

CHAPTER III

RESEARCH METHOD

A. The Research Design

This research is a kind of experimental research. “ It is procedures in quantitative research in which the investigator determines whether an activity or materials make difference in result for participants.”¹¹ So, in experimental research, the research has purpose to try something that can influence the result of studying. In this research, the researcher used quasi experimental design with nonequivalent control group. Gay and Airasian stated that quasi experimental design is used when the researcher keeps the students in exiting classroom intact and the entire classrooms are assigned to treatments.²²It is the appropriate one to use in this research.

In conducting this research, the researcher took two classes; one class was as an experimental class taught by Paragraph Shringking strategy and the other one was as a control class taught by natural approach. In both of the classes, the researcher gave pre-test at the beginning of the teaching learning in order to find out students’ reading comprehension. Then, the researcher gave treatment to experimental class only. The last one, the researcher gave post-test to both of classesto find out the effect of Paragraph Shringking strategy toward students’ reading comprehension on narrative text.

¹Jhon.w.cresswell. Education Research : Planning, Conducting, and Evaluating Quantitative and Research. (New Jersey : Pearson Education, 2008) P 60

²L.R Gay and Peter Airasian. Educational Research : Comptecies for Analysis and Application. (New Jersey Prentice –Hall Inc, 200). P.367

To give the clear one, the researcher delivers the illustration as follows.

Table III.1
Research Design Diagram

Group	Pre – test	Treatment	Post - test
E	Test 1	X	Test 2
C	Test 1		Test 2

Note:

E : Experimental Group

C : Control Group

T1: Pre- Test to experimental Group and Control Group

X : Receive the treatment using outlinig technique

T2: Post- Test to Experimental and Control Group

B. The Location and The Time of The Research

The research was conducted at the second grade of SMA N 3 Pekanbaru is located at Rumbai, Pekanbaru, in 2013/2014 of academic year. The research was done on Maret-April 2013.

C. The Subject and Object of The Research

The subject of the research were the researcher the second grade students of SMA N 3 Pekanbaru. The objects of this research were paragraph shringking strategy and students' reading comprehension.

D. The Population and The Sample of The Research

The population of this research was the second grade students of SMA N 3 Pekanbaru in 2013-2014 academic year. The total number of population was 160 students. It consists of six classes; 33 of class IPA 1, 33 of class IPA 2, 33 class of IPA 3, 31 of class IPA 4, and 31 of class IPA 5. The detail number of population can be seen below:

Table III.2
Population of the Research

No	Classes	Population		Total
		Female	Male	
1	XI IPA 1	25	7	33
2	XI IPA 2	23	8	33
3	XI IPA 3	24	8	32
4	XI IPA 4	24	7	31
5	XI IPA 5	23	8	31

Based on the population above, the technique used in this research is cluster sampling. According to Gay, cluster sampling randomly selects not groups, not individually all the members of selected group have similar characteristic.³ Therefore, the researcher took two classes (experimental group and control group) in order to have the same chance as sample in this research: the XI IPA¹ as control class and XI IPA² as experimental class.

Table III.3
Sample of The Research

No	Classes	Population		Total
		Female	Male	
1	Control Class (XI IPA 4)	24	7	31
2	Experimental Class (XI IPA 5)	23	8	31

³*Ibid*, p, 422

E. The Treatment Procedure

1. Planning

This research was conducted at SMA N 3 Pekanbaru. The participants of research were the students of XI IPA¹ with the total number are 31 students. This research will be done on March to April. This research used paragraph shrinking strategy as the treatment to student's reading comprehension subject, especially in narrative text. The purpose is to find out the effect of paragraph shrinking strategy toward reading comprehension.

2. Implementation

The researcher was teaching by paragraph shrinking strategy for 6 x 45 minutes. In the first meeting the researcher gave present in the form of multiple choice test. In the second meeting, the students were introduced with the paragraph shrinking strategy and the researcher taught the materials by paragraph shrinking strategy

3. Evaluation

In the evaluation the researcher gave pre-test and post-test to the students with the same test as the multiple choice.

F. The Technique of Collecting Data

To find out the effect of using Paragraph Shrinking strategy toward students' reading comprehension, the researcher used test as the instrument to collect the data.

The researcher did the test to find out the result of teaching and learning process by using new strategy. In here the researcher used multiple choice question to collect the data.

