CHAPTER III
RESEARCH METHOD

A. The Research Design

This research used a quasi experimental research design. Experimental research procedures are ideally suited for the study. Experimental designs are procedures in quantitative research in which the investigator determines whether an activity or material make a difference in result for participations. According to Cohen (2007, p. 275), quasi experiment is a research design having some but not the entire characteristic of true experiment.

Additionally, he said that this design is commonly used in educational experiment. This research design involved an experimental group and a control group, both were given a pretest and a posttest. Experimental group received the treatment. However, the control group did not. An experimental design is the traditional approach to conduct quantitative research. (Creswell, 2012, p. 294-310). The design research is illustrated as follows:

Table III.1
Research Design

Pre- and Posttest Design **Time** →

Select Control Group	Pretest	No Treatment	Posttest
Select Experimental Group	Pretest	Experimental Treatment	Posttest

Where

T1 : Pre-Test for experimental and control class

T2 : Post-Test for experiment and control class

− : No treatment

√ : Receiving treatment, using Circle Story strategy

Then, the relationship of the research design can be seen:

X ⟶ Y

Where : X: Circle Story Strategy

Y: Students' reading comprehension of narrative text

B. Time and Location of the Research

The research was conducted at Senior High School PGRI Tembilahan. It was located at number 2 Pendidikan street, Tembilahan Kota Subdistrict, Tembilahan Regency. This research was started from Maret 2016 - January 2017.

C. Subject and the Object of the Research

The subject of the research was the second year students of SMA PGRI Tembilahan, and the object of the research was the Effect of Using Circle Story Strategy on Students' Reading Comprehension of Narrative Text at Senior High School PGRI Tembilahan.

D. The Population and the Sample of the Research

The population of this research was the second year students of Senior High School PGRI Tembilahan. It had only two classes. The total number of

population in this research was 34 students. The first class consisted of 19 students and the second class consisted of 15 students. All population came be the sample of this research. Yet, because there were only two classes at the second year of Senior High School PGRI Tembilahan, this research used total sampling which means a technique to decide sample if all of the population is used as sample. It is often used if the total of pupulation is small, fewer than 30 person (Sugiyono, 2015, p. 67). The experimental group consisted of 19 students while the control group consisted of 15 students. So, 34 students were respresentative enough to be sample of the research.

Table III.2
The Total Number of Population and the Sample

No	Class	Students	Male	Female
1	XI IPA	19	5	10
2	XI IPS	15	5	14

E. The Technique of Collection Data

In order to obtain the data that are needed to support this research, the researcher used two techniques of data collection; namely observation and test.

1. Observation

The observation was intended to observe directly the effectiveness of the implementation of Circle Story Strategy on Students' Reading Comprehension of Narrative Text at the Second Year of Senior High School PGRI Tembilahan. The observer of the observation was the original English teacher while the researcher implemented the strategy in

the classroom. The observation was only given to the students in the experimental group.

2. Test

The data of the researcher were collected by using two written tests, pre and post test. This test consisted of only one component, namely multiple choices. The scores from both pre-test and post-test of the students in the experimental class was compared to that of those from control class. Then, the result of the post test was analyzed as the final data of this research. Regarding with Dorn's statement (2005, p. 25) that reading is a multidimensional process that involves the eyes, the ears, the mouth, and most importantly, the brain. Dorn also stated that reading is a complex process involving a network of cognitive actions that work together to construct meaning. Because of that it's important to measure students' reading comprehension through multiple choice test by using reading text.

Table III.3
The Blueprint of the Test

No.	Indicator of items	Number of items	Items number in Pre-test	Items number in Post test
1.	Find out the main idea of narrative text	5	1,7,12,16, 21	1,7,12,16,22
2.	Find out the supporting idea of the narrative text	5	3,8,13,17,23	2,8,14,18,23
3.	Identify the content of the narrative text	5	4,10,11,19,25	5,6,11,19,24
4.	Get the meaning of word references or similar meaning of narrative text	5	5,9,15,20,22	3,10,13,17,25
5.	Identify the generic structure of narrative text	5	2,6,14,18,24	4,9,15,20,21

After the students did the test, then the researcher took the total score from the result of the reading comprehension test. According to Arikunto (2013, pp. 281), the classification of the students' score can be seen below:

Table III.4
The Classification of Students' Score

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

F. Validity and Reability of the Test

1. Validity

Every test, whether it is short, informal classroom test or a public examination should be as valid as the test constructor can make it. One way to try to ensure that measurement error is kept to a minimum is to determine properties of the measure that give us confidence that it is doing its job property. The first property is validity, which is whether an instrument actually measures what it sets out to measure. (Field, 2009, p. 11). Before the test was given to the sample of this research, the test was tried out to the students of the third year. Validity is the core of the test. It has the purpose to obtain validity of the test.

