 Selecting Critical Reading Strategies

The selected critical reading strategies are adapted from Sousa (2004) and WSSU (2013). The strategies consisted of several steps includes previewing, outlining and summarizing, questioning, reflecting on challenges to readers own values and beliefs and evaluating arguments. The selected strategies were considered appropriate for critically reading literary text especially narrative text. In addition, the

strategies were also considered suitable to be followed by eighth graders in terms of difficultness level.

3.4.2 Selecting the texts

In selecting the text, several items were considered as written in the literature review. First, the text contains all of the elements of narrative text started from linguistic feature to organizational structure. Second, narrative text which has influence to extend throughout people's lives, presenting meaning and structure on what people experience as proposed by Bruner (2002 as cited in Hall, 2010). He states that narrative is a medium for expressing human aspirations and their vicissitudes. There are issues, beliefs, assumptions, and values which are presented through a text. The text themes also brought up everyday issues which reflect students' interest such as friendship, honesty, and how to judge wisely. Those themes were expected to be able to enhance students' consciousness and to develop their ability to see a problem from multiple perspectives. Hence, it suited to embed students' critical thinking because students should reflect certain values to their own values. Third, the level of difficulties in grammar, vocabulary, structure, language use and the length of the text were also considered and adjusted to be used as teaching materials for the participants as eighth graders.

Therefore, six narrative texts entitled "The Fox and The Stork," which has friendship and revenge theme, "The Boy Who Cried Wolf," which brought honesty topic, "The Three Little Pigs" and "The True Story of The Three Little Pigs" which came with how to judge wisely topic were selected for teaching materials. In addition, "The Lion and The Mouse" were selected for the pre-test which highlighted friendship and favour theme and "The Man, the Boy and the Donkey" for the post-test" which blew up decision making issue.

3.4.3 Preparing lesson plans

Three lesson plans were designed to be implemented in this research for three meetings. Those lessons plans aimed to embed critical thinking skills through narrative text. The following table is a summary of the lesson plans, the detail can be seen in the Appendix A.

Table 3.1
Summary of Lesson Plans

No.	Lesson Plans	Material	Activities
1.	Lesson Plan 1	A narrative text entitled "The Fox and the Stork". The topic drawn from the story; revenge.	Teacher modelled how critical reading strategies were implemented. <ol style="list-style-type: none"> 1. Previewing <ol style="list-style-type: none"> a. Showing the pictures. b. Game "Take the Card!" c. Matching words with picture. d. Class discussion 2. Outlining and Summarizing <ol style="list-style-type: none"> a. Identifying main ideas. b. Retelling the story. 3. Questioning, Reflecting, Evaluating <ol style="list-style-type: none"> a. Class discussion
2.	Lesson Plan 2	A narrative text entitled "The Boy Who Cried Wolf." The topic drawn from the story; honesty.	<ol style="list-style-type: none"> 1. Previewing <ol style="list-style-type: none"> a. Showing the pictures. b. Game "Take the Card!" c. Matching words with picture. d. Class discussion 2. Outlining and Summarizing <ol style="list-style-type: none"> a. Identifying main ideas. b. Creating a story map 3. Questioning, Reflecting, Evaluating <ol style="list-style-type: none"> a. Class discussion
3.	Lesson Plan 3	Two stories entitled "The Three Little Pigs" and "The True Story of the Three Little Pigs." The topic discussed from the story; judging wisely.	<ol style="list-style-type: none"> 1. Previewing <ol style="list-style-type: none"> a. Showing the pictures. b. Game "Crossword." c. Class discussion 2. Outlining and Summarizing <ol style="list-style-type: none"> a. Identifying main ideas. b. Creating a story map 3. Questioning, Reflecting, Evaluating <ol style="list-style-type: none"> a. Class discussion

3.4.4 Administering pilot test

To investigate the feasibility of reading test used, the test items were tried out to reveal the validity and reliability. Try out was administered to 38 non samples students from VIII-C and VIII-F in the same school. The test consisted of 24 questions. The data from pilot test was evaluated through SPSS and the valid and reliable items were used as the research instrument. The result of the tried out is presented in Appendix D.

