CHAPTER III

METHOD OF THE RESEARCH

A. Design of the Research

This research was an experimental research. Based on what Cresswell said, we use experimental research when we want to establish possible cause and effect between our independent and dependent variables (Cresswell, 2012:295). The design of this research was a quasi experimental research using pre-test – post-test control group design, to know the effect of using one stays the rest stray technique on reading comprehension.

This research design used two groups. The first group was as experimental class treated by using one stays the rest stray technique. The second group was as control class which was treated without using one stays the rest stray technique. Before doing the treatment, the researcher administered pre-test to all samples. After the treatment, the researcher administered post-test to obtain the students' reading ability in classroom discussion.

The design of this research can be illustrated as follows:

Table III.I
The Research Design

Class	Pre- test	Treatment	Post – test
Experimental (XI IPS 2)	T1		T2
Control (XI IPS 1)	T1	-	T2

33

T1 : Pre test for experimental and control class

T2 : Post test for experimental and control class

–   : No treatment

   :Receiving treatment , that is using One Stays the Rest Stray Technique

B. The Time and Location of The Research

  This research was conducted from July to August 2016 at State Senior High1 XIII Koto Kampar of Kampar Regency.

C. The Subject and Object of the Research

  The subject of this research was the eleventh grade students at State Senior High School 1 XIII Koto Kampar in Kampar Regency and the object of this research was the "The Effect of Using One Stays the Rest Stray Technique on Students' Reading Comprehension at State Senior High School 1 XIII Koto Kampar in Kampar Regency"

D. The Population and Sample of the Research

  The population of this research was the eleventh grade students at State Senior High School 1 XIII Koto Kampar of Kampar Regency. It had 4 classes with the number of students 114 students. The specification of the population can be seen on the table below:

Table III.2
The Total Population at Eleventh Grade Students of State Senior High
School 1 XIII Koto Kampar of Kampar Regency

No	Class	Total
1	XI IPA 1	24
2	XI IPS 1	30
3	XI IPS 2	30
4	XI IPS 3	30
	Total	114

The population was large enough to be all taken as sample of the research. Based on the limitation of the research, the researcher took only two classes after doing clustering sample randomly. According to Gay, *et al* (2000:129), cluster sampling randomly selects groups, not individuals. Therefore, the researcher selected two groups of students to be sample in this research. It was the students of XI IPS 2 as an experimental group/class and XI IPS 1 as a control group/class.

The similar characteristics intended for both of class were: the students had the same level and material about learning of reading. Class XI IPS 2 was as an experimental class and XI IPS 1 was as a control class. Those were as the sample of the research by numbers 60 students.

Table III.3
The Sample of the Research

No	Class	Population		Sample	Total
		Male	Female		
1	IPS 2	13	17	Experimental Class	30
2	IPS 1	13	17	Control Class	30
	Total Population				60

E. The Technique of Collecting Data

In the research, the data collection was collected by using test (multiple choices). To obtain the students' reading comprehension by using one stays the rest stray technique, the researcher gave test. The test was used to find out the students' comprehension in reading narrative text. It consisted of 20 items. Every item of the test multiplied 5. Therefore, the total score was 100 if the students could answer the entire item correctly.

The data of the research were the score of the students' reading comprehension obtained by using multiple choices. The test was done twice, the first was pre-test that was given before the treatment, and the second was post-test that was given after the treatment intended to obtain students' reading comprehension of the eleventh grade at State Senior High School 1 XIII Koto Kampar in Kampar Regency. The blueprint of the test can be seen as follows:

Table III.4
The Blue Print of Pre-Test

No	Indicators	The Number of Question	Total
1	Identify the main idea of the text	1, 7, 11, and 16	4
2	Identify information of the text	5, 8, 15 and 20	4
3	Identify the generic structure of the text	4, 9, 14, and 19	4
4	Identify reference of the text	2, 10, 13 and 17	4
5	Make inference from the text	3, 6, 12, and 18	4
Total			20 Items

class shows; Sig is 0.163 > 0.05. It means that the data were in normal distribution.

2. The Test of Homogeneity

By knowing the data distributed normally, the researcher did test of homogeneity. This test was used to know some variants of population homogeneity or not. This test was also used as the requirement in analyzing the data before conducting sample t-test. The homogeneity of the test can also be seen on the table below:

Table III. 7
Test of Homogeneity
Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Score	Based on Mean	1.116	1	58	.295
	Based on Median	1.149	1	58	.288
	Based on Median and with adjusted df	1.149	1	57.428	.288
	Based on trimmed mean	1.095	1	58	.300

The result of the test can be seen as follows:

p-value (Sig.) > 0.05 = the data is in normal distribution

p-value (Sig.) < 0.05 = the data is not in normal distribution

Based on the output of SPSS above, it could be seen that sig. I based on trimmed mean is 0.300 > 0.05. In conclusion the test is homogeny distributed.

