CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research methodology used in this research. It comprises of the research design, subject and object of the research, time and location of the research, population and sample, technique of data collection, and technique of data analysis.

A. Research Design

This research was a quasi-experimental research. Quasi-experimental research is when you want to establish cause effect between two different components. According to Creswell (2012: 295), in an experiment, you test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable. He said that quasi experimental research includes assignment, but not random assignment of participant to groups. In this research there were two groups taken as the sample, the first group was as experimental group and the second group was as control group. This research tried to find the effect given by the variable x on y.

There were two variables in this research, they were: Cooperative script strategy as the independent variable, symbolized by X and students' reading comprehension on Descriptive text as dependent variable symbolized by Y.

According to Cresswell (2008:314) the type of this research can be designed as follows:

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TABLE III.1
The Research Design

Group	Pre-test	Treatment	Post test
E	T1	X	T2
C	T1		T2

E   = Experimental Group
C   = Control Group
T1   = Pre-test to Experimental Group and Control Group
X   = Receive the treatment using Cooperative script strategy
T2   = Post-test to Experimental and Control Group

B. Location and Time of the Research

The location of carrying out the research activities was conducted at State Senior High School 1 Lintau Buo Tanah Datar Regency. The time for carrying out this research started from July to August 2016.

C. Subject and Object of the Research

The subject of the research was the tenth grade Social students of State Senior High School 1 Lintau Buo Tanah Datar Regency and the object of this research was using Cooperative Script Strategy on students' reading comprehension.

D. Population and Sample of the Research

The population of this research was the tenth grade students of State Senior High School 1 Lintau Buo Tanah Datar Regency. The total population of this research was 273 students from the 9 classes, there were four classes

for science class (IPA) and five classes for social class (IPS). The specification of the population can be seen on the table below:

Table III.2
The Total Population of the Research

Classes	Number
X IPA 1	30
X IPA 2	30
X IPA 3	30
X IPA 4	30
X IPS 1	31
X IPS 2	31
X IPS 3	30
X IPS 4	30
X IPS 5	31
Total	**273**

The researcher considered that population of this research was big, the researcher took the sample of the population of the research by using cluster random sampling. According to Freankle et.al,(2012:96) the selection of group or clusters, of subjects rather than individuals is known as cluster random sampling. The researcher considered that this sampling technique was appropriate with the design of the research. Thus, to determine which one was control or experimental group, the researcher used this strategy.

The researcher wrote down number 1 until 9 on small piece of paper. The small piece of paper were placed in a box and well mixed, and a sample of the required size was selected. And the last the researcher got class X IPS 4, and X IPS 3 as a sample. The class X IPS 4 was as experimental class and X IPS 3 was as control class. The experiment class consisted of 30 students, while the control class consisted of 30 students. So, 60 students were representative enough to be the sample of the research.

Table III.3
The Sample of the Research

No.	Class	Population	Group
1.	X IPS 4	30	Experiment
2.	X IPS 3	30	Control
3.	X IPS 1	31	Try out
Total		91	

E. Technique of Collecting Data

In order to get the data which were needed to support this research, the researcher used the technique as follows:

1. Observation

It was used to collect the data about the implementation of using Cooperative Script Strategy. The researcher had a list of observational item to be observed in experimental class during teaching and learning process.

Table III.4
Observation Checklist

No	Indicator of variable x	Yes	No
1.	Teacher asks the students to make a group that consists of two students in group.		
2.	Teacher gives pieces of text from one text divided into two parts; students read and comprehend the text.		
3.	Teacher asks the students' to identify generic structure and language feature, each student makes summarize that includes the generic structure and language feature.		
4.	Teacher asks the students to take roles as speaker and listener. The students decide who first serve as a speaker and who as a listener, as speaker: read the summary as complete as possible in include generic structure and language feature, as listener: correcting, and helping remember about a summary in text.		
5.	Teacher asks students to change role.		
6.	Teacher and students made summary together.		
7.	Closing		
	Total		