3.4.5 Administering pre-test

The pre-test was conducted after the test items had been analysed in terms of validity and reliability. Pre-test was conducted before the treatment given precisely on the 4th April 2017.

3.4.6 Treatment phase

During learning reading using critical reading strategies to embed students' critical thinking, the students were asked to do the following strategies as adopted from Sousa (2004) and WSSU (2013).

- a. Previewing the text using the title of the text, pictures, introducing the characters, and guessing or predicting the story.
- b. Outlining and summarizing by writing or retelling the story by students' own words.
- c. Questioning, they were asked some questions that required not only their comprehension about the text but also their higher order thinking skills. It was simulated before, during and after reading.
- d. Reflecting on challenges students' beliefs and values so they compared and contrasted multiple points of views.
- e. Evaluating the text by concluding the moral value of the story and what they have learned from the story.

3.4.7 Administering post-test

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Post-test was given to investigate the effect of the treatments. The test was conducted on 26th April 2017 to 35 students.

3.4.8 Administrating interview

Interview was administered to the students after all of teaching sessions were completed. Interview addressed to 10 students as the representative of the higher, middle and lower achievers.

3.5 Data Analysis

Creswell and Clark (2007) point out that there are several steps in analysing mixed methods data. Firstly, the basic procedures involved conducting a separate initial data analysis for each the qualitative and quantitative databases. In this case, the result of pre-test and post-test were analysed and interpreted as a quantitative database and the result of observation and interview were also analysed and interpreted as a qualitative database. Secondly, the researcher merged the two databases from quantitative and qualitative databases so that the supportive dataset could strengthen the result of the primary database.

3.5.1 Analysis of pilot test

The data from Pilot test was analysed by SPSS 23 to measure validity and reliability. The explanation of validity and reliability analysis can be seen as follow.

3.5.1.1 Validity

Kimberlin and Winterstein (2008) define validity as “the extent to which an instrument measures what it purports to measure. Hamied (2014) emphasizes the importance of validity is to show the accuracy, correctness and usefulness of an instrument. The validity of the test was measured by technique of Pearson’s product

moment using SPSS 23. The index validity of each item was interpreted with the following criteria.

Table 3.2
Validity Classification

Raw Score	Interpretation
0.81 – 1.00	Very High
0.61 – 0.80	High
0.41 – 0.60	Moderate
0.21 – 0.40	Low
0.00 – 0.20	Very Low

Adopted from Arikunto (2012:89)

3.5.1.2 Reliability

In a simplest definition, reliability refers to consistency. It is often defined as instrument consistency (Mackey & Gass, 2005). For the reliability of a test, it was analysed by SPSS 23. Then the result can be interpreted by the following criteria as stated by Arikunto (2012).

Table 3.3
Reliability Classification

r Coefficient	Interpretation
$0,00 \leq r < 0,20$	Poor
$0,20 \leq r < 0,40$	Moderate
$0,40 \leq r < 0,700$	High

$0,70 \leq r < 1,00$	Very High
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Adapted from Arikunto (2012)

3.5.2 Analysis of pre-test and post-test

The data from pre-test and post-test were measured by using scoring rubric adapted from Paul and Linda (2009 as cited in Leist et al., 2012). The critical thinking rubric for critical reading is illustrated as follow.

Table 3.4
Critical Thinking rubric for Critical Reading

Score	Standards or elements of critical thinking in Critical Reading
0	No answer, no purpose or concepts stated.
10	<ul style="list-style-type: none"> • Highly inaccurate, with wrong purpose or concepts stated. • No use of facts, data, or examples from the reading. • No relevance or conclusions stated. • Very low application of concepts
20	<ul style="list-style-type: none"> • Low accuracy, or either the purpose or the concepts stated inaccurately. • Incorrect or minimal use of the facts, data, or examples from the reading. • Low relevance, with basic conclusions stated. • Low application of concepts, or incorrect application of concepts.
30	<ul style="list-style-type: none"> • Some accuracy with the purpose and concepts of the reading, but subtle inaccuracies. • Some correct use of the facts, data, or examples from the reading. • Some relevance with basic conclusions, but does not personally connect to the concepts. • Some application of concepts, but uses generic ideas.
40	<ul style="list-style-type: none"> • Complete accuracy with correct purpose and concepts clearly

