

CHAPTER III

RESEARCH METHODOLOGY

The previous chapter has presented the literature framework of the study. It discussed the theoretical foundation of reading comprehension, teaching reading comprehension, reciprocal teaching, hortatory text, narrative text, students' attitudes toward the implementation of the program.

This chapter discusses the research methodology of this study consisting of several sections covering research site and participants, research design, data collection technique, and data analysis techniques as well as hypothesis testing. This chapter is closed with concluding remark.

3.1 Research Site and Participants

This study was conducted in one senior public high school in Riau. It was chosen because of three reasons. Firstly, the school is located close to researcher's residence which provides ease of time and cost (McMillan and Schumacher, 2001, p.432). Secondly, the participants in the research site mastered necessary skills which are needed in the implementation of reciprocating strategy, living with the fact that their prerequisite skills in reading put an ease of the teaching itself. Thirdly, as the school is where the researcher works, it provides an easy access to the researcher to conduct the research.

The participants of this study were 60 students of Science class at the second grade which were divided into two groups; 30 students were in a group of control and 30 students in a group of experiment. They were selected based on test effect (testing), historical factors and subject selection (Hatch and Farhady, 1982, p.7). In term of test effects, they were considered having the same learning experience as in the pretest of reading comprehension they showed the same competence proven by homogenous statistics. Using independent t-test, it revealed that there was no significant difference in both group pretest scores. In addition, in selection of the subjects both groups of a control and experiment have never been applied reciprocal teaching strategy. Therefore it was assumed they had similar characteristics.

The nature of the participants was voluntary-based. They signed a consent form (see Appendix 1) upon the researcher's information on the aim of the study, its procedures, its benefits so that the participants understand the information and can decide whether they wanted to enroll and continue to participate (Emanuel, Wendler, & Grady in Liamputtong, 2009, p. 34). The consent form was adapted from Emilia (2005) providing student's consent to participate in pre-test and post-test, teaching program and in responding to questionnaire. The participants involved in this study consisted of 36 female students and 24 male students. All of them participated in both pretest and posttest and were asked to answer questionnaire items. However, only 9 students were selected to be observed in classroom observation. In choosing the sample of observation, the researcher used purposive sampling. This is in line with one of the features of qualitative research as stated by Cohen & Manion, (1985) that purposive sampling is a feature of qualitative research.

3.2 Research Design

In accordance with the purposes of the study and the research questionnaires, this study used a quasi-experimental design in the form of nonequivalent (pre-test and post-test) control group design which was based on two reasons. First, the study involved two groups in which both groups had pre-test and post-test but only experimental group received the treatment (Cresswell, 2009, p.160). In this study, there were two classes to be experimented encompassing experimental group and control group. This is also related to the characteristics of quasi-experimental research (Nunan, 1992; Cresswell in Kusnadi, 2009, p.36).The experimental group was taught by using reciprocal teaching strategy. Second, the study did not require random sampling in selecting the participants (Hatch and Lazarson, 1991, p.95).

3.3 Data Collection Techniques

To collect the data for this research, multiple data collection techniques were applied including pretest and posttest of reading comprehension, classroom observation and questionnaire. Pretest was conducted before the treatment while

posttest was conducted after the treatment. Classroom observation was done during the treatment or on-going way (Frankel and Wallen, 2000) and questionnaire was conducted after the teaching program. Each method of data collection will be described below.

3.3.1 Pretest and Posttest of Reading Comprehension

This study used test as one of methods to answer the research questions related to the effects of reciprocal teaching strategy in students' reading comprehension. The tests were pretest and posttest consisting of 40 multiple choice items with four options A, B, C and D. There were three reasons of using multiple choice items in this study.

First, the multiple choice test was familiar for the participants which influenced the participants' capability in responding questions (National Research Council in Solorzano, 2008). Second, it was a commonly devise for testing the students' comprehension (Alderson, 2000, p. 211) and third it was practical in constructing the items (Brown, 2004) as well as easy to mark (Harmer, 2001, p.323). The time allocated for pre-test and post-test was 50 minutes each.