During the treatment, the teacher of English did observation based on the indicators of the application of using Cooperative Script Strategy. The researcher collected the observation data by using observation checklists sheet in order to know how the Strategy was done by the researcher. The researcher provided the percentage of observation checklist as follows:

Table III.5
The Recapitulation Percentage of Observation Checklist Result

Meetings	Indicators							Yes	No
	1	2	3	4	5	6	7	T	F
1	√	√	√	√	√	√	√	7	0
2	√	√	√	√	√	√	-	6	1
3	√	√	√	√	√	-	√	6	1
4	√	√	-	√	√	√	√	6	1
5	√	√	√	√	√	√	√	7	0
6	√	√	√	√	√	√	√	7	0
Total								39	3

The following formula was used to get percentage of the observation (Sudjono, 2010:43), the formula is as follow:

$P = \frac{F}{N} \times 100\%$

Where: P : Percentage

F : Frequency of score

N: Number of case

Percentage of 'yes' $= \frac{39}{42} \times 100\% = 92,8\%$

Percentage of 'no' $= \frac{3}{42} \times 100\% = 7.14\%$

From the result above, it can be seen that Cooperative Script Strategy was successfully done for 92.8%. While, the persentage fail was 7.14%.

2. Test

      Test was the way in which the information about Students' reading comprehension could be gathered. The test was distributed to measure the students' reading comprehension in Descriptive text. The test was divided into two stages; pre-test was given before the treatment and post-test was given after doing treatment. The test was multiple choices. Brown (2010:67) stated the item requires the students to select the correct answer, which offers overworked teacher of the tempting possibility of an easy and consistent process of scoring and grading. Multiple choices could assess students' reading comprehension. In this research, The type of the test was multiple choice items related to Descriptive Text. To get the data about the students' reading comprehension, the researcher used assessment based on the indicators of reading comprehension explained in the operational concept. The test was firstly tried out to find out which the items of questions were too easy and too difficult. It was calculated by using the formula of item difficulty. The try out test consisted of 20 questions. The blue print of try out of reading comprehension could be seen in the table below:

Table III.6
Blue Print of Reading Comprehension (Try Out)

No.	Indicators	Items Number	Number of Items
1.	Students are able to find the factual information in reading descriptive text.	3, 9, 14, 18	4
2.	Students are able to identify the main idea in reading descriptive text.	2, 7, 11, 16	4
3.	Students are able to identify the word references in reading descriptive text.	4, 6, 12, 17	4
4.	Students are able to inference when reading descriptive text.	1, 8, 14, 19	4
5.	Students are able to restate when reading descriptive text.	5, 10, 15, 20	4
	Total		20 Items

After the researcher had tried out the test, the researcher could make the pre and post test by omitting the items invalid. The blue print of reading comprehension after the test tried out could be seen the table below:

Table III.7
Blue Print of Reading Comprehension (Pre and Post-Test)

No.	Indicators	Question Number (Pre-Test)	Question Number (Post-Test)
1.	Students are able to find the factual information in reading descriptive text.	3, 9, 14, 18	3, 9, 14, 18
2.	Students are able to identify the main idea in reading descriptive text.	2, 7, 11, 16	2, 7, 11, 16
3.	Students are able to identify the word references in reading descriptive text.	4, 6, 12, 17	4, 6, 12, 17
4.	Students are able to inference when reading descriptive text.	1, 8, 14, 19	1, 8, 14, 19
5.	Students are able to restate when reading descriptive text.	5, 10, 15, 20	5, 10, 15, 20
		20 Items	20 Items

Then, the researcher gave the test twice, before and after the treatment intended to obtain the students' reading comprehension of the Tenth grade at Senior High School 1 Lintau Buo Tanah Datar Regency.