The kind of test given to the students are as follows:

1. Pre- test was given to both of classes, experimental and control classes, by the researcher to know the basic ability of students reading comprehension. The form of test was multiple choice question that consisted 25 items.
2. Post- test was given after teaching several times it gave for both of the classes. It was to know difference between students' reading comprehension after being taught by using Paragraph Shrinking and taught without Paragraph Shrinking . The test was also in form of multiple choice question in 25 items.

G. The Technique of Data Analysis

In order to find out whether there is the effect of Paragraph Shrinking strategy toward students' reading comprehension in narrative text at the second year of SMAN 3 Pekanbaru, the researcher analyzed the data statistically.

There are some general categories to give an assessment of the aspects of the English skills in general. This category could also be applied in reading skills, especially to evaluate the students' reading comprehension in reading text. The test was composed of 25 items and the score of each number was 5. The category of score in reading test could be classified, as follows:⁴

⁴Suharsimi Arikunto, Bumi Aksara, 2009), p.245

Dasar-Dasar Evaluasi Pendidikan,

Edisi Revisi. (Jakarta:

Table III.4
The Scale of Students' Reading Comprehension

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

To analyze the data, the researcher use T- test formula in SPSS 16.0 version.

H. The Validity and Reliability of the Test

1. Validity

Before giving the test to the sample of this research, both of the tests were tried out with 33 students of second year science major. The purpose of the try out was to obtain validity and reliability of the test. The test can be to be valid if it measures accurately what is intended to measure.⁵ It was determined by finding the difficulty level of each item. The formula of item difficulty is as follows:

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

Where:

P : Index of difficulty

B : The number of correct answer

JS : The number of students

⁵Arthur Huges, *Testing for Language Teacher, 2nd Edition* (Cambridge: Cambridge University Press), p. 26

The difficulty of 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 excluded from the test and they would be changed by the new items.

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

TABLE III.5
The Students are Able to Find Factual Information

Variable	Factual Information					N
Item no.	1	9	13	16	24	33
Correct	20	22	23	23	18	
P	0.6	0.66	0.69	0.69	0.54	
Q	0.4	0.34	0.31	0,31	0.46	

Based on the table above, the proportion of correct answer for item number 1 shows the proportion of correct 0.6, item number 9 shows the proportion of correct 0.66, item number 13 shows the proportion of correct 0.69, item number 16 shows the proportion of correct 0.69, and item number 24 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 finding main idea is accepted.

⁶SuharsimiArikunto,*Dasar-DasarEvaluasiPendidikan*(Jakarta: Bumi Aksara,2008), p. 245.

TABLE III. 6
The Students are Able to Find Main Idea

Variable	Main Idea					N
Item no.	2	6	11	17	23	33
Correct	16	21	24	25	18	
P	0.48	0.63	0.72	0.75	0.54	
Q	0.52	0.37	0.28	0.25	0.46	

Based on the table above, the proportion of correct answer for item number 2 shows the proportion of correct 0.48, item number 6 shows the proportion of correct 0.63, item number 11 shows the proportion of correct 0.72, item number 17 shows the proportion of correct 0.25, and item number 23 shows the proportion of correct 0.54. 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 identify arguments is accepted.

TABLE III. 7
Students are Able to Find Specific Information

Variable	Specific Information					N
Item no.	3	7	12	18	21	33
Correct	20	23	23	22	23	
P	0.6	0.69	0.69	0.66	0.69	
Q	0.4	0.31	0.31	0.34	0.31	

Based on the table above, the proportion of correct answer for item number 3 shows the proportion of correct 0.6, item number 7 shows the proportion of correct 0.69, item number 12 shows the proportion of correct 0.69, item number 18 shows the proportion of correct 0.66, and item number 21 shows the proportion of correct 0.31. Based on the standard

level of difficulty “p” < 0.30 and “q” > 0.70. It is pointed out that item difficulties in average of each item number for identifying recommendation are accepted.

TABLE III. 8
Students are Able to Find Content

Variable	Find Content					N
Item no.	4	8	14	19	22	33
Correct	18	21	20	23	20	
P	0.54	0.63	0.6	0.69	0.60	
Q	0.46	0.37	0.4	0.31	0.40	

Based on the table above, the proportion of correct answer for item number 4 shows the proportion of correct 0.54, item number 8 shows the proportion of correct 0.63, item number 14 shows the proportion of correct 0.6, item number 19 shows the proportion of correct 0.31, and item number 22 shows the proportion of correct 0.40. Based on the standard level of difficulty “p” < 0.30 and “q” > 0.70. It is pointed out that item difficulties in average of each item number for identifying language features are accepted.

