

CHAPTER III

RESEARCH METHOD

This chapter discussed methodology that was used by the researcher in the research. It deals with the research design, research setting, source of data, variables and indicators, instruments, technique of data collection, and technique of data analysis.

A. Research Design

In this study, the method used was experimental research. An experiment was the way to find out the causal relationship between two factors which were raised by the researcher purposeful by reducing or eliminating any distracting factors.¹

The researcher used pre test – post test control group design with one treatment as the design for this study.

This is the scheme

$E = O_1 \times O_2$ $C = O_3 \times O_4$

¹Suharsimi Arikunto, *Prosedure Penelitian Suatu Pendekatan Praktik*, (Jakarta: PT. Rineka Cipta, 2006), p. 3.

Where:

Adopted from Arikunto.²

E = experimental group

C = control group

O₁ = pre-test for experimental group

O₂ = post-test for experimental group

O₃ = pre-test for control group

O₄ = post-test for control group

X = treatment by using think-pair-share for experimental class and treatment without think-pair-share for control class.

There were two classes in this model of experimental research. First was the experimental class and the second was the control class. The researcher decided to choose class VIII A as the experimental class and class VIII B as the control class.

B. Research Setting

1. Subject and place of the research

This research was conducted in MTs Riyadlotut Thalabah Sedan-Rembang. The subjects of this study were the eighth grade students of MTs Riyadlotut Thalabah Sedan-Rembang in the academic year of 2012/2013. The researcher chose MTs Riyadlotut Thalabah as the subject of the research because, most of the teachers there still used conventional method. They have not applied some active

²Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 86.

learning techniques yet in their teaching learning activities. So, the researcher wanted to make something new by applying Think-Pair-Share technique in teaching learning. Besides, the researcher wanted to prove whether Think-Pair-Share technique was appropriate technique for the students there. So that the students would have new atmosphere in teaching learning process.

2. Time of the research

This research was conducted from March 20st to April 10th, 2013 which counted since the proposal was submitted until the end of the research.

3. Procedures of the research

In collecting data, there were some steps of the research, those steps were:

a. Preliminary visit

The researcher visited the school. At the first, the researcher met administration office to gain the information about teacher and students as participants of this research.

b. Contact the headmaster

The researcher asked permission to the headmaster of MTs Riyadlotut Thalabah by giving the permission letter.

c. Contact the English teacher

After receiving research permission from the headmaster of the school, the researcher met the English teacher and asked him for the data of students, and asked advice and guidance for the writer conducted the research. The researcher explained about test and material that would be given to the students.

d. Give the pre-test

In this section, the researcher gave the pre-test to the experimental and control class. The Researcher gave an assignment to the students to rewrite the text which was given by the researcher using their own words. The researcher gave the students 60 minutes to do it.

e. Give the treatment

In this step, the experimental class received a new treatment using Think-Pair-Share as the method in the teaching writing of narrative texts, while the control class was using conventional method in the teaching writing of narrative texts.

f. Give the post-test

The last step, the researcher gave the post-test to measure the improvement of student's understanding on writing of narrative texts. The researcher gave an assignment to rewrite the text which was given by the

researcher using their own words. The researcher gave the students 60 minutes to do the test. Students had to pay attention to the five aspects of writing which would be used in the assessment.

The procedures of collecting the data could be seen in the following table:

Table 3.1
The Schedule of The Research

No	Task	What to prepare	Date
1	Preliminary visit (met the administration officer)	Letter of Pre-research.	Sunday, February 24, 2013.
2	Contact the headmaster	Letter of research.	Saturday, March 23, 2013.
3	Contact the English teacher	-	Sunday, March 24, 2013.
4	Give the pre-test	Pre-test worksheet.	<i>Control Class:</i> - Wednesday, March 27, 2013. <i>Experimental Class:</i> - Thursday, March 28, 2013.
5	Give the treatment	Lesson plan, handout, worksheet, teaching materials.	<i>Control Class:</i> - Saturday, March 30, 2013. - Wednesday, April 3, 2013. <i>Experimental Class:</i> - Saturday, March 30,