Then, the researcher took the total score from the result of the reading comprehension test. According to Arikunto (2007:245) score of students can be analyzed through a table of classified score. So, the score of students was classified as follows:

Table III. 8

The Classification of Students' Score

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

F. The Validity and the Reliability of the Instrument

1. Validity

The test used to measure the students' comprehension in reading should be valid and reliable. The test can be valid if it measures accurately whether the test is appropriate, meaningful, and useful (Hughes, 2003: 26-27). In this research, the researcher used construct validity to know the validity of reading comprehension test. In other words, the tests were given based on material that they had learned. In validity of instrument of the test, it can be seen from the difficulties of the test. It means that the test is not too easy or not too difficult.

Before the tests were given to the sample of this research, the tests were tried out to 31 students of the tenth grade students of Senior High School 1 Lintau Buo Tanah Datar Regency. The purpose of the try out was to obtain validity and reliability of the tests. It was determined by finding

the difficulty level of each item. The formula of item difficulty is as follows:

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

Where: FV   : Index of difficulty
           R   : The number of correct answer
           N   : The number of students

According to Arikunto (2009: 245), 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 below 0.30 (the item is too difficult) and over 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 could be seen from following tables:

Table III.9
Identify the factual information in
Reading Descriptive text.

Variable	Identify the factual information				N
Item No	3	9	14	18	
Correct	14	17	16	14	
P	0.41	0.55	0.52	0.45	31
Q	0.55	0.45	0.48	0.55	

The table above showed the proportion of correct answer. For item number 3 obtained the proportion of correct 0.41, item number 9 obtained the proportion of correct 0.55, item number 14 obtained the proportion of correct 0.52, item number 18 obtained the proportion of correct 0.45. Based on the standard level of difficulty "p" <0.30 and >0.70, it was

pointed out that the items for identifying the factual information in reading descriptive text were accepted.

Table III.10
Identify the Main Idea in reading descriptive text.

Variable	Identify the Main Idea				N
Item No	2	7	11	16	
Correct	17	11	18	15	
P	0.55	0.35	0.58	0.48	31
Q	0.45	0.65	0.42	0.52	

The table above showed the proportion of correct answer. For item number 2 obtained the proportion of correct 0.55, item number 7 obtained the proportion of correct 0.35, item number 12 obtained the proportion of correct 0.58, item number 16 obtained the proportion of correct 0.48. Based on the standard level of difficulty "p" <0.30 and >0.70, it was pointed out that the items for identifying the Main Idea in reading descriptive text were accepted.

Table III.11
Identify The Word References In Reading Descriptive Text.

Variable	Identify the Word References				N
Item No	4	6	12	17	
Correct	15	17	18	17	
P	0.48	0.55	0.59	0.55	31
Q	0.52	0.45	0.42	0.45	

The table above showed the proportion of correct answer. For item number 4 obtained the proportion of correct 0.55, item number 6 obtained the proportion of correct 0.55, item number 12 obtained the proportion of correct 0.59, item number 17 obtained the proportion of correct 0.55. Based on the standard level of difficulty "p" <0.30 and >0.70, it was

pointed out that the items for identifying the Word References in reading descriptive text were accepted.

Table III.12
Inferences in Reading Descriptive Text.

Variable	Inferences in reading descriptive text.				N
Item No	1	8	14	19	
Correct	16	17	16	16	
P	0.51	0.55	0.52	0.52	
Q	0.48	0.45	0.48	0.48	31

The table above showed the proportion of correct answer. For item number 1 obtained the proportion of correct 0.51, item number 8 obtained the proportion of correct 0.55, item number 14 obtained the proportion of correct 0.52, item number 19 obtained the proportion of correct 0.52. Based on the standard level of difficulty "p" <0.30 and >0.70, it was pointed out that the items for identifying inferences in reading descriptive text were accepted.

