

CHAPTER III

THE RESEARCH METHODOLOGY

1. The Research Design

This research is experimental research. Experimental research is one of the research designs used to determine the idea that influences an outcome or dependent variable.¹ In this research, the researcher gave different treatment to each class, one of them was treated by using finding signal word strategy, and the other one was treated by using conventional strategy. Furthermore, the type of design used was quasi experiment. Cresswell utters that quasi experiment is a situation in which researcher assigns, but not random assignment of participants to groups because the researcher artificially creates groups for the experiment.² In addition, the researcher applied pre-test and post-test design to this quasi experiment. Pre-test, explained by Cresswell, is a measure on some attribute or characteristics assessed for participants in an experiment after they receive a treatment.³

There were two variables in this research. They were independent variable and dependent variable. Independent variable was the use of finding signalword card strategy, symbolized by “X”, and dependent variable was students’ reading comprehension symbolized by “Y”. This research used two groups for

¹ Jhon W. Cresswell, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* (3rd ed), New Jersey: Pearson Education, Inc., 2008), p. 299

² Ibid. p.313

³ Ibid. p.301

comparison. The first was experimental group treated by using finding signal word strategy. The second group was control group treated by using conventional strategy. The design of this research can be illustrated as follows:

Table I
Research Design

Class	Pre-test	Treatment	Post-test
Experimental	O1	X	O2
Control	O3	–	O4

Note:

O1 : Pre-test to experiment and control class

O2 : Post-test to experiment and control class

X : Receiving treatment, is that using questioning cue card strategy

– : No treatment

2. The Time and location of the Research

The research was conducted at the eighth grade students of SMPN 4 Kunto Darussalam, Rokan hulu Regency. The research was conducted from February to June 2014.

3. The Subject and Object of the Research

The subject of this research was the eighth grade students at SMPN 4 Kunto Darussalam of Rohul Regency in 2013-2014 academic years.

The object of this research was the effect of finding signal word strategy on students' reading comprehension of the eighth grade students at SMPN 4 Kunto Darussalam of Rohul Regency

4. The Population and Sample of the Research

1. Population

The population of this research was the eight grade students at SMPN 4 Kunto Darussalam of Rohul Regency, the total population of this research was 184 students from 5 classes. The specification of the population can be seen on the table below:

Table II
The Population of the Research

No	Class	Total
1	X1	30
2	X2	30
3	X3	36
4	X4	37
5	X5	40
Total of Population		184

The population was large enough to be the sample in this research. Based on limitation of the research, the writer took only two classes after doing cluster sampling. They were X1 (35 students) and X2 (30 students).

2. Sample

Based on the total population above, the writer took two classes that had the similarity of characteristics. It was by using cluster sampling technique. According to Gay, Cluster sampling randomly selects groups, non individuals. All the members of select groups have similar characteristics.⁴ Therefore, the writer took two classes to represent the population having similar characteristics.

The similar characteristics intended for the both of classes were: the students taught by the same teacher of English, having the same students' level, and they had the same material about learning reading. The first class X1 was control class and the second class X2 was an experimental class.

5. The Design of the Intervention.

1. Procedure of Collecting Data for Experimental Group

a. Pre-test

Pre-test was used to determine the ability of students selected as the sample. It was used in this pre-test that consisted of 20 items. The test was about reading comprehension which was appropriate with curriculum. The test was consisting of three passages in 5 questions for each.

⁴ Gay, L. R. Educational Research: *Competencies for Analysis and Application*. (New Jarse: Prentice-Hall, Inc, 2000), p. 125

b. Treatment

The treatment was conducted for experimental group only. The treatment was using Finding Signal Word strategy in teaching reading comprehension. The length of time to apply the strategy was about eight meetings. And the material was; (1) The Two Friends and the Bear. (2) Cinderella. (3) A Stupid Man and His Cows. (4) The Prince and the Best Friends. (5) Beauty and the Beast. (6) Snow White. (7) Takatuliang, the Woodearver. (8) The story of Toba Lake. The procedures of finding signal word are as follows:

Before

1. Show a familiar text passage that has signal words highlighted (e.g., *before*, *after*, *during*, *next*, *during*, *on top of*, *next to*, *in addition*).
2. Tell students that authors use particular words to link ideas together and organize their writing, and to help readers understand the flow of ideas.
3. Have students determine the pattern (sequential, compare and contrast) of these words and suggest possible purposes for them in this reading passage.
4. Identify the contextual information that these words give to the meaning of the text (e.g., time, location, sequence, importance, summary, comparison, contrast).