6	Give the post test	Post-test worksheet	2013. - Thursday, April 4, 2013 <i>Control Class:</i> - Saturday, April 6, 2013. <i>Experimental Class:</i> - Thursday, April 6, 2013.
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C. Population and Sample

Population was all of the subjects of the research.³ The population of this research was the eighth grade students of MTs Riyadlotut Thalabah Sedan-Rembang in the academic year of 2012/2013. The total number of population was one hundred and fifty three students which were divided into five classes.

Table 3.2
List of the Population

No	Class	Number
1	VIII A	30
2	VIII B	30
3	VIII C	32
4	VIII D	32
5	VIII E	31
	Total	153

³Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, (Jakarta: PT. Rineka Cipta, 2010), p. 173.

Sample was part of total and characteristics which was had by population which was chosen as source of data.⁴It was called sample research when we wanted to generalize the sample research result.⁵

Sampling was the process done to choose and take sample correctly from population so that could be used as valid representative to the population.⁶ In selecting the sample, the researcher used simple random sampling technique. In getting sample of the research, the researcher took the procedure called the lottery method. In this case, each of the classes' names was written on piece of paper, and then the paper was rolled and put into slot of a box. After being well mixed, a paper was dropped out of the slot and these become the sample of the research.⁷ Finally, the researcher chose two classes as the experimental class and as the control class.

D. Variable and Indicator

Variable is a variation object of the study. In this research there were two types of variables: they were independent variable and dependent variable. The Independent variable was selected by the researcher to determine the relationship with the dependent variable.

⁴ Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D*, (Bandung: CV. ALFABETA, 2008), p. 81.

⁵ Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, p. 174.

⁶ Sugiharto, et al, *Teknik Sampling*, (Jakarta: Gramedia Pustaka Utama, 2003), 2nd ed, p. 4.

⁷ Sugiharto, *Teknik Sampling*, p. 49-50.

The dependent variable was the variable of focus or the central variable on which other variables would act if there was any relationship. So, the variables in this research were independent and dependent variable.⁸

Independent variable was variable that influences because of change or emergence the dependent variable. Independent variable in this research was using Think-Pair-Share in teaching writing of narrative texts. The researcher used this method in the experimental group and used classical method in the control class.

Dependent variable was variable that was affected or that became the result because of the existence of the independent variable.⁹ Dependent variable in this research was the students' achievement in writing narrative text which was indicated by students' score in writing narrative texts.

Based on the variables above, the writer could make indicators that support the variables. The schema of indicator's variable was stated as follows:

Table 3.3
The Variables and the Indicators of the Research

Variable	Indicators
1. (Independent variable) The use of Think-	a. Preparing a topic of narrative texts and the tools such as computer, LCD, and paper.

⁸ Sugiyono, *Statistika Untuk Pendidikan*, (Bandung: ALFABETA, 2010), p. 3-4.

⁹ Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D*, p. 39.

Pair-Share	b. Asking students to discuss with their partner, and then make a paragraph of narrative texts based on the topic.
2. (Dependent variable) Students' achievement in the writing test score in narrative texts.	
Sub-Variable	Indicators
a. Sub-Variable; Students' ability in understanding narrative text.	1. Identifying variation of sentence structure in narrative text. 2. Identifying the generic structure in narrative text. 3. Identifying the communicative purpose of narrative text.
b. Sub-Variable; Students' ability in composing written narrative text	1. Giving some example of short story of narrative texts. 2. Rewriting short story of narrative texts with their own words.

