

CHAPTER III

METHODOLOGY OF RESEARCH

3.1 Introduction

This section will discuss some important elements related to research methodology is that the research design, research site, population and sample, instruments, variable and hypothesis, treatment, data collection, and data analysis.

3.2 Research Design

In line with the aim and purpose of this research, to find the effect of Reciprocal strategy on the development of students' reading ability, the design used in this research is true experimental design, a type of research design which includes experimental and control groups random sampling (Hatch Lazaraton, 1991). This study will employ experimental method. The quantitative method is employed because this study wants to see "the effects of Reciprocal strategies on reading comprehension. To find the data, the researcher will conduct a true experimental research random sampling. The experimental group will be treated with Reciprocal strategy and the control group will treat with a three phase techniques. The treatment will be employed approximately eight meeting. To support the data from the treatment, questionnaire on the students' attitude towards the application of the strategy is also conducted.

Experimentation provides a method of hypothesis testing (Hatch and Lazaraton, (1991). After the experimenters define a problem, they propose a

tentative answer or hypothesis. The hypotheses are null hypothesis. The researcher tests the hypothesis, confirm or disconfirm them in the light of the controlled variable relationship that the experimenters observed. Hadi (1988) states it is important to note that confirmation or rejection of the hypothesis is stated in terms of probability rather than certainty. The schematic representation for the experimental on the true design is:

<u>Treatment group</u>	G1 (random) T1 X T2
Control group	G2 (random) T1 T2

Explanation:

G1: Random

G2: Random

T1: Pre-test

T2: Posttest

X: Treatment using Reciprocal strategy in teaching reading narrative texts

The research design has main characteristics. The characteristics are (1) it has two groups of subject namely experimental and control group; (2) the subjects are taken randomly; (3) pretest is administered to capture to initial differences between the groups; (4) the experimental group is manipulated with particular treatment. In this study, the experimental group taught using Reciprocal strategy with reading narrative text, while the control group is taught by a three phase techniques; (5) both group are measured twice (Farhady, 1981).

The pretest is carried out to see the students' actual ability before the treatment while in posttest, the respondents of the two groups will be given the test after the treatment of the experimental group had been trained about the reciprocal strategies.

This study attempts to seek the empirical evident of whether independent variable affects dependent variable and to identify the significance of the effect. To know the effect of independent variable, the study used pre-test, treatment, and post-test. The score data of pre-test and post-test were then, counted and compared to find out whether there is a significant difference on students' reading achievement after conducting the treatment.

Questionnaire is also applied to support the score data in accordance with students' reading achievement. The questionnaire is administered to find out students' attitudes toward the application of reciprocal strategy in teaching reading narrative texts. The response involves the students' attitude, feeling, and thoughts about the application of reciprocal strategy.

3.3 Research Site

The research was conducted at one MAN in Medan for several reasons. The first reason is that the school is located near the researcher's place. This gave an ease to the researcher in term of time management in executing the research. The second one is that as a teacher in this school, he/she hoped to get access easily to the research site and thus increasing feasibility of the study. And the last reason is based on the researcher experience, in that school, the teachers are not used the strategies in teaching reading, therefore, the data collection of the research would be more accurate and valid. If so, the result of this study will be a great importance and useful input for that school in developing and supporting reading skill particularly for the students as well as the teacher.

3.4 Population and Sample

The population of this study was the tenth grade of one MAN in Medan, These graders are taken as the population because the researcher wants to improve the students' achievement in English especially in reading comprehension. Then the ability of first grade students in reading instruction seems to be lower than it is expected. Moreover, it is intended to help students to look for alternative solution in reading development from the beginning grade to be promoted to the higher grade. Furthermore, first grades' reading achievement will have great impact to the coming achievement in the next grade.

The sample of this research was selected randomly from the tenth grade student, consisting of 120 students as population. There are 60 students were chosen randomly, with equal number of male and female students. (Sugiyono, 2006, p.56; see also Hatch & Lazaraton, 1991). In addition, Arikunto (1989) said that if the subject is less than 100, it is better to take all of them. If they are more than 100, it can be taken 25% until 50% of population as the sample. To keep their privacy and confidential real identities, their names were disguised. Furthermore, this study divided into two groups, thirty students for control group and thirty students for experimental group. This study use purposive sampling to get equal proportion the data between male and female in learning reading narrative texts by using reciprocal strategy (Maxwell's, 1996:71).

