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CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research method. It focuses on the method used in conducting this study. The decision covers research design, variable of the study, subject of the study, data and data sources, method of collecting data and research instrument and method of data analysis.

III.1. Research Design

This research used an experimental design. The experiment is testing an idea (for practice or procedure) to determine whether it influences an outcome or dependent variable. In this research, the research design was a quasi experimental design. The aim of the design is testing an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable (Cresswell, 2008: 299),

This study was conducted by using an experimental group and a control group. The control group was the class which was not taught writing and speaking on descriptive text by using Two Stay Two Stray strategy. The class which was taught by using Two Stay Two Stray was indicated as an experimental group. Both of the experimental and control groups in this study were taken from the different students or different classes. The students were given pre-test before giving treatment. Then, the treatment Using Two Stay Two Stray strategy was given to the experimental group. After that, posttest was administered to both

groups in order to find out the progress of both groups dealing with the effect of using STS strategy would be found. Finally, the design can be shown as follow:

Table III.1
Design of the study

Group	Pre-test	Treatment	Post-test comprehension
An Experimental	X	X	X
A Control Group	X	O	X

III.2. The Location and Time of the Research

The research was conducted at SMP N 1 Bagan Sinembah, located on Ahmad Yani Street, Bagan Batu, Rokan Hilir Regency. It was conducted for six meetings within two months (November and Desember 2015).

III.3. Population and Sample

The population of this research was the second year students of SMPN 1 Bagan Sinembah in the 2015/2016 academic year. There were 8 classes with 29 up to 34 students in each class; they were VIII.1, VIII.2, VIII.3, VIII.4, VIII.5, VIII.6, VIII.7. VIII.8. the total population of the second year students of SMP N 1 Bagan Sinembah can be seen in the following table:

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Table III.2
The Total Population of the Second Year Students of SMP N 1 Bagan Sinembah

No	Class	Total
1	VIII.1	33
2	VIII.2	34
3	VIII.3	34
4	VIII.4	33
5	VIII.5	29
6	VIII.6	30
7	VIII.7	30
8	VIII.8	30
Total		253

The population was large enough to take all as sample of the research, so the researcher used a cluster sampling. Therefore, the cluster sampling technique was used when the population was large enough and there were the different groups within a population which was used as a sample. And since the research was conducted in the school which everything in it has already set including the number of classes so the cluster sampling was considered as an appropriate sampling technique in this study. The sample taken by an existing group, it was cluster. Moreover, it was taken only two classes as the sample of this research by lottery. The lottery was given to class VIII. The lottery was done by writing the

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classes on eight pieces of small rolled paper then they were put in a cup. After shaking it, the paper was taken. The first chosen paper was an experimental group and the second one was a control group.

Based on the lottery, the classes were chosen; the students of VIII.4 were chosen to be an experimental class and students of VIII.6 to be a control class.

Table. III.3
The Total Sample of the Research

No	Class	Male	Female	The Number of Students
1	VIII.4 (experimental)	15	18	33
2	VIII.6 (control)	11	19	30
Total		26	37	63

III.4. Instrumentation

The instruments used in this research were observation, oral and written test. For the oral test, each student was asked to describe his/her pet orally. There were six clues given to students. There were:

Please describe your pet orally based on the clues below:

1. What kind of pet do you have?
2. What do you call of your pet
3. What does it look like?
4. How old is it?
5. How do you feel about your pet?
6. What do you do with your pet?

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And for the written test, each student was asked to write a simple paragraph about one of his/her family members based on the clues given. There are ten clues in this written test. There were:

Write a short paragraph in descriptive text and choose one of your family members based on the clues below:

1. What is his/her name?
2. How old is he/she?
3. What does he/she look like?
4. What is his/her profession?
5. How does he/she go to school?
6. What year is he/she in?
7. What is his/her favorite subject?
8. What is his/her hobby?
9. What is his/her favorite sport?
10. What is his/her favorite food?

III.5. Research Procedures

In doing this research, there were some procedures to follow:

a. Pre-Test

The pre test was a test which was done to measure students' ability in the first time. Pre-test was administered before conducting treatment process.

The researcher took the score to get first information. The group got once pre test to measure the base score before giving a treatment.

a. Post-Test

The post test was a test which was done after the teaching process. It was done by using two classes in the research. The post test was given to the

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control group and experimental group so that both of them got once post test.

Before giving the treatment to the experimental group and the control group, the pre-test was given to the experimental group and the control group. After giving the treatment to the experimental group, the post-test was given to the experimental group to know if there was any significant effect of using Two Stay Two Stray strategy in teaching speaking and writing or not. In the control group, it was also given the post-test. Post-test in the experimental group and the control group were done by one day.

Before the experimental class was given a post test, there was given a treatment by using Two Stay Two Stray strategy. In the treatment, the students were taught by using Two Stay Two Stray strategy. The teacher explained about the procedure of the strategy first and then descriptive text. The students worked in group discussion during teaching and learning. And at the end of the meeting, teacher gave a quiz in order to measure how far the students understand the lesson. Then, the control class was taught by using non Two Stay Two Stray Strategy.

