

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The type of this research was an experimental research; we test an idea (practice or procedure) to determine whether it influences an outcome or dependent variable.¹ It means that in experimental research, we make some tests after giving the treatment to find out how far the influence of our strategy to the students. The design of this research was a quasi-experiment, intended to find out the effect of using Narrative Comprehension Cards strategy toward reading comprehension. Gay and Peter Airasian state that quasi-experimental design is used when the writer keeps the students in existing classroom intact and the entire classrooms are assigned to treatments.² The writer used quasi-experimental design with non-equivalent control group design. The writer took two classes as the sample, the first class was an experimental class and the second class was a control class. Both of the classes were given a pre-test at the beginning in order to know students' reading comprehension. After that, experimental class was taught by using Narrative Comprehension Cards strategy, while control class was taught without using Narrative Comprehension Cards strategy. At the end, they were given post-test. The result of pre-test and post-test was compared in order to determine the effect of

¹ Jhon W. Craswell, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*, New Jersey: Pearson Education, 2008, p.299

² L.R. Gay and Peter Airasian, *Educational Research: Competencies for Analysis and Application*, New Jersey: Prentice-Hall, Inc, 2000, p.394

using Narrative Comprehension Cards strategy toward reading comprehension.

The non-equivalent control group design can be shown below:

TABLE III.1
Research Design

Group	Pretest	Treatment	Posttest
Experiment	T ₁	X	T ₂
Control	T ₁	–	T ₂

Where:

T₁ = Pre-test to experimental and control class

T₂ = Post-test to experimental and control class

X = Receiving treatment, by using Narrative Comprehension Cards Strategy

B. Research Procedures

1. Procedures of collecting data for experimental class

In experimental class, there were three procedures of collecting data:

- a. Pre-test : Pre- test was given to the students before the students were taught by using Narrative Comprehension Cards Strategy. It was used to measure the students' reading comprehension before being taught by using Narrative Comprehension Cards Strategy.
- b. Treatment: In treatment, the students were taught by using Narrative Comprehension Cards Strategy. The writer explained and taught the students how to use Narrative Comprehension Cards Strategy and modeled how to answer the questions. Then, the writer provided opportunities for the students to independently practice the strategy.

c. Post-test : Post-test was a test given to the students after being taught by using Narrative Comprehension Cards Strategy. It was used to know whether the students could easily read by using Narrative Comprehension Cards Strategy or not. The result was compared with pre-test to know the effect of the strategy and to know students' reading comprehension after being taught by using Narrative Comprehension Cards Strategy.

Finally, the result of the test in pre-test and post-test was compared. From this result, the writer figured out whether Narrative Comprehension Cards Strategy was effective in improving students' reading comprehension or not.

2. Procedures of collecting data for control class

a. Pre- test : Pre- test was given by the writer before the students were taught without using Conventional Strategy. It was used to know students' reading comprehension before being taught by using Conventional Strategy.

b. Post-test : Post-test was given to the students after they were taught by using Conventional Strategy. It was used to know whether the students were able to read narrative text well.

Finally, the result of the test by using Narrative Comprehension Cards Strategy and without using Narrative Comprehension Cards Strategy was compared. From this result, the writer figured out, whether Narrative

Comprehension Cards Strategy had significant effect in improving students' reading comprehension on narrative text or not.

C. Location and Time of the Research

This research was located on Bagan Batu-Rohil Regency. It was conducted from 20 August to 14 September 2013 at State Senior High School 2 Bagan Sinembah.

D. Subject and Object of the Research

The subject of this research was the second grade students at State Senior High School 2 Bagan Sinembah and the object was the use of Narrative Comprehension Cards strategy toward reading comprehension on narrative text.