3.5 Data Collection

In collecting the data, the researcher has three kinds of instruments namely: (1) material for conducting a treatment which is in the form of the lesson plan and reading texts of narrative genre; (2) pre-test and post-test item, and (3) questionnaires. Questionnaire in this study is carried out as a means of giving students opportunities to express their thoughts or feelings about the application of Reciprocal strategy whether it gives good impact on their reading comprehension.

3.5.1 Materials for treatment

The material consists of lesson plan and reading materials taught in classroom in term of narrative texts. The lesson plan is written by adopting the Wallace's model of lesson plan (1992, see appendix I). Furthermore, the reading materials are taken from the English Book for SMU/MAN students used in Madrasah Aliyah Medan (see appendix II).

3.5.1.1 Pre-test and Post-test of Reading Narrative Text

The pre-test is given in the first meeting to know the starting skill of the students' reading ability before the experimental group and control group are treated. Both pre-test and post-test are in the form of reading narrative texts followed by ten essay questions in order to identify the students' answer of the question using reciprocal strategy. The result of the pre-test can be used to match the students of control group with those of experimental group, and it can also be

seen the students' improvement. Meanwhile, the post-test is conducted at the end of the teaching learning process in order to find out the influence of reciprocal strategy in the students' achievement on their reading comprehension.

The scoring system used in the row score developed by the researcher. The questions delivered in this test consist of "*Summarizing strategy*" which is given five points (two questions). "*Questioning strategy*" (two questions) which is score three points. "*Clarifying strategy*" which is given one points (three questions). "*Predicting strategy*" which is given two points (three questions). The total scores are twenty five, then times four, so the maximum score is one hundred. This system of scoring is done since each strategy has different level of comprehension as proposed by Sianipar (2002); literal, inferential, evaluation, and appreciation level of comprehension. The materials of the test are taken from an English book for SMU/MAN students which have not been used in their English class (see appendix III).

3.5.1.2 Validity of the Pretest and Posttest of Reading Narrative Text

Before the materials were tested to the respondents, test of content validity and reliability were conducted. Scarvia et al. (1975) cited in Arikunto (2007) said that a test is valid if it measures what it has to be measured. Furthermore, Heaton (1988) states that there are several types of validity. Some of them which are related with this study are content validity, and external validity.

The content validity can be fit if the test items reflect the contents of the curriculum the students have learned, covering literal, inferential, evaluation, and

appreciation level of comprehension as required by KTSP 2006. The test items should have relationship with the course objectives (Heaton, 1988).

Furthermore, the external validity of the instruments in this study was reached by correlating the results try-out with the students' English scores they gained in first semester. In this study, the Pearson Product-moment Correlation Formula is used (Hatch and Lazaraton, 1991). The scores will be analyzed by using computer program of Statistical Package of the Social Science (SPSS).

3.5.1.3 Reliability of the Pretest and Posttest of Reading Narrative Text

In term of the reliability of the test, the researcher used test retest method (Arikunto, 2007). In this case, the researcher conducted a try out for the test before the students have the real pretest. And the span period between the tests was about seven days as to avoid students' memorization about the items test since the given test was the same in terms of the text and the questions. The result of the two tests was compared. Since, the students got approximately the same scores for both test, it can be said that the test items were reliable. In addition, the result of the tests was analyzed using correlation analysis (Pearson Product Moment) to find the significant correlation (Hatch and Lazaraton, 1991). The statistical analysis is computerized using SPSS 12 program.

In order to judge whether the item test given to students was adequate enough based on reciprocal theory, the supervisors of this research had been ask to give a judgment about reading test given to students both for pretest and posttest whether the tests had been fulfilled the requirements as proposed by

reciprocal strategy. Both supervisors are English lectures and regarded as the experts of education at Indonesia University of Education.

3.5.2 Questionnaire

Questionnaire was administered as a means of giving the students an opportunity to express their feeling, opinion, or thoughts toward the application of reciprocal strategy. In other words, it's done to see whether the students feel comfortable learning English using reciprocal strategy, especially in reading instruction. There are two sets of questionnaire which used and consisting of 16 items. One set was given to the students involved in the experiment group and the other for the control group. It's based on cognitive strategy consisting of eight of which were shown to be positively correlated to reading achievement and eight of which shown to be negatively correlated to reading. Positively correlated strategies included: Summarizing, getting main idea (item 1-4); self generated questions, rereading of the story (item 5-8); taking note, guessing meaning,(item 9-12); and imaging, underlining important story part (item 13-16).