E. Technique of Data Collection

To get the accurate data, in this research the researcher used two ways in the collecting the data, they were documentation and test. Firstly was documentation. Documentation was a piece of written materials used to investigate the written or printed materials such as books, magazine, document, regulations, diaries, etc. it referred to the archives data that helped the writer to collect the needed data. In this

study, this method was used to get the data that related to the object research such as students name list were included in the population. In this case, the data was gained by the help of the English teacher.¹⁰

Secondly, was test. Test was a set of question and exercises used to measure the achievement or capability of the individual or group.¹¹ In conducting to this study, the writer used test for collecting the data. The test was used to collect the students' writing that must be analyzed to identify students' achievement in writing of narrative texts. As Brown states, a test was a method used for measuring a person ability and knowledge in a given domain.¹²

The researcher would collect the data by analyzing the test of writing of narrative texts by the student. The researcher would give the test twice (pre-test and post-test) in both the experimental and the control groups. Pre-test was given before the students got the treatment or explanation about the materials by using TPS technique, while the post-test was given after receiving treatment. This test was given in order to know the improvement of students' ability in writing narrative text. In post-test, the experimental class taught in writing narrative texts by using Think-Pair-Share technique. While the control class without using Think-Pair-Share. The test in this study was an

¹⁰ Arikunto, *Prosedur Penelitian Suatu pendekatan Praktik*, p.201.

¹¹ Arikunto, *Prosedure Penelitian Suatu Pendekatan Praktik*, p.193.

¹² H. Douglas Brown, *Teaching by Principles: An Interactive Approach to Language Pedagogy*, (a pearson Education Company: Longman, 2001), 2nd Ed, p. 384.

essay test. In both pre-test and post-test the researcher gave an assignment to rewrite the text which was given by the researcher using their own words. The researcher gave the students 60 minutes to do the test. The students had to pay attention to the five aspects of writing which would be used in the assessment. These five aspects were as follow; content, organization, vocabulary, grammar and mechanic.

F. Technique of Data Analysis

The researcher analyzed the data through giving test to the students. It needed some steps in analyzing of the data. The following were the steps had been taken by the writer.

1. Technique of scoring test

In this study, the researcher used a writing test to measure students' ability in writing narrative texts. To score the test paper, the researcher used analytic score which categorized by some categories. O'Malley and Pierce stated that analytic scale which that analytic scale separated the features of a composition into components that are each scored separately.¹³ H.D. Brown stated that, there were five major items or categories in analytic scoring writing test, namely content, organization, vocabulary, syntax (grammar), and mechanic.¹⁴ The percentage of the elements of writing can be seen in the table 3.4.

¹³ O'Malley and Lorraine Valdez Pierce, *Authentic Assessment for English Language Learners. Practical Approaches for Teachers*, p.144.

¹⁴ H.Douglas Brown, *Language Assessment : Principles and Classroom Practices*, (New York :Longman, 2001), p.246.

Table 3.4
Percentage of The Element of Writing.

Element of writing	Score
1. The content mastery	30
2. The organization mastery	20
3. The vocabulary mastery	20
4. The syntax (grammar) mastery	25
5. The mechanic mastery	5
Total of score	100

Explanation:

Content : The substance of writing, the ideas expressed.

Organizationn : The organization of the content

Vocabulary : The choice of idioms, words, and lexical item to give a particular tone or flavor to writing

Grammar : The employing grammatical and syntactic forms

Mechanic : The use of graphic convention of the language¹⁵

Based on the purpose of the research, the researcher employed scoring guidance criteria by Arthur Huges. Which, it was included by some aspects. Those were content,

¹⁵ Brown, *Language Assessment:: Principles and Classroom Practices*, p.246.

organization, vocabulary, syntax (grammar) and mechanic. To the detail data could be seen in the table 3.5.