III.6. The Technique of Collecting Data

In this research there were two kinds of technique of collecting data. They were oral test (speaking) and writing test. In speaking test, the students were asked to describe his/her pet orally. Then, the students were observed their ability and comprehension when they discussed with the other groups and when they presented in front of the class. The aspects observed in speaking skills were

pronunciation, grammar, vocabulary, fluency and comprehension or how students understood what they were saying and comprehended it. The main aspect emphasized was about their cooperation through the communicative ways with the other students in finding and sharing the information.

Therefore, in writing test, the students were asked to describe one of his/her family members. Then, the aspects observed in writing skills were grammar, vocabulary, mechanics, fluency, form (organization). The classification of the students' score for writing and speaking tests were shown below:

Table III.4
The Classification of Students' Score

Number	Score	Classification
1	81 – 100	Excellent
2	61 – 80	Good
3	41 – 60	Mediocre
4	21 – 40	Poor
5	0 – 20	Very Poor

(Harris, 1986)

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III.7. The Data Analysis Technique

III.7.1. The Criteria of Scoring Speaking

In giving the scoring of students' speaking, according to Hughes (1998) there are some criteria that should be considered in giving students' score; pronunciation, grammar, vocabulary, fluency, and comprehension. He describes the rating as follow:

NO	Criteria	Rating	Description
1	Pronunciation	1	Pronunciation frequently unintelligible.
		2	Frequent gross errors and a very heavy accent make understanding difficult, require frequent repetition.
		3	"Foreign accent" requires concentrated listening and mispronunciations lead to occasional misunderstanding and apparent errors in grammar and vocabulary.
		4	Marked "foreign accent" and occasional mispronunciation which do not interfere with understanding.
		5	No conspicuous mispronunciations, but would not be taken for a native speaker.
		6	Native pronunciation, with no trace of "foreign accent"
2	Grammar	1	Grammar almost entirely inaccurate phrases.
		2	Constant errors showing control of very few major patterns and frequently preventing communication.
		3	Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstanding.
		4	Occasional errors showing imperfect control of some patterns but no weakness that cause misunderstanding.
		5	Few errors, with no patterns of failure.
		6	No more than two errors during the interview.
3	Vocabulary	1	Vocabulary inadequate for even the simplest conversation.
		2	Vocabulary limited to basic personal and survival areas (time, food, transportation, family, etc).

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		3	Choice of words sometimes inaccurate, limitations of vocabulary prevent discussion of some common professional and social topics.
		4	Professional vocabulary adequate to discuss special interests: general vocabulary permits discussion of no-technical subject with some circumlocutions.
		5	Professional vocabulary broad and precise; general vocabulary adequate to cope with complex practical, problems and varied social situations.
		6	Vocabulary apparently as accurate and extensive as chat of an educated native speaker.
Fluency		1	Speech is so halting and fragmentary that conversation is virtually impossible.
		2	Speech is very slow uneven except for short or routine sentences.
		3	Speech is frequently hesitant and jerky: sentences may be left uncompleted.
		4	Speech is occasionally hesitant, with some unevenness caused by rephrasing and groping for words.
		5	Speech is effortless and smooth, but perceptibly non-native in speech and evenness.
		6	Speech on all professional and general topic as effortless and smooth as a native speaker's.
Comprehension		1	Understands too little for the simplest type of conversation.
		2	Understands only slow, very simple speech on common social and touristic topics; requires constant repetition and rephrasing.
		3	Understands careful, somewhat simplified speech when engaged in a dialogue, but may require considerable repetition and rephrasing.
		4	Understands quite well normal educated speech when engaged in a dialogue, bur requires occasional repetition and rephrasing.
		5	Understand everything in normal educated conversation except for very colloquial or low-frequency items, or exceptionally rapid or slurred speech.
		6	Understands everything in both formal and colloquial speech to be expected of an educated native speaker.

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III.7.2. The Criteria of Scoring Writing

In giving the scoring of students' writing, according to Hughes (1998) there are some criteria that should be considered in giving students' score; grammar, vocabulary, mechanics, fluency and form (organization). He describes the rating as follow:

NO	Criteria	Rating	Description
1	Grammar	1	Errors of grammar or word order so severe as to make comprehension virtually impossible.
		2	Errors of grammar or word order very frequent; reader often has to rely on own interpretation.
		3	Errors of grammar or word order frequent; efforts of interpretation sometimes required on readers' part.
		4	Errors of grammar or word order fairly frequent; occasional re-reading necessary for full comprehension.
		5	Some errors of grammar or word order which do not, however, interfere with comprehension.
		6	Few (if any) noticeable errors of grammar or word order.
2	Vocabulary	1	Vocabulary limitations so extreme as to make comprehension virtually impossible.
		2	Vocabulary so limited and so frequently misused that reader must often rely on own interpretation.
		3	Limited vocabulary and frequent errors clearly hinder expression of ideas.
		4	Uses wrong or inappropriate words fairly frequently; expressions of ideas may be limited because of inadequate vocabulary.
		5	Occasionally uses inappropriate terms or relies on circumlocutions; expression of ideas hardly impaired.
		6	Use of vocabulary and idiom rarely (if at all) distinguishable from that of educated native writer.
3	Mechanics	1	Errors in spelling or punctuation so severe to make comprehension virtually impossible.
		2	Errors in spelling or punctuation so frequent that reader must often rely on own interpretation.
		3	Frequent errors in spelling or punctuation; lead