E. Population and Sample of the Research

The population of this research was the second grade students at SMAN 2 Bagan Sinembah, The total of population in this research was 181 students which consisted of 6 classes. The specification of the population can be seen on the table below:

TABLE III.2
Total Population of the Second Grade at SMAN 2 Bagan Sinembah

No	Class	Population		Total
		Male	Female	
1	XI IPA 1	9	21	30
2	XI IPA 2	7	23	30
3	XI IPA 3	6	25	31
4	XI IPS 1	8	22	30
5	XI IPS 2	11	21	32
6	XI IPS 3	8	20	28
Total		49	132	181

Based on the table III.2, the population was large enough to be taken all as sample of the research. Based on the design of the research, the writer only took two classes as the sample, they were XI IPA 1 (30 students) as Experimental class and XI IPA 2 (30 students) as Control class. The sample of this research was 60 students. For taking samples, the writer used cluster sampling; because the students had been formed into classes and the classes were homogeneous. According to Gay, cluster sampling selects groups, not individuals and all the members of selected groups have similar characteristic.³ It means that all of the samples were considered having the same level of proficiency.

F. Technique of Data Collection

In this research, the writer used test as an instrument to collect the data. The tests distributed were to measure the student's reading comprehension in narrative text. The tests were divided into; pre-test which was given before treatment and post-test was given after doing treatment. The test was multiple choices. Multiple choices could assess students' reading comprehension. The test consisted of 20 questions and each text consisted of 5 questions based on the indicators of reading comprehension. The blue print of questions was used to collect the data presented in the following table:

³ *Ibid.*,p. 129

TABLE III.3
Blue Print of Reading Test

No	Indicators	Number of Item
1.	Students are able to identify main idea in narrative text	1, 6, 11, 16
2.	Students are able to identify supporting details in narrative text	2, 7, 12, 17
3.	Students are able to identify generic structure of narrative text	3, 8, 13, 18
4.	Students are able to identify pronominal references in narrative text	4, 9, 14, 19
5.	Students are able to Make Inference in narrative text	5, 10, 15, 20

The classification of students' scores of reading test was shown in the table below:⁴

TABLE III. 4
The Classification of Students' Score

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

G. Item Difficulties, Validity and Reliability of the Test

1. Item Difficulties

Before the tests were given to the sample of this research, both of the tests were tried out to 30 students of second grade of science major. The purpose of the try out was to obtain validity and reliability of the test. The test is said to be valid if it measures accurately what is intended to

⁴ Suharsimi Arikunto, *Dasar-Dasar Evaluasi Pendidikan*, Jakarta: PT. Bumi Aksara, 2011, p.245

measure.⁵ It was determined by finding the difficulty level of each item.

The formula of item difficulty is as follows:

$$PV = \frac{R}{N}$$

Where:

PV : index of difficulty

R : the number of correct answer

N : the number of students taking the test

The difficulty level of items shows how easy of particular of each item in a test. The items that do not reach the standard level of difficulty are excluding from the test and it would be changed by the new items that are appropriate.

The standard level of difficulty used is < 0.30 and > 0.70 .⁶ It means that the items that 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). Then, the proportion is represented by “p”, whereas the proportion incorrect is represented by “q”, it can be seen from the following tables:

⁵ Arthur Huges, *Testing for Language Teacher*, Second Edition, New York: Cambridge University Press, p.26

⁶ *Loc Cit*, p.210

TABLE III.5
The Students are able to Identify Main Idea

No	Identify main idea				N
Item no	1	6	11	16	30
Correct	14	14	15	14	
P	0.46	0.46	0.5	0.46	
Q	0.54	0.54	0.5	0.54	

Based on the table III.5, the proportion of correct answer for item number 1 shows the proportion of correct 0.46, item number 6 shows the proportion of correct 0.46, item number 11 shows the proportion of correct 0.5, item number 16 shows the proportion of correct 0.46. 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 main idea is accepted.

TABLE III.6
The Students are able to Identify Supporting Details

No	Identify supporting details				N
Item no	2	7	12	17	30
Correct	18	17	16	15	
P	0.6	0.56	0.53	0.5	
Q	0.4	0.44	0.44	0.5	

Based on the table III.6, the proportion of correct answer for item number 2 shows the proportion of correct 0.6, item number 7 shows the proportion of correct 0.56, item number 12 shows the proportion of correct 0.53, item number 17 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 item number for identifying supporting details is accepted.