5. Model for students how to use these words to provide hints for reading the passage.

During

1. Ask partners to scan the selected text and identify the words the writer has used to help guide their reading.
2. Ask students to identify some of the signal words and note how they relate to the meaning of the passage (e.g., “These signal words indicate a sequence. This will help me track the ideas and information in order. A sequence pattern sometimes means I will be reading a procedure or a set of instructions.”).
3. Ask students to use the signal words to help them read to understand the ideas and information in the passage.

After

1. Model how to summarize the main ideas using the signal words and phrases to organize the summary.
2. Create a class chart of the signal/ transition words and how they might be used to help the reader understand the text.
3. Model for students how to create a personal dictionary of signal words and their meanings.
4. Ask students to describe how using the signal words helped them to understand and summarize the content. Students might record their responses in a learning log or share orally with a partner.

c. Post-test

After nine meeting (including pre-test), the post test was administrated. Results of the post test for experimental where used as final data for this research.

2. Procedures of Collecting Data for Control Group

a. Pre-test

Goal, items, and procedures of the test for control group were the same as those conducted for experimental group.

b. In this case, the teacher taught reading comprehension for control group by using conventional strategy. The strategy used in classroom is characterized as follows:

1. The teacher asks the students to read the passage on the text.
2. The teacher asks the students to find out meaning of difficult word.
3. The teacher asks to students to answer the questions based on the text.
4. The teacher collects the students' reading assessment.

c. Post-test

Post test for both control group and experimental group were administrated after giving the treatment. The result of the post-test for both control and experimental groups were analyzed and used as final data for this research.

3. The Instrument of Data Collection

The writer used test as a technique in collecting the data. The data of this research were got from the scores of the students post test. The data were collected through the following procedures:

1. Both group (experimental and control group) were asked to express their idea in reading comprehension.
2. The teacher evaluated from the best based on reading factual information, identifying main idea, locating the meaning of vocabulary in context, identifying references, and meaning inference from reading test. It was done to make the teacher easy to collect the data.
3. The test was used to obtain the data concerning the students' reading comprehension. The technique was carried out in items of collecting the data and information dealing with the data variable X as Finding Signal Word strategy (class with treatment), and conventional strategy (class without treatment), and Y reading comprehension. The materials of the test were adopted from the student book for eighth grade of state Junior High School.

6. The technique of Data Collection

To find out the effect of using Finding Signal Word Strategy toward reading comprehension, the writer used Test technique. The writer used a test as an instrument to collect data. The test was divided into; pre-test which was given before treatment and post-test was given after doing treatment.

The test was a multiple choices. According to Hughes, there are many techniques that can assess the students' reading comprehension; one of them is multiple choice techniques.⁵ Multiple choices could assess the students' ability in comprehension. The test consisted of 20 items questions. Each text consisted of 5 questions designed based on the indicators of reading comprehension such as identifying the main idea, identifying the generic structure, identifying the pronominal reference, identifying supporting details and inferring the meaning of unknown word from context. Each item in pre-test on post test was similar. The researcher then distributed pre and post test to experimental and control classes. The following table presented the blue print of question items that were used in collecting the data, the data would be described for each indicator:

TABLE III.3

Blue Print of Reading Test

Indicator	Number
1. Students are able to identify main idea in narrative text.	1, 6, 11, 16
2. Students are able to identify the generic structure of narrative text.	2, 7, 12, 17
3. Students are able to identify the pronominal reference of narrative text.	3, 8, 13, 18
4. Students are able to identify supporting detail of narrative text.	4, 9, 14, 19
5. Students are able to infer the meaning of unknown word from context.	5, 10, 15, 20

⁵Arthur Hughes, *Testing for Language Teacher: 2nd Edition*, Cambridge: Cambridge University, 2003, p. 143

Then, the writer took the total score from the result of the reading comprehension test. The classification of the students' score is shown below:⁶

TABLE III.4
The Classification of Students Score

The Score Level	Categories
80-100	Very Good
66-79	Good
56-65	Enough
40-55	Less
30-39	Fail

7. The Item Difficulty, Validity and the Reliability of the test

1. The Item Difficulty

Before getting the data, the writer used all of the items in try out. The test was tried out to 30 students of the eight grade students in the other class out of the samples (X 3). Try out was intended to know the value of the test. The value itself was used to find out the level of difficulties of each item. The standard of value used was 0.30 and 0.70.⁷ The items that could not fulfill the standard value were replaced. It means that the items are accepted if the level of difficulty is between 0.30-0.70 and it is rejected if the level of difficulty is below 0.30 (difficult) and over 0.70 (easy). It was calculated by using this formula:⁸

⁶Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan*, Jakarta: PT. Bumi Aksara, 2007, p.

