

CHAPTER III RESEARCH METHOD

A. Research Design

The design of this research was experimental research. According to Gay and Airasian experimental research is the only type of the research that can test hypothesis to establish cause and effect relationship.³¹ Meanwhile, Creswell states that in experiment research is testing an idea (practice or procedure) to determine whether it influences an outcome or dependent variable.³² The method used in this research was quasi-experimental research that was pre-test and post-test non-equivalent control group design. Quasi-experimental designs have experiment group and control group. The researcher assigned intact groups the experimental and control treatments. In this research, there were two variables. The first was independent variable symbolized by “X” and the second was dependent variable symbolized by “Y”. The use Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy was as X variable and students’ comprehension as Y variable.

In conducting the research, there were two classes that involved. The first was experimental class and the second was control class. The experimental class means the students who were given the treatment by using Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy, while the control class was not applied by Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy.

³¹ L.R. Gay and Peter Airasian, 2000, *Educational Research Competencies for Analysis and Application*, Sixth Edition, (New Jersey: Prentice Hall Inc), p. 367

³² John W Creswell, 2008, *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research Ed 3* (New Jersey: Education International), p. 299

The research design can be seen in the table below (*Quasi-Experimental Designs*):³³

Table III. 1
(Research Design)

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

Where :

E : Experimental group

C : Control group

Test 1 : Pre-test for experimental group and control group

Test 2 : Post-test for experimental group and control group

: Receiving particular treatment

X : Without particular treatment

After giving particular treatment to the experimental group by using Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy, the scores between experimental and control groups were analyzed by statistical analysis. It had aim to know whether there was or not the difference of variable X into variable Y after giving them tests (pre-test and post-test).

³³*Ibid*, p. 314

B. Location and Time of the Research

This research was conducted to the eleventh grade students at Senior High School MAN Kampar Timur and the time in conducting of this research was from january to february 2014.

C. Subject and Object of the Research

The subject of this research was the second year students at Senior High School MAN Kampar Timur, and the object of this research is Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy on students' reading comprehension of the eleven grade students at Senior High School MAN Kampar Timur.

D. Population and Sample of the Research

1) Population

The population of this research was all the eleven grade Students of State Senior High School MAN Kampar Timur. The total number of the second grade students at state senior high school MAN Kampar Timur was 150 students of 5 classes.

Table III.2
Population of Research

Class	Male	Female	Total
XI IPA ¹	8	22	30
XI IPA ²	10	20	30
XI IPS ¹	10	20	30
XI IPS ²	12	18	30
XI IPS ³	8	22	30

(Source: document of MAN Kampar Timur academic year 2013/2014)

Furthermore because they were homogeneous or because all samples had the same characteristic, the writer used cluster sampling to choose the classes for the sample. So the writer selected two groups of the students to be taken as sample XI IPA 1 as an experimental group, and XI IPA 2 as a control group

2) Sample

Table III.3

The Total Sampling of the Second Year students of MAN Kampar Timur

NO	GROUP	CLASS	TOTAL
1	Experimental	XI IPA I	30
2	Control	XI IPA II	30
Total			60

Based on the table above, the writer took two classes of science department, they were XI IPA I as an experimental class, and XI IPA 2 as a control class. Where, the number of students in XI IPA I were 30, and the number of students in IX IPA 2 were 30. So, the total number of sample in this research was 60 students. The number of students above were representative enough to be sample of the research. Hartono said if the samples consist of 30 or more, it is called the big sample.³⁴ So, the number of students above were representative enough to be sample of the research.

E. Technique of Collecting Data

1. Test

In order to get some data needed to support this research, the writer used tests as technique for collecting data. The type of the test was multiple choice

³⁴ Hartono, 2008, *Statistic Untuk Penelitian*, (Yogyakarta: Pustaka Pelajar), pp.207-208

tests. The test consisted of 25 items. According to Hughes, one of the techniques that can assess the students' comprehension is multiple choices test.³⁵ The tests used to find out students' reading comprehension. The test was done twice, pre-test and post-test. The test was given to the experimental class and the control class in order to know the difference of using Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy on students' reading comprehension of the second year students at MAN Kampar Timur. The materials of the test were adopted from the book of the second year students at MAN Kampar Timur.

After the students did the test, the writer then took the total score from the result of the reading comprehension test. The classification of the students' score can be shown below:

Table III.4
The Classification of Students' Score³⁶

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

³⁵ Arthur Hughes, 2003, *Testing for Language Teacher*, 2nd Edition. (Cambridge: Cambridge University), p. 54

³⁶ Suharsimi Arikunto, 2009, *Dasar-Dasar Evaluasi Pendidikan*. (Jakarta: Bumi Aksara), p. 245

2. Validity

Before the test was given to the sample of this research, the researcher did try out the test items. 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. According to Arikunto the test is accepted if the degree of difficulty is between 0.30 – 0.70.³⁷ It was determined by finding the difficulty level of each item. The formula of Validity was as follows:³⁸

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

Where

P : Index of difficulty or facility value

B : the number of correct answers

JS : the number of examinees or students

The difficulty level of an item shows how easy or difficult a particular item is in a test. The items that do not reach the standard level of difficulty are excluded from the test and they are replaced with new items that are appropriate.