Table III.13
Restatement in reading descriptive text

Variable	Restatement in reading descriptive text				N
Item No	5	10	15	20	
Correct	15	14	12	17	
P	0.48	0.45	0.38	0.55	
Q	0.52	0.55	0.61	0.45	31

The table above showed the proportion of correct answer. For item number 5 obtained the proportion of correct 0.48, item number 10 obtained the proportion of correct 0.45, item number 15 obtained the proportion of correct 0.38, item number 20 obtained the proportion of

correct 0.55. Based on the standard level of difficulty "p" <0.30 and >0.70, it was pointed out that the items for Restatement in reading descriptive text were accepted.

2. Reliability

Reliability is a necessary characteristic of a good test. Brown said that "a reliable test is consistent and dependable". It means that the test should be similar when the tester gives the same test to the same respondent on two different occasions or in the other word is consistent. The reliability coefficients for good reading comprehension test were accepted to exceed 0.0 and closed 1.00.

According to Timbunan in Zelly (2011:53) stated that the reliability of 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, the writer used KR 20 formula (Sugiyono, 2008:186) as follows:

$$r_i = \left(\frac{K}{K-1}\right)\left(\frac{St^2 - \sum piqi}{St^2}\right)$$

Where:
r_i : Instrument reliability
k : Number of items
st^2 : Variance total (the square of standard deviation)
p : The proportion of the students who are correct in answering an item divided with the total number of the students
q : The proportion of the students who are incorrect in answering an item divided with the total number of the students
$\sum piqi$: The multiplication result between p and q

Firstly, the writer calculated the total variance:

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

Where:

n : Number of respondents

$$x^2 = \sum xt^2 - \frac{(\sum xt)^2}{n}$$

$$= 3475 - \frac{(311)}{31}$$

$$= 3475 - 10.03$$

$$= 3464, 97$$

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

$$st^2 = \frac{3464,97}{31}$$

$$= 111, 77$$

$$ri = \frac{k}{k-1}\left\{\frac{S_{t^2} - \sum p_i q_i}{S_{t^2}}\right\}$$

$$ri = \frac{20}{(20-1)}\left\{\frac{111.77 - 5.20}{111,77}\right\}$$

$$ri = \frac{20}{19}\left\{\frac{106.57}{111.77}\right\}$$

$$ri = 1.05 \; x \; 0.95$$

$$ri = 0,99$$

Based on the result above, it can be stated that the reliability of the try

out test was "**Very High**".

G. Technique of Data Analysis

1. Normality of the Data

Before analyzing the data by using t-test formula, the researcher had to

find out the normality test of the data. According to Priyatno (2012:33),

the normality of the data test can be analyzed by using lilliefors and One

Sample Kolmograv. The normality of the test was analyzed by uing Smirnov technique with SPSS 17 Version.

Analysis:

Ha population with normal distribution

Ho Population with not normal distribution

If the probability > 0.05 Ha was accepted

If the probability < 0.05 Ho was rejected

The result of the test can be seen as follows:

Table III.14
Tests of Normality

Group		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Post-test Ex and Control Class	1	0.143	30	0.122	.0954	30	0.214
	2	0.122	29	.200[*]	0.929	29	0.052

 a. Lilliefors Significance Correction

2*. This is a lower bound of the truesignificance.

2. Homogeneity of the Data

According to Siregar (2013:167) cited in Evi (2016:53), the purpoe of homogeneity test is to know whether the object of the research has the same variance or not. The method used in this test was comparing the biggest variance with the smallest one.

Then, the homogeneity of the test also could be seen the table below:

Table III.15
Test of Homogeneity of Variance

		Levene Statistic	df1	df2	Sig.
Score	Based on Mean	0.350	1	57	.557
	Based on Median	0.294	1	57	0.590
	Based on Median and with adjusted df	0.294	1	56.999	0.590
	Based on trimmed mean	0.369	1	57	0.546

Based on the table test of homogeneity of variances, the value of significance was 0.557. This value showed that value of $sig > \alpha = 0.557 > 0.05$, it can be concluded that both classes had similar variants or homogenous.