The formula for item difficulty is as follows (Heaton, 1998, p. 178):

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

Where:

FV : index of difficulty of facility value

R : the number of correct answer

N : the number of examinees or students taking the test

The formula above was used to find out the easy or difficulty level of each item test that the researcher gave to the respondents. The items that did not reach the standard level of difficulty were excluded from the test and they were replaced by the new appropriate items.

The standard level of difficulty is **<0.30** and **>0.70**. It means that the item test that was accepted if the level of difficulty is between 0.30-0.70 and it is rejected if the level of difficulty is under 0.30 assumed difficult

question and over 0.70, assumed as easy question. Then, the proportion correct is represented by "P", whereas the proportion incorrect is represented by "Q", it can be seen in the following tables.

Table III.5
The Ability of Students to Find out Main Idea of Narrative Text

Variable	**To Find out Main Idea**					N
	Multiple Choice					
Item no.	1	7	12	16	21	20
Correct	12	13	11	9	10	
P	**0.6**	**0.65**	**0.55**	**0.45**	**0.5**	
Q	0.4	0.35	0.45	0.55	0.5	

Based on the table III.5, the proportion of correct answer for item number **1** shows the proportion of correct **0.6**, item number **7** shows the proportion of correct **0.65**, item number **12** shows the proportion of correct **0.55,** and the item number **16** shows the proportion of correct **0.45.** Meanwhile, the question in number **21** shows the proportion of correct **0.5**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each item number for finding out the main idea of narrative text are accepted.

Table III.6
The Ability of Students to Identify the Supporting Idea of Narrative Text

Variable	**To Identify the Supporting Idea of Narrative Text**					N
	Multiple Choice					
Item no.	3	8	13	17	23	20
Correct	13	8	10	10	9	
P	**0.65**	**0.4**	**0.5**	**0.5**	**0.45**	
Q	0.35	0.6	0.5	0.5	0.55	

Based on the table III.6, the proportion of correct answer for item number **3** shows the proportion of correct **0.7**, item number **8** shows the proportion of correct **0.4**, item number **13** shows the proportion of correct **0.5,** item number **17** show the proportion of correct **0.5**. Meanwhile, the question in number **23** shows the proportion of correct **0.45**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each item number for identify the supporting idea.

Table III.7
The ability of Students to Identify the Content of Narrative text

Variable	**To Identify the Content of Narrative Text**					N
	Multiple Choice					
Item no.	4	10	11	19	25	20
Correct	13	11	12	7	8	
P	**0.65**	**0.55**	**0.6**	**0.35**	**0.4**	
Q	**0.35**	**0.45**	**0.4**	**0.65**	**0.6**	

Based on the table III.7, the proportion of correct answer for item number **4** shows the proportion of correct **0.65**, item number **10** shows the proportion of correct **0.55**, item number **11** shows the proportion of correct **0.6**, item number **19** show the proportion of correct **0.35**. Meanwhile, the question in number **25** shows the proportion of correct **0.4**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each item number for identifying the content of narrative text are accepted.

Table III.8
The Ability of Students to Identify the Meaning of Word References or Similar Meaning of Narrative Text.

Variable	**Identify the Meaning of Word References or Similar Meaning of Narrative Text**					N
	Multiple Choice					
Item no.	5	9	15	20	22	20
Correct	9	8	9	11	10	
P	**0.45**	**0.4**	**0.45**	**0.55**	**0.5**	
Q	0.55	0.6	0.55	0.45	0.5	

Based on the table III.8, the proportion of correct answer for item number **9** shows the proportion of correct **0.45**, item number **8** shows the proportion of correct **0.4**, item number **9** shows the proportion of correct **0.45,** and the item number **11** shows the proportion of correct **0.55.** Meanwhile, the question in number **10** shows the proportion of correct **0.5**. Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each item number for identifying word reference of narrative text are accepted.