To get closer over what respondents did during comprehension, the researcher set up 16 Reading Strategy Questionnaire (RSQ), adopted from Padrón (1992 cited in Laurence, 2007). The questionnaires were translated into Indonesian to assist the respondents understanding those questions. There are thirty students involved in the questionnaire. The questionnaire can be seen in Appendix 15.

3.5.2.1 Validity of Questionnaires

Concerning the questionnaires, both questionnaires for control and experiment groups have also been consulted to the advisors of the thesis and stated to have logical validity, i.e. they are understandable by many other people (Neuman, 2003). It also was reviewed and validated by colleges of English Department Indonesia University of Education in terms of the clarity, bias, conciseness, and the possible meaning for all readers.

3.5.2.2 Reliability of Questionnaires

The items were developed following the guidelines from Oppenheim (1982). The type of the questionnaires is Likert-Scale with five options: Strongly Disagree, Disagree, Uncertain, Agree, and Strongly Agree. This type of scale was chosen because it is less laborious and a reliability coefficient of .85 is often achieved (Oppenheim, 1982).

The odd items are positive statements, i.e. statements which reflect positive attitude toward the issue being addressed. On the other hand, the even items are negative statements. For example, item number 2 is actually the opposite of statement in item 1. So, there are four pairs of items. Composition like this is aimed at making sure the consistency of students' attitudes to the questionnaire. The scoring for positive items is 1 for Strongly Disagree, 2 for Disagree, 3 for Uncertain, 4 for Agree, and 5 for Strongly Agree. On the other hand, for the negative statements, the scoring is reversed, thus it is 5 for Strongly Disagree, 4 for Disagree, 3 for Uncertain, 2 for Agree, and 1 for Strongly Agree. The higher

the total score, the more positive is the students' attitudes toward the issue being addressed (Oppenheim, 1982).

3.6 Variables and Hypothesis

Variables are condition of characteristics that the researcher manipulates, controls and observe. There are some variables in this study that need to be stated, such as independent variable, dependent variable and control variable. The independent variable in this study is teaching reciprocal strategy to the eleven grade of one MAN in Medan. Meanwhile, the dependent variable in this study is the reading comprehension score. Moreover, control variable which is held constant in order to neutralize the potential effect it might have on behavior. Thus, the control variable in this study is the eleven grade students of one MAN in Medan.

Hypotheses are designed to be a guide of proving the temporary assumption of this research. The hypotheses of this research are the null hypothesis (H_0) (Hatch and Farhady, 1982, p.86). There is no significant difference between reading posttest scores of experiment and control group as the null hypothesis (H_0).

3.7 Schedule for Treatment

The process of teaching learning activity in the experimental group and control group was conducted under the same manner. It means that the actual face to face meeting for each group was conducted twice per week for a month. The

total meeting for each group is eight meetings. The schedule of experimental group as well as the control group can be seen in the following table:

Table 3.1

The Treatment Time Table

No	Month	Meeting	Topic	Time	
				Control group &	Experi- mental group
1.	February, week 1	1	Pre-test	2x45'	2x45'
2.	February, week 2	2&3	A Greedy Dog	4x45'	4x45'
3.	February, week 3	4&5	The Fly and the Bull Thumbelina The Three Pigs and the New House	4x45'	4x45'
4.	February, week 4	6&7	The Three Pigs and the New House The Little Girl and the Wolf	4x45'	4x45'
5.	March, week 1	8&9	The Frog Prince The Magic Candle	4x45'	4x45'
6.	March, week 2	10	Post-test	2x45'	2x45'

The sample of the classroom activities for experimental group and control group can be seen follows:

a. Classroom activities for experimental group

- Skill focus : Reading narrative texts
- Level : MAN
- Class : X
- Time : 2x45'
- Material and Equipment : “A Greedy Dog”
- Presentation

a. Pre-reading activities

- 1) The teacher hand out a passage of text to each student in the group
- 2) The teacher asks students to give the responds about the text.
- 3) Reciprocal strategy about the new vocabulary
- 4) The teacher explains the new strategy to be employed in reading activities

b. While-reading

- 1) Both teacher and students will silently read of the text.
- 2) The teacher asks students the kinds of questions
- 3) The teacher gives the students oral familiarity with some difficult words
- 4) Teacher model of good questioning behavior

c. Post-reading activities

- 1) Students discuss their problem about the prediction of the text
- 2) Students are permitted to ask some clarification of their difficulties.