⁷Suharsimi Arikunto, *Ibid.*, p. 210

⁸*Ibid.*, p. 208

$$P = \frac{B}{JS}$$

Were:

P = Difficulty level

B = The number of correct answer

JS = Students tasking test

Then, the proportion is represented by “p”, whereas the proportion incorrect is represented by “q” it can be seen in the following table:

TABLE III.5
The Students are Able to Identify the Main Idea

Variable	Identify the main idea				N
Item No	1	6	11	16	30
Correct	20	14	19	15	
P	0.66	0.46	0.63	0.5	
Q	0.34	0.54	0.37	0.5	

Based on the table above, the proportion of correct answer for item number 1 shows the proportion correct 0.66, item number 6 shows the proportion of correct 0.46, item number 11 shows the proportion of correct 0.63, item number 16 shows the proportion of correct 0.5. Based on the standard level of difficulty “p” < 0.30 and “q” > 0.70, it is pointed out that item difficulty in average of each items number for identifying the main idea is accepted.

TABLE III.6**The Students are Able to Identify the Generic Structure**

Variable	Identify the generic structure				N
Item No	2	7	12	17	30
Correct	14	16	17	16	
P	0.66	0.53	0.56	0.53	
Q	0.34	0.47	0.44	0.47	

Based on the table above, the proportion of correct answer for item number 2 shows the proportion of correct 0.66, item number 7 shows the proportion of correct 0.53, item number 12 shows the proportion of correct 0.56, item number 17 shows the proportion of correct 0.53. Based on the standard level of difficulty “p” < 0.30 and “q” > 0.70, it is pointed out that item difficulty in average of each item number for identifying the generic structure is accepted.

TABLE III.7**The Students are Able to Identify the Pronominal Reference**

Variable	Identify the pronominal reference				N
Item No	3	8	13	18	30
Correct	20	16	20	16	
P	0.66	0.53	0.66	0.53	
Q	0.34	0.47	0.34	0.47	

Based on the table above, the proportion of correct answer for item number 3 shows the propoetion of correct 0.66, item number number 8 shows the propotion of correct 0.53 and item number 13 shows the proportion of

correct 0.66, item number 18 shows the proportion of correct 0.53. Based on the standard level of difficulty “p” <30 and “q” > 70, it is pointed out that item difficulty in average of item number for identifying the pronominal reference is accepted.

TABLE III.8

The Students are Able to Identify Supporting Detail

Variable	Identify supporting details				N
Item No	4	9	14	19	30
Correct	18	18	18	15	
P	0.6	0.6	0.6	0.5	
Q	0.4	0.4	0.4	0.5	

Based on the table above, the proportion of correct answer for item number 4 shows the proportion of correct 0.6, item number 9 shows the proportion of correct 0.6, item number 14 shows the proportion of correct 0.6 and item number 19 shows the proportion of correct 0.5. Based on the standard level of difficulty “p” <30 and “q” > 70, it is pointed out that item difficulty in average of item number for identifying the supporting detail is accepted.

TABLE III.9

The Students are Able to Infer the Meaning of Unknown Word

Variable	Infer the meaning of unknown word				N
Item No	5	10	15	20	30
Correct	19	20	15	17	
P	0.63	0.66	0.5	0.56	
Q	0.37	0.34	0.5	0.44	

Based on the table above, the proportion of correct answer for item number 5 shows the proportion of correct 0.63, item number 10 shows the proportion of correct 0.66, item number 15 shows the proportion of correct 0.5 and item number 20 shows the proportion of correct 0.56. Based on the standard level of difficulty “p” <30 and “q” > 70, it is pointed out that item difficulty in average of item number for inferring the meaning of unknown word is accepted.