Table 3.5
Scoring Guidance and The explanation of Criterion.¹⁶

Categories	Score	Criteria
Content	30-27	Excellent to very good: knowledgeable; substantive; thorough; development of thesis; relevant to assigned topic.
	26-22	Good to average: some knowledge of subject; adequate range; limited development of thesis; mostly relevant to topic, but lacks detail.
	21-17	Fair to poor: limited knowledge of subject; little substance; inadequate development of topic.
	16-13	Very poor: does not show knowledge of subject; non-substantive; not pertinent.
Organization	20-18	Excellent to very good: fluent expression; ideas clearly stated/ supported; succinct; well-organized; logical sequencing; cohesive.
	17-14	Good to average: somewhat choppy; loosely organized but main ideas stand out; limited support; logical but incomplete sequencing.
	13-10	Fair to poor: non-fluent; ideas

¹⁶ Arthur Hughes, *Testing for Language Teachers*, (New York: Cambridge University Press, 2003), p.104

		confused or disconnected; lacks logical sequencing and development.
	9-7	Very poor: does not communicate; no organization.
Vocabulary	20-18	Excellent to very good: sophisticated range; effective word/idiom choice and usage; word from mastery; appropriate register.
	17-14	Good to average: adequate range; occasional errors of word/idiom form; choice; usage but meaning not obscured.
	13-10	Fair to poor: limited range; frequent errors of word/idiom form, choice, usage; meaning confused or obscured.
	9-7	Very poor: essentially translation; little knowledge of English vocabulary, idioms, word form.
Language use/grammar	25-22	Excellent to very good: effective complex construction; few errors of agreement, tense, number, word order/ function, articles, pronouns, prepositions.
	21-18	Good to average: effective but simple constructions; minor problems in complex constructions; several errors of agreement, tense, number, word order/ function, articles, pronouns, prepositions but meaning seldom obscured.

	17-11	Fair to poor: major problems in simple/complex constructions; frequent errors of negation, agreement, tense, number, word order/ function, articles, pronouns, preposition and fragments, deletions; meaning confused or obscured.
	10-5	Very poor: virtually no mastery of sentence construction rules; dominated by errors; does not communicate.
Mechanics	5	Excellent to very good: demonstrates mastery of conventions; few errors of spelling, punctuation, capitalization, paragraphing.
	4	Good to average: occasional errors of spelling, punctuation, capitalization, paragraphing, but meaning not obscured.
	3	Fair to poor: frequent errors of spelling, punctuation, capitalization, paragraphing; poor handwriting; meaning confused
	2	Very poor: no mastery of conventions; dominated by errors of spelling, punctuation, capitalization, etc. paragraphing; handwriting illegible.

From the explanation above, the researcher concluded that a test needed to measure students' ability in writing test. In technique scoring test, there were five components in writing test.

Those were content, organization, vocabulary, syntax (grammar), and mechanic. And all of them would be analyzed in this research.

2. Pre-requisites Test

Before the writer determined the statistical analysis technique used, the first the writer examined normality and homogeneity test.

a. Normality Test

It was used to know the normality of the data that was going to be analyzed whether both groups had normal distribution or not.

Chi square was used here.¹⁷

The steps of Chi-square test were as follows:

- 1) Determine of the range (R): the largest data reduced the smallest data.
- 2) Determine the many class intervals (K) with the formula:

$$K = 1 + (3, 3) \log n$$

- 3) Determine the length of the class, using the formula:

$$p = \frac{\text{range}(R)}{\text{number of class}}$$

- 4) Make a frequency distribution table
- 5) Determine the class boundaries (bk) of each class interval.
- 6) Calculating of the average \bar{X} (\bar{x}), with the formula:¹⁸

¹⁷ Sudjana, *Metode Statistika*, (Bandung: Tarsito Bandung, 2005), 6th Ed, p. 47.

¹⁸ Sudjana, *Metode Statistika*, p. 67.

$$\bar{x} = \frac{\sum f_1 x_1}{\sum f_1}$$

- 7) Calculate variance, with the formula:

$$s^2 = \frac{n \sum f_i x_i^2 - (\sum f_i x_i)^2}{n(n-1)}$$

- 8) Calculate the value of Z, with the formula:

$$z = \frac{x - \bar{x}}{s}$$

x = Limit class

\bar{x} = Average

s = standard deviation¹⁹

- 9) Define the board area of each class interval.
- 10) Calculate of the frequency expository (fh), with the formula:
 $fh = n \times \text{wide area}$ with the n number of sample.
- 11) Make a list of the frequency of observation (fo), with the frequency expository as follow:

Class	Bk	Zi	P(Zi)	L	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
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- 12) Calculate the Chi-square (χ^2), the formula:

¹⁹ Sudjana, *Metode Statistika*, p. 95-99.

$$\chi^2 = \sum \frac{(O - Ei)^2}{Ei}$$

Where:

χ^2 = Chi-square

O_i = Frequency that was obtained from data

E_i = Frequency that was hoped

k = The sum of interval class²⁰

13) Determine the degree of validity (df). In the calculation of this data was arranged in the list of frequency distribution consisting of k pieces so that the interval to determine the criteria test used formula $df = k-3$, where k was the number of class intervals and the real extent $\alpha = 0.05$.²¹

14) Determine the value of χ^2 table.

15) Determine the distribution normality with test criteria:

If $\chi_{count} > \chi_{table}$ so the data was not normal distribution and

other way if the so $\chi_{count} < \chi_{table}$ the data was normal distribution.

b. Homogeneity Test

Homogeneity was used to know whether the decided the experimental group and the control group, came from population that had relatively same variant or not. The formula was:

²⁰ Sudjana, *Metode Statistika*, p. 272.

²¹ Riduwan, *Dasar-dasar statistika*, (Bandung : Alfabeta, 2008), p. 191.

$$F = \frac{Vb}{Vk}$$

Cited from Sugiyono.²²

Notice:

Vb : bigger variant

Vk : smaller variant

The hypotheses in homogeneity test are:

H_o : homogeny variant: $\sigma_1^2 = \sigma_2^2$

H_a : non homogeny variant: $\sigma_1^2 \neq \sigma_2^2$

If calculation result of F was lower than F table by 5% degree of significance so H_o was accepted, it meant both groups had same variant.

c. Test of the Average

It was used to examine average whether experimental group and control group that had been decided having significant different average.

$H_o : \mu_1 = \mu_2$

$H_a : \mu_1 \neq \mu_2$

The formula that was used in the t-test was as follows:²³

²² Sugiyono, *Statistika Untuk Penelitian*, p.140.

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} \quad \text{with:}$$

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Where:

\bar{x}_1 : average of experimental group

\bar{x}_2 : average of control group

n_1 : the number of the experimental group

n_2 : the number of the control group

s : standard deviation

s^2 : variance

Criteria test was H_0 was accepted if $-t_{1-\frac{1}{2}\alpha} < t < t_{1-\frac{1}{2}\alpha}$.

Where $t_{1-\frac{1}{2}\alpha}$ obtained from the distribution list t with

$df: (n_1 + n_2 - 2)$ and opportunities $(1 - \frac{1}{2}\alpha)$. Values for other

t H_0 rejected.

3. End Phase Analysis

To examine the hypothesis that had been stated, these following steps were used.

²³ Sudjana, *Metode Statistika*, p. 239.

a. Normality Test

Steps normality second step was the same as the normality test on the initial data.

b. Homogeneity Test

Steps homogeneity second step was the same as the homogeneity test on the initial data.

c. Hypothesis Test

Proposed hypothetical test in average similarity with the right test was as follows:

$$H_0: \mu_1 \leq \mu_2$$

$$H_a: \mu_1 > \mu_2$$

μ_1 : average data of experimental group

μ_2 : average data of control group

The formula that was used in the t-test was as follows:²⁴

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

With

$$s = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

²⁴ Sudjana, *Metode Statistika*, p. 239.

Where:

\bar{x}_1 : average of experimental group

\bar{x}_2 : average of control group

n_1 : the number of the experimental group

n_2 : the number of the control group

s : standard deviation

s^2 : variance

Testing criteria that applied H_a was accepted if $t_{count} > t_{table}$ with determinate df : $(n_1 + n_2 - 2)$ and the significant $\alpha = 5\%$ $(1-\alpha)$.