The tests consisted of reading comprehension tests which have seven indicators of comprehension as outlined by Heaton (1988) on the basis of the graduate competence 2013. The indicators are the ability of (1) finding out the general idea or topic of the text, (2) identifying explicit stated information, (3) finding synonym of words, (4) identifying main idea of a paragraph, (5) identifying reference, (6) identifying purpose and the type of the text (7) identifying detailed information (8) identifying implicit information (9) predicting or anticipating the next paragraph (ibid). These indicators were chosen considering the limitation of spaces and the graduate competence 2013. The items consisted seven items of finding out the general idea, five items of identifying topic of the text, seven items of explicit information, four items of synonym were, five items of main idea of paragraph, four items of reference, three items of purpose and type of the text, three items of identifying detailed information, five

items of identifying implicit information were and four items for indicator of anticipating or predicting next paragraph.

The test consisted of 40 items involving two genres of the texts: hortatory exposition and narrative texts. These two genres were also the materials in teaching program. The use of these two genres was attributed to two following reasons. First, they were learned in the second semester of second grade when this study was conducted. Second, these genres were recommended by some researchers in applying reciprocal teaching strategy (Palinscar and Brown, 1984; Rosenshine and Meister, 1993). The texts and questions were taken from some sources such as website, books and national final examination items which were modified for both texts and questions (see Section 4.2.1).

Moreover, the items of tests were tried out and modified to ensure the reliability and the validity of them (Hatch and Farhady, 1982, p. 253; Brown, 1988, p.99-104). The try-out was conducted to another group of students who was not involved in the study to find out the level of difficulty to gain 25% of easy, 50% of medium and 25% of difficult items (ANATES Guidance, 2003). There were 45 items were constructed but only 40 items were chosen for the tests. Further discussion of the tryout of the items is presented in chapter IV Section 4.2.2.

Then, both tests were given to control and experimental group. Pretest was given before the treatment (see Appendix 2 and 3) and posttest was given after the treatment (see Appendix 4 and 5). The data from reading comprehension test were analyzed by using independent t-test (see Appendix 6). It was done to find out the effect of reciprocal teaching on students' reading comprehension. In this case, the researcher compared the results of the students' reading comprehension tests in the control group and the experimental group in both pre-test and post-test. This comparison aims to get the difference achievement that the students obtain through different treatment. In finding this comparison, the researcher dealt with statistical calculation. One of ways to do this calculation is by using independent

t-test using SPSS V.16. Further discussion of administering pre-test and post-test is discussed in Chapter IV Section 4.2.3

3.3.2 Classroom Observation

As mentioned in the previous section, the teacher acted as the teacher of the program conducting the program for 8 meetings or six weeks. The researcher employed reciprocal teaching strategy in the experimental group. This classroom observation aimed to see three aspects including the implementation of reciprocal strategy, the effects of reciprocal teaching strategy, and the students' attitudes toward the implementation of reciprocal teaching strategy. Observation, according to Maxwell (1996, p.76) often enables a researcher to get information which cannot be obtained from other sources.

During the program, the researcher made field notes about what students did and said after each session. For avoiding bias and having triangulation data, a "peer review" was invited to observe the program (Liamputtong, 2009, p. 29) by writing what the teacher did and said and what the students did and said (see Appendix 6). The peer review was a researcher's colleague who was not involved directly in the study, she was designed to help the researcher's perspective.

3.3.3 Questionnaire

This instrument of study was employed after the entire teaching program was completed. The questionnaire was chosen as the instrument of this study as it is the most commonly technique applied for gaining information from respondents (Nunan, 1992; McMillan and Schumacher, 2001, p. 257). They further explained that questionnaire is considered fairly economical and ensured its anonymity. Questionnaire also is recommended to find out what people think including participants' attitudes (Dornyei, 2002, p. 5).

In this study the questionnaire was spread to know the effect of reciprocal teaching strategy on the students' reading comprehension, the implementation of reciprocal teaching strategy and the students' attitudes toward the implementation of the program (McMillan and Schumacher, 2001; Dornyei, 2002, p. 5). Thus the

questionnaire was given to the experimental group who were treated by using reciprocal teaching strategy.