The standard level of difficulty used is <0,30 and > 0,70. It means that an item is accepted if the level of difficulty is between 0,30-0,70 and it is rejected if the level of difficulty is less than 0,30 (the item is too difficult) and over than

³⁷Arikunto, Suharsimi, *op. cit.* p. 208

³⁸SuharsimiArikunto., *Op Cit* p.209

0,70 (the item is too easy). The proportion of correct is represented by “p”, whereas the proportion of incorrect is represented by “q”. The calculation of item difficulty can be seen from the following table:

The data obtained by using posttest were evaluated in 5 component:

1. The Students are able to state main idea on narrative text.
2. The Students are able to locate or the generic structures narrative text; orientation, complication and resolution.
3. The Students are able to make inference on narrative text.
4. The Students are able to analyze the meaning of certain words on narrative text.
5. The Students are able to locate or identify facts such as the names of characters, the time of the story or the place of the story on narrative text.

Then, the calculation of item difficulty can be seen as follows:

Table III. 5
The Data of Try Out

No.	Indicators	Try Out				Category
		Items no.	Correct	P	Q	
1	The Students are able to state main idea on narrative text	1	18	0.6	0.4	Accepted
		6	17	0.56	0.44	Accepted
		11	12	0.4	0.6	Accepted
		16	16	0.53	0.47	Accepted
		21	21	0.43	0.57	Accepted
2	The students are able to identify the generic structurea narrative text; orientation, complication and resolution	2	15	0.5	0.5	Accepted
		7	12	0.4	0.6	Accepted
		12	13	0.43	0.57	Accepted
		17	15	0.5	0.5	Accepted
		22	18	0.6	0.4	Accepted
3	The Students are able to make inference on narrative text	3	12	0.4	0.6	Accepted
		8	18	0.6	0.4	Accepted
		13	16	0.53	0.47	Accepted
		18	17	0.56	0.44	Accepted
		23	18	0.6	0.4	Accepted
4	The Students are able to analyze the meaning of certain words on narrative text	4	14	0.46	0.54	Accepted
		9	12	0.4	0.6	Accepted
		14	18	0.6	0.4	Accepted
		19	13	0.43	0.57	Accepted
		24	15	0.5	0.5	Accepted
5	The Students are able to locate or identify facts such as the names of characters, the time of the story or the place on narrative text	5	18	0.6	0.4	Accepted
		10	15	0.5	0.5	Accepted
		15	16	0.53	0.47	Accepted
		20	17	0.56	0.44	Accepted
		25	17	0.56	0.44	Accepted
N		30				

a. The Students are able to state main idea on narrative text

Based on the table, the item numbers of questions to find main idea are 1, 6, 11, 16, and 21. It shows that the proportion of correct answer to find main idea of

test item number 1 is 0.6, the proportion of correct answer for test item 6 is 0.56, the proportion of correct answer for test item 11 is 0.4, the proportion of correct answer for test item 16 is 0.53 and the proportion of correct answer for test item 21 is 0.43. Then based on the standard level of difficulty, all items to find main idea or “p” is >0.30 and <0.70 . So, the items to find main idea are accepted.

b. The Students are able to locate or identify the generic structures of narrative text; orientation, complication and resolution

Based on the table, the item numbers of question to identify the generic structure are 2, 7, 12, 17, and 22. It shows that the proportion of correct answer to the generic structure of test item number 2 is 0.5, the proportion of correct answer for test item 7 is 0.4, the proportion of correct answer for test item 12 is 0.43, the proportion of correct answer for test item 17 is 0.5 and the proportion of correct answer for test item 22 is 0.6. Then based on the standard level of difficulty, all items to identify the generic structure or “p” is >0.30 and <0.70 . So, the items to identify the generic structure are accepted.

c. The Students are able to make inference on narrative text

Based on the table, the item numbers of question to make inference are 3, 8, 13, 18, and 23. It shows that the proportion of correct answer to make inference of test item number 3 is 0.4, the proportion of correct answer for test item 8 is 0.6, the proportion of correct answer for test item 13 is 0.53, the proportion of correct answer for test item 18 is 0.56 and the proportion of correct answer for test item 23 is 0.6. Then based on the standard level of difficulty, all items to make inference or “p” is >0.30 and <0.70 . So, the items to make inference are accepted.

d. The Students are able to analyze the meaning of certain words on narrative text

Based on the table, the item numbers of question to analyze the meaning of certain words are 4, 9, 14, 19, and 24. It shows that the proportion of correct answer to analyze the meaning of certain words of test item number 4 is 0.46, the proportion of correct answer for test item 9 is 0.4, the proportion of correct answer for test item 14 is 0.6, the proportion of correct answer for test item 19 is 0.43 and the proportion of correct answer for test item 24 is 0.5. Then based on the standard level of difficulty, all items to analyze the meaning of certain words or “p” is >0.30 and <0.70 . So, the items to analyze the meaning of certain words are accepted.