The writer had tested the validity of 20 items of question to another class (X 3). Based on the result of the try-out, 5 items of question were invalid because there were 3 items of question more difficulty (number 2, 6 and 16) and 2 items more easily (number 3 and 10).

2. Validity

Every test, whether it is a short, informal classroom test, or a public examination should be as valid as the test constructor that can make it. The instrument of the test must aim at providing a true measure. The instrument of the test is valid if the instrument used can measure the thing that will be measured.⁹

The purpose of try out was to obtain validity and reliability to the test. It was determined by finding the difficulty level of each item. To find validity

⁹L.R. Gay and Peter Airaisian, *Educational Research Competencies for Analysis and Application (6th Edition)*, New Jersey: Prentice Hall, Inc, 2000, p. 23

the test researcher used correlation product moment that follows the formula:¹⁰

$$r_{xy} = \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}}$$

Where:

r_{xy} : Correlation product moment x and y

$\sum xy$: Total x dan y

$\sum x^2$: X quadrant

$\sum y^2$: Y quadrant

$$r_{xy} = \frac{1031.25}{\sqrt{967.75 \cdot 1735}}$$

$$r_{xy} = \frac{1031.25}{\sqrt{1679046.25}}$$

$$r_{xy} = \frac{1031.25}{1295.78} = 0.79$$

If the validity test in 0.79, it means that the validity is **good**. According to Arikunto stated that the ranges of validity as follows:¹¹

Table III.10
The Standard of Validity of the Test

NO	The standard of Validity (r_{xy})	Score
1	Excellent	0.800-1.00
2	Good	0.600-0.800
3	Fair	0.400-0.600
4	Poor	0.200-0.400
5	Very Poor	0.00-0.200

¹⁰Hartono, *Statistik untuk Penelitian*, Pekanbaru: Pustaka pelajar, 2004, p.75

¹¹Suharsimi Arikunto, *Op.Cit.*, p. 75

3. Reliability

Brown says that, reliability has to be done with accuracy of measurement. This kind of accuracy was reflected in obtaining similar results when measurement was repeated on different occasions or with different instruments or by different persons. The characteristic of reliability was sometimes term consistency.¹² It means that, the test was reliable when an examiner's results were consistent on repeated measurement.

Arikunto states that it is not possible for the test to be reliable but is not valid. Whereas the test is valid automatically, it is reliable. To obtain the reliability of the test given, the researcher used Spearman-Brown formula as follows:¹³

$$r_{11} = \frac{2r_{1/2 1/2}}{1+r_{1/2 1/2}}$$

Where :

r_{11} : Instrument of reliability

$r_{1/2 1/2}$: r_{xy} that mean as correlation of index

$$r_{11} = \frac{2 \times 0.79}{1+0.79}$$

$$r_{11} = \frac{1.58}{1.79}$$

$$r_{11} = 0.88$$

¹²H. Douglas Brown, *Language Assessment: Principles and Classroom Practices*, (New York: Pearson education Inc, 2003) p. 19

¹³Suharsimi Arikunto, *Op.Cit.*, p. 93

In conclusion, the validity of the test was categorized into good level while the reliability of the test was categorized into excellent level. To make clear about this analysis, see in the appendices.

7. The Technique of Data Analysis

In analyzing the students' reading comprehension in narrative text, the writer used minimum standard of English lesson in SMP 4 Kunto Darussalam (SKL). It was 70 for students' reading comprehension in narrative text. It means that for those who get score ≥ 70 , they pass the minimum standard (SKL). While for those who get score < 70 , they do not pass the minimum standard (SKL).

In analyzing the data, the writer used the statistical calculation of independent sample T-test formula. The independent sample T-test was used to find out the significant effect of students' reading comprehension in narrative text taught by using finding signal word strategy. The data were analyzed by using SPSS 16.0 version.

The T-table was employed to see whether or not there was any significant difference of score in both experimental and control classes.

Statistically hypothesis:

$$H_0 = t_0 < t\text{-table}$$

$$H_a = t_0 > t\text{-table}$$

- a. Alternatif hypothesis (H_a) if $t_0 > t\text{-table}$, there is significant effect of using Questioning Finding Signal Word strategy on reading comprehension in narrative text.

- b.** Null hypothesis (H_0) if $t_0 < t\text{-table}$, there is no significant effect of using Finding Signal Word Strategy on reading comprehension in narrative text.