3. Validity

Every test should be as valid as the test constructor can make it. The test must aim at providing a true measure of the particular skill in which it is intended to measure.

Heaton (1988: 159) states that the validity of a test is the extent to which it measures what it is supposed to measure and nothing else.. It means that the appropriateness of a given test or any of its component parts as measure of what it is purposed to measure. According to Pallant (2005:6), there are some main types of validity. Such as: content validity, criterion validity and construct validity.

Content validity refers to the adequacy with which a measure or scale has sampled from the intended universe or domain of content. *Criterion validity* concerns the relationship between scale scores and some specified, measurable criterion. *Construct validity* involves testing a scale not against a single criterion but in terms of theoretically derived hypotheses concerning the nature of the underlying variable or construct. The construct validity is explored by investigating its relationship with other constructs, both related (convergent validity) and unrelated (discriminant validity).

The test given to students was considered not too difficult or too easy, often showing the low reliability. Item difficulty was determined as the proportion of correct responses. This was held pertinent to the index difficulty; it was generally expressed as the percentage of the

students who answered the questions correctly. The formula for item difficulty is as follows (Heaton. 1988: 178):

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

FV : index difficulties

R : the number of correct answer

N : the number of students taking the test

The formula above was used to find out easy or difficult test items that researcher gave to the respondents. The items did not reach the standard value of difficulty were modified.

An instrument is valid if it is able to measure what must be measure. In validity of instrument of the test, it can be seen by difficulties of the test. In other words, the test is not too easy and the test not too difficult. The standard level of difficulty is > 30 and < 70.

The facility value under 0.30 is considered difficult and above 0.70 is considered easy. Then, the proportion is represented by "p", whereas the proportion incorrect is represented by "q". It can be seen in the following tables:

Table III.8
Ability to Identify Main Idea

Variable	Identifying Main Idea				N
Item No	1	7	11	16	
Correct	9	18	12	9	30
P	0,3	0,6	0,4	0,3	
Q	0,6	0,4	0,6	0,7	

$$P = \frac{\Sigma B}{N} \qquad Q = 1,0 - F$$

Based on the table 7, the proportion of correct answer for the number 1 is 0.3, the proportion of correct answer for the number 7 is 0.6, the proportion of the correct answer for the number 11 is 0.4, the proportion of the correct answer 16 is 0.3. Based on the standard level of difficulty it showed that $0.30 \leq P \leq 0.70$. So, the items of finding the main idea of narrative text were accepted.

Table III.9
Ability to Identify Information

Variable	Identifying Information				N
Item No	5	8	15	20	
Correct	14	14	13	12	30
P	0,47	0,47	0,43	0,4	
Q	0,53	0,33	0,57	0,6	

$$P = \frac{\Sigma B}{N}$$

$$Q = 1,00 - P$$

Based on the table 8, the proportion of correct answer for the number 5 is 0.47, the proportion of correct answer for the number 8 is 0.47, the proportion of the correct answer for the number 15 is 0.43, the proportion of the correct answer 20 is 0.6. Based on the standard level of difficulty it showed that $0.30 \leq P \leq 0.70$. So, the items of identifying information of narrative text were accepted.

Table III.10
Ability to Identify Generic Structure

Variable	Identifying Generic Structure				N
Item No	4	9	14	19	
Correct	12	13	15	15	30
P	0,4	0,43	0,5	0,5	
Q	0,6	0,57	0,5	0,5	

$$P = \frac{\Sigma B}{N}$$

$$Q = 1,00 - P$$

Based on the table 9, the proportion of correct answer for the number 4 is 0.47, the proportion of correct answer for the number 9 is 0.43, the proportion of the correct answer for the number 14 is 0.5, the proportion of the correct answer 19 is 0.5. Based on the standard level of difficulty it showed that 0.30 P 0.70. So, the items of finding the generic structure of narrative text were accepted.

Table III.11
Ability to Identify Reference

Variable	Identifying Reference				N
Item No	2	10	13	17	
Correct	12	15	14	15	30
P	0,4	0,5	0,47	0,5	
Q	0,6	0,5	0,53	0,5	

$$P = \frac{\sum B}{N} \qquad\qquad Q = 1,00 - P$$

Based on the table 10, the proportion of correct answer for the number 2 is 0.4, the proportion of correct answer for the number 10 is 0.5, the proportion of the correct answer for the number 13 is 0.47, the proportion of the correct answer 17 is 0.5. Based on the standard level of difficulty it showed that 0.30 P 0.70. So, the items of finding the reference of narrative text were accepted.