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			sometimes to obscurity.
		4	Errors in punctuation or spelling fairly frequent; occasional re-reading necessary for full comprehension.
		5	Occasional lapses in punctuation or spellings which do not, however, interfere with comprehension.
		6	Few (if any) noticeable lapses in punctuation or spelling.
4	Fluency (style and ease of communication)	1	A 'hotchpotch' of half-learned misused structures and vocabulary items rendering communication almost impossible.
		2	Communication often impaired by completely inappropriate or misused structures or vocabulary items.
		3	Structures or vocabulary items sometimes not only inappropriate but also misused; little sense of ease of communication.
		4	'Patchy', with some structures or vocabulary items noticeably inappropriate to general style.
		5	Occasional lack of consistency in choice of structures and vocabulary which does not, however, impair overall ease of communication.
		6	Choice of structures and vocabulary consistently appropriate; like that of educated native writer.
6	Form (organization)	1	Lack of organization so severe that communication is seriously impaired.
		2	Individual ideas may be clear, but very difficult to deduce connection between them.
		3	Little or no attempt at connectivity, though reader can deduce some organization.
		4	Some lack of organization; re-reading required for clarification of ideas.
		5	Material well-organized; links could occasionally be clearer but communication not impaired.
		6	Highly organized; clear progression of ideas well linked; like educated native writer.

III.7.3. Independent Sample T-test

To analyze the data, it was used an independent-sample t-test to compare the mean score for two different groups (experimental and control groups). These

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scores were analyzed by using statistical analysis. The different mean was analyzed by using T-test formula:

$$t = \frac{Mx - My}{\sqrt{\frac{\sum X^2 + \sum Y^2}{Nx + Ny - 2} \left(\frac{1}{Nx} + \frac{1}{Ny} \right)}}$$

Where:

M: average of gain between pre-test and post-test

N: total of subjects

X: deviation from X_2 score and X_1 score

Y: deviation of the Y_2 score and Y_1 score

The T-table was employed to see whether or not there was a significant difference between the mean score in both experimental and control group. The obtained value was consulted with the value of T-table at the freedom:

$$(df) = (N + N) - 2$$

Statistical hypothesis:

H_a = to < t table

H_o = to > t table

Criteria of hypothesis:

1. H_a is accepted if to < t table or it can be said that there is no significant effect after giving the treatment of using two stay two stray technique towards speaking and writing skills.

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2. H_a is accepted if $t_o > t$ there is effect after giving the treatment of using two stay two stray technique towards speaking and writing skills.

Furthermore, it also analyzed by using SPSS to make the result of the data analysis of the research more complete and valid.

III.7.4. Paired Sample t-test or Non-independent Sample t_{test}

Non-independent sample t_{test} is known also as paired-sample t_{test} . This formula is used to obtain the result of the third hypothesis that is found out whether there is significant effect of Two Stay Two Stray (TSTS) strategy towards students' speaking and writing ability. Gay (2000:48) states that the test for non independent samples is used to compare groups that are formed by some types of matching or to compare a single group's performance on a pretest and posttest or on two different treatments.

In this time, the data analysis used pre-test and post test score of the experimental class in order to find out the significant effect of using Two Stay Two Stray (TSTS) strategy on the students' speaking and writing ability. To obtain the data was used SPSS 20. The formula of paired-sample t_{test} is

$$t = \frac{\bar{D}}{\frac{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}}{N}}$$

D : Gain Score (D= X₂-X₁)

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The t-table has the function to see if there is a significant difference among the mean of score of both pretest and posttest. The t-obtained value is consulted with the value of t-table at the degree of freedom (df) = N-1 which is statistically hypothesis:

H_a : $t_o > t\text{-table}$

H_o : $t_o < t\text{-table}$

H_a is accepted if $t_o > t\text{-table}$ or there is significant effect after giving the treatment by using Two Stay Two stray (TSTS) strategy towards student' speaking and writing ability.

H_o is accepted if $t_o < t\text{-table}$ or there is no significant effect after giving the treatment by using Two Stay Two stray (TSTS) strategy towards student' speaking and writing ability.

After using Paired sample T-test, according to Pallant (2010), it is better to find the effect size of T-test by following formula:

$$\eta^2 = \frac{t^2}{t^2 + n - 1}$$

$$\text{Eta-square} = \eta^2 \times 100\%$$

Where:

t : Coefficient