TABLE III.7
The Students are able to Identify Generic Structure

No	Identify generic structure				N
Item no	3	8	13	18	30
Correct	14	16	14	18	
P	0.46	0.53	0.46	0.6	
Q	0.54	0.44	0.54	0.4	

Based on the table III.7, the proportion of correct answer for item number 3 shows the proportion of correct 0.46, item number 8 shows the proportion of correct 0.53, item number 13 shows the proportion of correct 0.46, item number 18 shows the proportion of correct 0.6. 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 generic structure is accepted.

TABLE III.8
The Students are able to Identify Pronominal References

No	Identify pronominal references				N
Item no	4	9	14	19	30
Correct	15	14	15	16	
P	0.5	0.46	0.5	0.53	
Q	0.5	0.54	0.5	0.44	

Based on the table III.8, the proportion of correct answer for item number 4 shows the proportion of correct 0.5, item number 9 shows the

proportion of correct 0.46, item number 14 shows the proportion of correct 0.5, item number 19 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 pronominal references is accepted.

TABLE III.9
Infer the Meaning of Unknown Word

No	Infer the Meaning of Unknown Word				N
Item no	5	10	15	20	30
Correct	14	15	15	15	
P	0.46	0.5	0.5	0.5	
Q	0.54	0.5	0.5	0.5	

Based on the table III.9, the proportion of correct answer for item number 5 shows the proportion of correct 0.46, item number 10 shows the proportion of correct 0.5, item number 15 shows the proportion of correct 0.5, item number 20 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 item number for infering the meaning of unknown word is accepted.

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. Gronlund in Brown states that Validity is the extent to which inferences

made from assessments results are appropriate, meaningful, and useful in terms of the purpose of the assessment.⁷

The purpose of try out was to obtain validity and reliability of the test. It was determined by finding out the difficulty level of each item. To find out validity of the test writer used correlation product moment as in the following formula:⁸

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

Where:

r_{xy} = correlation product moment x and y

$\sum xy$ = total x and y

$\sum X^2$ = X quadrant

$\sum Y^2$ = Y quadrant

$$r_{xy} = \frac{1115}{\sqrt{1270 \cdot 1484.168}}$$

$$r_{xy} = \frac{1115}{\sqrt{1884893.36}}$$

$$r_{xy} = \frac{1115}{1372.91419} = 0.81$$

If the validity of test is 0.81, it means that the validity is excellent.

According to Arikunto the range of validity and reliability are:⁹

⁷ H. Douglas Brown, *Language Assessment: Principles and Classroom Practices*, (New York: Pearson education Inc, 2003) p. 29

⁸ Hartono, *Statistik untuk pendidikan*, Pekanbaru: Pustaka pleajar, 2004, p.84

⁹ Suharsimi Arikunto, *Prosedur penelitian*, Jakarta: PT Rineka Cipta, 2010, p.75

Table IV.6
The Standard of Validity and Reliability of the Test

No	The Standard	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

3. Reliability

Arikunto stated that it is possible for the test is reliable but it is not valid, whereas the test is valid automatically, it is reliable. To obtain the reliability of the test given, the writer used Spearman- Brown formula as follows:¹⁰

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

Where :

r_{11} : Instrumen of reliability

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

$$r_{11} = \frac{2 \times 0.81}{1 + 0.81}$$

$$r_{11} = \frac{1.62}{1.81}$$

$$r_{11} = 0.89$$

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

¹⁰Suharsimi Arikunto, *Op.Cit.*, p. 93

C. Technique of Data Analysis

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 on narrative text taught by using narrative comprehension cards strategy and students' reading comprehension on narrative text taught without using narrative comprehension cards strategy. The data were analyzed by using SPSS 16.0 Version.

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

Statistically hypothesis:

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

$$H_o : t_0 < t\text{-table}$$

- a. Alternative Hypothesis (H_a) is accepted if $t_0 > t\text{-table}$, there is a significant effect of using Narrative Comprehension Cards Strategy toward reading comprehension on narrative text.
- b. Null Hypothesis (H_o) is accepted if $t_0 < t\text{-table}$, there is no significant effect of using Narrative Comprehension Cards toward reading comprehension on narrative text.