Table III.12
Ability to Find Inference

Variable	Identifying Inference				N
Item No	3	6	12	18	
Correct	9	19	12	14	30
P	0,3	0,63	0,4	0,47	
Q	0,7	0,37	0,6	0,53	

$$P = \frac{\sum B}{N} \qquad\qquad Q = 1,00 - P$$

Based on the table 11, the proportion of correct answer for the number 3 is 0.3, the proportion of correct answer for the number 6 is 0.63, the proportion of the correct answer for the number 12 is 0.4, the proportion of the correct answer 18 is 0.47. Based on the standard level of difficulty it showed that 0.30   P   0.70. So, the items of finding the inference of narrative text were accepted.

4. **Reliability**

Brown says that, a reliable test is consistent and dependable. 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 instrument or by different persons. The characteristic of reliability was sometimes term consistent on repeated measurement. To obtain the reliability of the test, it must know the mean and standard deviation of test.

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 (1988:168) states that, the reliability of the test was considered as follows:

a. $0.0 - 0.20 =$ reliability is low

b. $0.21 - 0.40 =$ reliability is sufficient

c. $0.41 - 0.70 =$ reliability is high

d. $0.71 - 1.0 =$ reliability is very high

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

$$KR\ 20: ri = \frac{k}{k-1}\ \frac{St^2 - \sum pq}{St^2}$$

Where:

    n   : number of items in the instrument

    p   : proportion of subject who answered the item correctly

    q   : proportion of subject who answered the item wrong (1-p)

    $\sum pq$: the multiplication result between p and q

    St   : variance

Firstly the researcher calculated the total variance:

$$st = \frac{\sqrt{x^2}}{n}$$

Where:

n   : number of respondents

The reliability of the test can be seen as follows:

$$KR20 : r_{11} = \frac{K}{K-1}\ \frac{S^2 - \sum PQ}{S^2}$$

$$= \frac{20}{19}\ \frac{96.90 - 4.78}{96.90}$$

$$= \quad 1.05 \quad \frac{92.12}{96.90}$$

$$= \quad 1.05 \quad 0.95$$

$$r_{11} = 0.99$$

From the data above, the reliability of the test r_{11} is 0.99 so it can be analyzed that the instrument is reliable.

G. The Technique of the Data Analysis

The technique of collecting data is by using observation and test. The data were analyzed by using statistical analysis. In analyzing the data, the researcher used scores of pre-test and post-test of experimental and control classes. This score was analyzed statistically. In this research the researcher used these formulas:

1. Independent Sample T-test

To find out whether or not there is a significant difference between two or more variables that can be analyzed by using independent sample t-test (Hartono, 2008:146). The different mean is analyzed by using T-test (independent sample t-test). It was calculated by SPSS 16.0 version.

The test consisted of 20 items and the score of each number was 5. The category in reading comprehension in narrative text could be classified as follows:

Table III.13
The Scale of Students' Reading Comprehension

No.	Categories	Score
1	Very Good	80-100
2	Good	66-79
3	Enough	56-65
4	Less	40-45
5	Fail	30-39

(Arikunto, 2012:245)

The t – table is employed to see whether there is a significant difference to the mean score of both experimental or control class. T-test was obtained by considering the degree of freedom. Statically hypothesis:

Ha   : to > t – table

Ho   : to < t – table

Ha is accepted if to > t – table or there is significant difference on students' reading comprehension scores taught by using One Stays the Rest Stray technique and taught without using One Stays the Rest Stray technique at State Senior High School 1 XIII Koto Kampar of Kampar Regency

Ho is accepted if to < t – table or there is no significant difference on students' reading comprehension scores taught by using One Stays the Rest Stray technique and taught without using One Stays the Rest Stray technique at State Senior High School 1 XIII Koto Kampar of Kampar Regency.

2. **Effect Size**

In order to find out the significant effect of using one stays the rest stray technique on reading comprehension, the researcher used effect

size formula. According to Pallant (2005:208), effect size statistics provides an indication of the magnitude of the differences between the groups. The most commonly used to calculate the effect size was eta squared. The formula for eta squared is as follow:

$$Eta\ squared = \frac{t^2}{t^2 + \ N1 + N2 - 2}$$

Where:

t = value of t-table

N1 = Number of students of first group

N2 = Number of students of second group

To interpret the eta squared values the following guidelines can be used (from Cohen, 1988): 0.01=small effect, 0.06=moderate effect, 0.14=large effect.