	<p>stated.</p> <ul style="list-style-type: none"> • Frequent correct use of the facts, data, or examples from the reading. • Complete relevance to the passage, explains several conclusions, may include personal connections to these ideas. • Complete application of concepts and content to other contexts by using pertinent examples and supplying details.
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Adapted from Paul and Linda (2009 as cited in (Leist, Woolwine, & Bays, 2012).

The test item was minimal structure of essay as suggested by Ennis (2003). The minimum point was 0 and the maximum point was 40 for each question. Then, each point of every question was summed and then it was divided by the number of test item. The minimum of total score is 0 and the maximum score is 100.

After students' answer was scored, then the scores were categorized into four categorizations based on Brown (2004) which are fail, low, satisfactory and high. The categorization was illustrated in the following table.

Table 3.5
Scoring Categorization in Reading

Score	Category
81-100	High
61-80	Satisfactory
41-60	Low
0-40	Fail

Adapted from Brown (2004)

After the students' scores were obtained, then, the result was measured its average (arithmetic mean). The formula for measuring average can be seen as follow.

$$\bar{X} = \frac{\sum x}{N}$$

(Wright, 1976)

Notes:

Σ = represents the summation

X = represents scores

N = represents number of scores

3.5.3 Analysis of Normalized Gain Test

To measure the improvement of students' critical thinking skills in learning reading narrative text using critical reading strategies, the data from pre-test and post-test were analysed using normalized gain test $\langle g \rangle$. The formula which adapted from Hake (1999 as cited in Sundayana, 2005) is presented as follow.

$$\text{Normalized gain } \langle g \rangle = \frac{T2 - T1}{T_{\max} - T1}$$

Hake (1999 as cited in Sundayana, 2005)

Notes:

T2 = Post-test score.

T1 = Pre-test score.

T max = Maximum score.

Then, the result was identified by using criteria of normalized gain test which adapted from Hake (1998 as cited in Sundayana, 2005) as illustrated in the following table.

Table 3.6
Normalized Gain Test Criteria

Normalized Gain Score	Category
$1,00 \leq g < 0,00$	Very Low
$g = 0,00$	Low

$0,00 < g < 0,30$	Medium
$0,30 \leq g \leq 0,70$	High
$0,70 \leq g \leq 1,00$	Excellent

Hake (1999 as cited in Sundayana, 2005)

3.5.4 Analysis of classroom observation

The observation data was analysed from the recorded videos during the activities in the class. The recorded videos were very beneficial to see the real situation in the class and complete data from observation sheet and interview. Observation included the nature of conversation in the class, how students implemented critical reading in every strategy, how their thinking behaviour was, and what was obstacle in utilizing the critical reading strategies. The observation results from teacher observer's observation sheet and an external observer were compared. Then, all the results were coded and categorized to be elaborated descriptively supported by evidences to strengthen the result. The result classroom observation analysis can be found in Appendix F.

3.5.5 Analysis of interview

The interview was analysed using several steps proposed by Grieffe (2012). First, the data from interview session were transcribed into written data. It was done to help the researcher in processing the data. Second, the written data were coded and categorized related to critical thinking skills which embedded in the implementation of critical reading strategies. Third, the result was explained in relation with the research questions and relevant literature. This qualitative database was used to support the classroom observation as qualitative database and strengthen the result of the tests as quantitative database.

3.6 Concluding Remark

Chapter III has discussed the methodology in conducting the research and description of research procedure in order to find out the answer from research questions stated in Chapter I. This chapter also has presented several main parts of the study which are research design, site and participants, data collection, research procedure and data analysis technique. The next chapter elaborates findings and discussion of this research.