TABLE III. 9
Students are Able to Find The Content

Variable	Find The Content					N
Item no.	4	9	14	19	25	33
Correct	22	23	20	19	15	
P	0.66	0.69	0.60	0.57	0.66	
Q	0.34	0.31	0.40	0.43	0.34	

Based on the table above, the proportion of correct answer for item number 4 shows the proportion of correct 0.66, item number 9 shows the proportion of correct 0.69, item number 14 shows the proportion of correct

0.60, item number 19 shows the proportion of correct 0.57, and item number 25 shows the proportion of correct 0.34. Based on the standard level of difficulty “p” < 0.30 and “q” > 0.70. It is pointed out that item difficulties in average of each item number for identifying purpose are accepted.

TABLE III. 10
Students are Able to Find Make Inference

Variable	Find Make Inference					N
Item no.	5	10	15	20	25	33
Correct	24	21	27	25	17	
P	0.72	0.63	0.81	0.75	0.51	
Q	0.28	0.37	0.19	0.25	0.49	

Based on the table above, the proportion of correct answer for item number 5 shows the proportion of correct 0.72, item number 10 shows the proportion of correct 0.63, item number 15 shows the proportion of correct 0.19, item number 20 shows the proportion of correct 0.75, and item number 25 shows the proportion of correct 0.51. Based on the standard level of difficulty “p” < 0.30 and “q” > 0.70. It is pointed out that item difficulties in average of each item number for identifying purpose are accepted.

2. Reliability

Brown says that, reliability has to do 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 termed consistency.⁷ Meaning that, the test was reliable when an examiner's results were consistent on repeated measurement.

To obtain the reliability of the test, the mean and standard deviation of test should be first found. Reliability in general refers to appropriateness of a given test of any of its component part as measure of what it was purposed to measure. It means the test will be valid to the extent that was measured what it was supposed to measure.

The reliability coefficients for good identified kinds of structure text and reading comprehension test were expected to exceed 0.0 and closed 1.00. Heaton states that, the reliability of the test was considered as follows:

1. 0.0 – 0.20 = reliability is low
2. 0.21 – 0.40 = reliability is sufficient
3. 0.41 – 0.70 = reliability is high
4. 0.71 – 1.0 = reliability is very high

To obtain the reliability of the test given, the writer used the formula as follows:⁸

$$KR\ 25: \quad r_i = \frac{k}{(k-1)} \frac{s_{t^2} - \sum p_i q_i}{s_{t^2}}$$

Where:

K : number of items in the instrument

Pi : proportion of subject who answered the item correctly

Qi : proportion of subject who answered the item wrong (1-pi)

⁷ H. Douglass Brown, *Language Assesment: Principles and Classroom Practices*. (New York: Pearson Education Inc, 2003), 19.

⁸Sugiyono. *Statistik untuk Penelitian* (Bandung: Alfabeta, 2007) ,359.

$p_i q_i$: the multiplication result between p and q

S_t^2 : total variance

Firstly, the writer calculates the total variance:

$$S_t^2 = \frac{x^2}{n}$$

Where:

n : number of respondents

$$\begin{aligned} x^2 &= \sum x t^2 - \frac{(\sum x t)^2}{n} \\ &= 8195 - \frac{(507)^2}{33} \\ &= 8195 - \frac{257049}{33} \\ &= 8195 - 7789.36 \\ &= 405.64 \end{aligned}$$

$$\begin{aligned} s_t^2 &= \frac{x^2}{n} \\ &= \frac{405.64}{33} \\ &= 12.29 \end{aligned}$$

$$r_i = \frac{k}{(k-1)} \frac{s_t^2 - \sum p_i q_i}{s_t^2}$$

$$r_i = \frac{25}{(25-1)} \frac{13.29 - 5.3019}{12.29}$$

$$r_i = \frac{25}{24} \frac{7,9881}{12,29}$$

$$r_i = 1.0417 \times 0.6499$$

$$r_i = 0.6770$$

Based on the result above, it also can be stated that the reliability was high.