Table III.9
The Ability of Students to Identify the Generic Structure of Narrative Text

Variable	**The Ability of Students to Identify the Generic Structure of Narrative Text**					N
	Multiple Choice					
Item no.	2	6	14	18	22	20
Correct	13	11	10	7	10	
P	**0.65**	**0.55**	**0.5**	**0.35**	**0.5**	
Q	0.35	0.45	0.5	0.65	0.5	

Based on the table III.9, the proportion of correct answer for item number **2** shows the proportion of correct **0.65**, item number **6** shows the proportion of correct **0.55**, item number **14** shows the proportion of correct **0.5**, item number **18** show the proportion of correct **0.35**. Meanwhile, the question in number **22** shows the proportion of correct **0.5.** Based on the standard level of difficulty "p" <0.30 and >0.70, it is pointed out that item difficulties in average of each item number for identifying generic structure of narrative text are accepted.

2. Reliability

According to Field (2009, p. 11), reliability is whether an instrument can be interpreted consistently a cross different situation. Validity refers to whether an instrument measures what it is designed to measure; a device for measuring spem motility that actually measures spem count is not valid. The characteristic of reliability is sometimes termed consistency. Briefly, the test is reliable when an examinee's results are consistent on repeated measurement.

To obtain the reliability of the test, it must be known the Mean and Standard Deviation of test. According to Siregar (2013, P. 111), to obtain the reliability of the test given, the researcher used the K-R 21 formula as follows.

$$rii = \left\{\frac{\mathrm{k}}{k-1}\right\}\left\{1 - \frac{X(k-X)}{k.Vt}\right\}$$

Where:

rii : Reliability of the instrument

k : Total of questions

V_t : Total of variance

X : The mean score

Firstly, the researcher calculated the total of variance:

$$Vt = \sum \frac{(x1 - X)}{n - 1}$$

$X1$: total of score

$\mathbf{X}$: mean score

n : total of respondents

$$Vt = \sum \frac{(x1-X)}{n-1}$$

$$Vt = \frac{(255-10.2)}{20-1}$$

$$Vt = 11.2$$

Total of variance was 11.2, and then the researcher calculated the reliability.

$$\mathbf{r_{11}} = \left\{\frac{k}{k-1}\right\}\left\{1 - \frac{X(k-X)}{k.Vt}\right\}$$

$$\mathbf{r_{11}} = \left\{\frac{25}{25-1}\right\}\left\{1 - \frac{10.2(25-10.2)}{25(11.2)}\right\}$$

$$\mathbf{r_{11}} = (1.04)\ (0.539)$$

$$\mathbf{r_{11}} = 0.560$$

Based on the result above, the reliability value was **0.560** categorized into high category. It also can be depicted that to know whether the test was reliable or not, the value of *ri* must be compared with r product moment. The value of *ri* must be higher than r table. From the calculation

above the value of *ri* was 0.560. Then the r_t at 5% level of significance is 0.361, while r_t at 1% grade of significance is 0.463. So, it can be concluded that 0.361<0.560>0.463. In other words, the instrument was reliable because the value of $r_{11}$was higher than r_t.

G. The Technique of Analyzing Data

In analyzing the data, the researcher used scores of pre-test and post-test of the experimental and control class. The researcher used pre-test and post-test in the classroom and reading assessed based on school's reading assessment. SPSS is software that was used to analyze the data. In this research, the researcher used independent sample T-test formula which means a statistic test used to find out whether there is a significant difference or there is no significant difference between two or more variables which is analyzed by using independent sample t-test (Hartono, 2015, p. 178).

Also, to determine effect size of the result, the researcher adopted Eta squared formula. According to Pallant (2010, p. 247), the formula of eta square as presented below:

$$Eta\ Squared = \frac{t^2}{t^2 + (N-1)}$$

Additionally, Pallant (2010, p. 210) also informed that the guidelines for interpreting this value are 0.01= small effect, 0.06= medium effect, 0.14= large effect.

Then to find out whether H_a and H_o is rejected or accepted, the hypotheses are statistically formulated as follows:

$H_a = t_o >$ t-table

$H_o = t_o <$ t-table

1. H_a is accepted if $t_o >$ t-table or there is a significant effect of using Circle Story strategy on students' reading comprehension of narrative text at Senior High School PGRI Tembilahan.
2. H_o is accepted if $t_o <$ t-table or there is no significant effect of using Circle Story strategy on students' reading comprehension of narrative text at Senior High School PGRI Tembilahan