The questionnaire items consisted 22 open-ended questionnaire items aiming to answer the research questions of this study (see Appendix 7). The open-ended questionnaire was chosen considering of eliciting the full range, depth, and the complexity of the students' view (Oskamp and Schultz, 2005) toward the implementation and the effect of reciprocal teaching strategy, as well as their attitudes toward the implementation. To have clearer understanding, the questionnaire was written in Indonesia language.

In accordance with the effectiveness and comprehensibility of questionnaire, a pilot test of the questionnaire was conducted before using it in the study (McMillan and Schumacher, 2001). The questionnaire was given to others who were not involved in the study to check the clarity of direction and items and the comprehensible of the questions. In the pilot testing, all questions in questionnaire were clear and comprehensible for the students. However, the term of 'strategi pengajaran reciprocal' (reciprocal teaching strategy) was shifted into 'dalam pembelajaran ini' to avoid students' vagueness.

3.4 Data Analysis

Data analysis applied in this study was carried out during the teaching program and after the teaching program. On-going data analysis was done for having evaluation and modification of the teaching program. This kind of analysis was conducted on the basis of data taken from classroom observation. Meanwhile, the data which were analyzed after the program were the posttest and the questionnaire. Further discussion of each data analysis is presented below.

3.4.1 Pretest and Posttest

To analyze the pretest and the posttest, Statistical Package Software System (SPSS) V.16 was employed. There were four procedures of analyzing the tests using SPSS V.16. First, testing of the normality data of the pretest scores of both control group and experimental group was conducted. Second, the scores of both groups were analyzed using independent t-test to see both groups had

similarity (Hatch and Farhady, 1982). Third, the scores of posttest of control group and experimental group were analyzed whether they were in normal distribution. Fourth, the posttest scores of control and experimental group were analyzed using independent t-test (Hatch and Farhady, 1982; Hatch and Lazarton, 1991) to see the effect of reciprocal teaching strategy in experimental group.

3.4.2 Classroom Observation

Data from the classroom observation consisted of the researcher's and another observer's field notes about what the students' said and did (McMillan and Schumacher, 2001; Silverman, 2005). The analyzing data was conducted during or on-going and after the data was collected. As the data of classroom observation in accord with what teacher's said and did and student's said and did were bulky and quite hard to observe everything that occurred (McMillan and Schumacher, 2001, p. 274), here were three components determined to be analyzed on the basis of the implementation of reciprocal teaching strategy, the effect of the teaching strategy on the students' reading comprehension, and the students' attitudes toward the implementation of the program. The components were *dialogue*, *four reading strategies* including prediction, clarification, questioning and summarizing and *Scaffolding* (Klingner, Vaughn, & Boardman, 2007). The data were analyzed and described in Chapter IV combined with teaching program.

3.3.4 Questionnaire

Data from questionnaire were analyzed into two steps. First, the responses of participants were codified then categorized into three central themes (Cresswell, 2007) the implementation of reciprocal teaching strategy, the effect of reciprocal teaching strategy on the students' reading comprehension, and the students' attitudes toward the implementation of reciprocal teaching strategy. In analyzing the data from questionnaire peer-reviewer was involved to reduce the bias (Creswell 2007; Padgett 2008 in Silverman, 2005) and to help clarify the researcher's perspectives (Carpenter and Hammel in Silverman, 2005). The result of analysis is presented in chapter V.

3.5 Hypothesis Testing

To answer the research question which is “what is the effect of reciprocal strategy on the students’ reading comprehension?” Null Hypothesis (H_0) was proposed in this study. The null hypothesis was that there was no difference between the students’ reading comprehension of the experimental group and that of the control group after receiving the treatment. The null hypothesis was accepted if there was no a significant difference in the result of the students’ reading comprehension between the experimental group and the control group after receiving the treatment. On the contrary, the null hypothesis was rejected if there was a significant difference in the result of the students’ reading comprehension between the experimental group and the control group after having the treatment. To meet the hypothesis above, statistics analysis of independent t-test was applied in this study.

3.6 Concluding Remark

This chapter has discussed the methodology of the study covering research site and participants, research design, data collection technique, data analysis of pretest-posttest, classroom observation, questionnaire and hypothesis testing.

The next chapter will discuss the teaching procedures of the study describing the phases of reciprocal teaching strategy employed.