Evaluation

After the discussion, the students are given essay test about the text.

b. Classroom activities for control group

- Skill focus : Reading narrative texts
- Level : MAN
- Class : X

- Time : 2x45'
- Material and Equipment : "A Greedy Dog"
- Presentation

a. Pre-reading activities

- 1) The teacher hand out a passage of text to each student in the group
- 2) The teacher introduce the passage and students read silently
- 3) The teacher asks students to give the responds about the text

b. While-reading

- 1) The teacher reads the text for the students
- 2) The teacher gives students some questions about words in the text
- 3) Students discuss the text in a small group
- 4) The teacher nominates the students to read the text

c. Post-reading activities

- 1) After reading the passage students independently answer comprehension questions
- 2) The students asked to note any difficult words and these were discussed with the group
- 3) The teacher sums up the material

Evaluation

After the discussion, the students are given essay test about the text

3.8 Technique for Collecting Data

The technique of collecting data used in this research are pre-test, post-test and questionnaire, they were tried out to subjects from the same population but not included in the study samples, to make sure the validity and reliability of the instruments and the clarity of the instructions. To get a clear description of the influence of learning through Reciprocal strategy, pre-test and post-test are conducted, to justify the result of the computation; questionnaire is used to cross check the data.

3.8.1 Pre-test

The pre-test is carried out to identify the student's initial ability in reading skill. It is given in the first meeting to find out the student's ability before they get the treatment. The test materials are in the form of a reading narrative texts followed by ten essay questions that the students have to answer. The pre-test scores are supposed to serve as a controlled variable to identify the ability of both experimental group and control groups in reading before the treatment about Reciprocal strategy

3.8.2 Post-test

The post-test is conducted similarly as the pre-test. It is used to measure how effective the treatment of Reciprocal strategy is when given to them. The post-test items are equal to that of in pre-test but the text is different. Finally, the students in experimental group and control group were given questionnaire to find

out their attitudes toward learning reading comprehension through reciprocal strategy.

3.8.3 Questionnaire

Questionnaire was administered as a means of giving the students an opportunity to express their feeling, opinion, or thoughts toward the application of reciprocal strategy. In other words, it's done to see whether the students feel comfortable learning English using reciprocal strategy, especially in reading instruction.

3.9 Data Analysis

3.9.1 Pre-test and Post-test Analysis

The data gain from the pre-test and post-test will be analyzed by using case 2 *t*-test formula to see the different mean of pre-test and post-test score between the two groups, the experimental group and control group with the level significant of 0,05 (Lazaraton and Hatch, 1991, p.288).

The significance of the test will be analyzed by using the computer program of Statistical Package of the Social Science (SPSS). This statistical analysis is used for reason that we want to compare the performance of both students' groups (control and experiment), and to find out whether the means of two groups are truly differ, in other words, it is to see if there is an influence of reading Reciprocal strategies on reading comprehension.

After the *t-obs* obtained, this result is consulted with the critical value. If the *t-obs* is lower than the critical value, then it means that there is no difference

between using reciprocal strategy and the conventional strategy in term of students' mastery of reading comprehension. In other words, the hypothesis of this study is accepted. On the contrary, if the *t-obs* is higher than the critical value, then, it means that there is significant difference between using reciprocal strategy and a three phase techniques in term of students' mastery of reading comprehension. Thus, the null hypothesis is rejected.

3.9.2 Questionnaire Analysis

The questionnaire which is aimed at finding out students' attitude toward reading reciprocal strategy will be analyzed by using Likert scales (Oppenheim, 1982). The scoring criteria for each item will be determined by that scale with a checklist on the questionnaire sheet. Before they were analyzed, the attitudes were crosschecked with the students to avoid misinterpretation. Having crosschecked, the data were analyzed, interpreted and explained in relation to the theories discussed in chapter II.

Meanwhile, the findings from the questionnaires were discussed related with the students' posttest scores to support the first question, i.e. if the students' attitudes toward the reciprocal strategy are significant in improving their reading comprehension.

3.10 Conclusions

This chapter has been written to discuss a detailed methodological description of the research. It includes the discussion of the instruments used in

answering the two research questions. The data were collected through pretest and posttest of reading comprehension in narrative text, and questionnaires and then analyzed by the reciprocal theory in teaching reading narrative. The whole research findings will be discussed in chapter IV.