e. The Students are able to locate or identify facts such as the names of characters, the time of the story on narrative text

Based on the table, the item numbers of question to identify fact are 5, 10, 15, 20, and 25. It shows that the proportion of correct answer to identify fact of test item number 5 is 0.6, the proportion of correct answer for test item 10 is 0.5, the proportion of correct answer for test item 15 is 0.53, the proportion of correct answer for test item 20 is 0.56 and the proportion of correct answer for test item 25 is 0.56. Then based on the standard level of difficulty, all items to identify fact or “p” is >0.30 and <0.70 . So, the items to identify fact are accepted.

3. Reliability of the Test

Reliability is a necessary characteristic of good test. Ridwan says that reliability refers to the extent to which the test is consistent in its score and it gives us an indication of how accurate the test scores are.³⁹ It is clear that reliability is used to measure the quality of the test scores and the consistency of the test.

Calculation of reliability uses various kinds of formula. They are Spearman-Brown formula, Flanagan formula, Rulon formula, Hoyt formula, Alfa formula, KuderRichardson 20 formula and KuderRichardson 21 formula.⁴⁰ From all of these formula, the writer then used the Hoyt Formula to calculate the reliability of the test. The formula is as follows:⁴¹

$$r_{11} = 1 - \frac{V_s}{V_r}$$

Where :

r_{11} : Instrument reliability

V_s : Variance of remains

V_r : Variance of Respondents

Based on the data the writer got:

V_s : 0.219

V_r : 1.03

$$r_{11} = 1 - \frac{V_s}{V_r}$$

³⁹Riduwan, 2012, *Belajar Mudah Penelitian Untuk Guru-Karyawan dan Peneliti Pemula*. (Bandung: Alfabeta). p.102

⁴⁰Suharsimi Arikunto., *Op Cit.*, p.180

⁴¹Riduwan, *op.cit.*, p. 113

$$1 - \frac{0.219}{1.03}$$

0.788

To know whether the test is reliable or not, the value of r_{11} must be compared with product moment. The value of r_{11} is must be higher than r table. From the calculation above the value of r_{11} is 0.788. Then the significant the r table at 5% grade of significance is 0.349. While r table at 1% grade of significance is 0.449. So, it can be conclude that $0.449 < 0.788 > 0.349$. On the other word, the instrument is reliable because the value of r_{11} is higher than r table.

b. Technique of the Data Analysis

The data were analyzed by using the statistic analysis, in order to find out whether or not there is a significant effect of using Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy toward reading comprehension of the second year students at MAN Kampar Timur. In analyzing the data, the writer used score of experimental class and control class. The technique of data analysis used in this research was T-test formula. According to Hartono, T-test is one of the statistic tests that are used to know whether or not there is significant difference of the two samples of mean in two variables.⁴² Based on the formulations of the problem, the writer analyzed the data through the following procedures for each problem by using SPSS:

1. Independent sample t-test

⁴²Hartono, *Statistik untuk Penelitian*, (Yogyakarta: Pustakapelajar), p. 208

The t-test for independent sample is used to determine the first and the second of the formulation of the problem, whether or not there is probably a significant difference between the means of two independent sample.⁴³ The different mean is analyzed by using T-test formula:⁴⁴

$$t_o = \frac{Mx - My}{\sqrt{\left(\frac{SD_x}{\sqrt{N-1}}\right)^2 + \left(\frac{SD_y}{\sqrt{N-1}}\right)^2}}$$

The t-table is employed to see whether or not there is a difference between the mean score of both experiment and control class. The t-obtained value is consulted with the value of t-table by using degree of freedom. The formula at the degree of freedom is as follows:⁴⁵

df = (Nx + Ny) – 2 statically hypothesis:

H_a : t_o > t_{table}

H_o : t_o < t_{table}

Where:

df = degree of freedom

Nx = Number of students in experimental class

Ny = Number of students in control class.

Ha is accepted if to > t-table or there is an effect of using Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy toward reading comprehension.

⁴³*Ibid*, p. 484

⁴⁴*Ibid*, p. 178

⁴⁵*Ibid*, p. 22

Ho is accepted if $t_o > t\text{-table}$ or there is no effect of using Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy on reading comprehension.

To identify the level of the effect of using Overview, Key ideas, Read, Recall, Reflect and Review (OKRRRR) strategy on reading comprehension of the eleventh grade students at MAN Kampar Timur, it will be calculated coefficient (r^2) by using formula:⁴⁶

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

To find out the percentage of coefficient effect (K_p), was used the following formula:

$$K_p = r^2 \times 100\%.$$

⁴⁶Riduwan, 2008, *Rumus dan Data dalam Analisis Statiska*(Bandung: Alfabeta), p.125