CHAPTER III

RESEARCH METHODOLOGY

3.1. Research Design

This research was conducted an experimental research design. According to Ary (2002), an experimental is a scientific investigation in which the researcher manipulates one or more independent variable, control any other relevant variable, and observes the effect of the manipulation on the dependent variable). The type used is nonequivalent control group design that consist of pre-test, treatment and post-test. It means that the writer focuses on experimental class. In this research, experimental class was taught by using Herringbone technique to students of second grade students at SMPN 4 Seberida. There are two variables in experimental research, the independent and dependent variables.

Table 3.1

Research Design

Class	Pre-test	Treatment	Post-test
Experimental	O_1	X	O_2
Control	O_1	-	O_2

Where:

E : Experimental Class

C : Control Class

O_1 : Pre-test in experimental class

O_1 : Pre-test in control class

X : Treatment

O_2 : Post-test in experimental class

O_2 : Post-test in control class

3.2. Location and Time of the Research

This research was conducted at SMPN 4 Seberida Indragiri Hulu of the second grade students, which is located on Jl. Pendidikan Dusun Sungai Bangkar, Kelurahan Pangkalan Kasai, Kecamatan Seberida, Kabupaten Indragiri Hulu. The time of this research was started on December 2017 until finish.

3.3. Population and Sample of the Research

3.3.1. Population of the Research

According to Arikunto (2013: 173), states that all of the elements which is researcher wants to investigate in research field is called population research. So, the population is all individuals that involve in that research. The population of this research was the second grade students of SMPN 4 Seberida in academic year 2016/2017. The total numbers of students were take 98 students. They were divided into 3 classes. The population of this research is assumed to have the same level of profiency and the same background because they were taught the same material in teaching and learning process.

Table 3.2

Total Population of the research

No	Class	Students
1	VIII.A	32
2	VIII.B	32
3	VIII.C	32
	Total	96

3.3.2. Sample of the research

Sugiyono (2013:62), states that sample is a part of amount and characteristic owned by population, can be concluded that representative part of a population is called a sample. Sample was a number of the population that is selected through particular procedure. The technique of selecting the sample will be selecting cluster random sampling by using lotrey. Cluster sampling randomly selects groups, not individual. But all members of selected group had similar characteristics (siregar,2013;59). In this research the writer chose the class of VIII A and VIII C as the sample of this research. Which the class of VIII A as control class and VIII C as experimental class.

Table 3.3

Sample of Research

No	Class	Students
1	VIII.A	32
2	VIII.C	32
	Total	64

3.4. Instrument of Research

According to Siregar (2013:75), states that instrument is a tool can be using to get, process, and interpretation information acquired from respondent. The writer used test as the instrument. The instrument of this research is reading test of recount text. The test item was multiple choice consists of 20 items. Most of the test items was take adopted from students' English text book and internet.

Table 3.4

The Blueprint of the Test Items

No	Topic/Material	Indicators of Recount Text	Items Number
1	Trip to Kasang Kulim Zoo	1. Orientation 2. Event 3. Re-orientation	1, 2, 3,4 5
2	Holiday in Solop Beach	1. Orientation 2. Event 3. Re-orientation	6, 7, 8,9 10
3	My short holiday in Siak Sri Indrapura	1. Orientation 2. Event 3. Re-orientation	11, 12, 13, 14 15
4	A Trip to Tesso Nillo National Park	1. Orientation 2. Event 3. Re-orientation	16, 17, 18, 19 20

3.4.1. Validity of the Instrument

Validity is an important key to effective research. If a piece of research was invalid then it is worthless. Validity is thus a requirement for both quantitative and qualitative research. Validity, then, attaches to accounts, not to data or methods (Hammersley and Atkinson 1983) cited of book by Daniel Muijs;

it is the meaning that subjects give to data and inferences drawn from the data that are important. It is rare, if nearly impossible that an instrument be 100% valid, so validity is generally measured in degrees. As a process validation involves collecting and analyzing data to asses the accuracy of an instrument. There are numerous statistical tests and measures to assess the validity of quantitative instruments, which generally involves guide testing (Using SPSS).

Table 3.5

Validity of Pre-Test

Item	$R_{counted}$	R_{table}	Decision
Q1	0,378	0,349	Valid
Q2	0,799	0,349	Valid
Q3	0,392	0,349	Valid
Q4	0,972	0,349	Valid
Q5	0,471	0,349	Valid
Q6	0,540	0,349	Valid
Q7	0,615	0,349	Valid
Q8	0,494	0,349	Valid
Q9	0,626	0,349	Valid
Q10	0,597	0,349	Valid
Q11	0,406	0,349	Valid
Q12	0,418	0,349	Valid
Q13	0,721	0,349	Valid
Q14	0,422	0,349	Valid
Q15	0,463	0,349	Valid
Q16	0,917	0,349	Valid
Q17	0,459	0,349	Valid
Q18	0,393	0,349	Valid
Q19	0,922	0,349	Valid
Q20	0,501	0,349	Valid

Based on the table 3.5, it can be seen that total items to test validity was 20 items given to the 32 students. Then, the writer found that r-table to significant

5% was 0,349. To know the items was valid if the r-counted > r-table in significant 5%. So, from table 3.5, can be concluded that r-counted > r-table, in other word r-counted < 0,349. Therefore, 20 items was valid and can be used as an instrument of this research.

Table 3.6

Validity of Post-Test

Item	$R_{counted}$	R_{table}	Decision
Q1	0,502	0,349	Valid
Q2	0,818	0,349	Valid
Q3	0,684	0,349	Valid
Q4	0,820	0,349	Valid
Q5	0,684	0,349	Valid
Q6	0,650	0,349	Valid
Q7	0,684	0,349	Valid
Q8	0,165	0,349	Valid
Q9	0,520	0,349	Valid
Q10	0,494	0,349	Valid
Q11	0,639	0,349	Valid
Q12	0,728	0,349	Valid
Q13	0,514	0,349	Valid
Q14	0,461	0,349	Valid
Q15	0,728	0,349	Valid
Q16	0,622	0,350	Valid
Q17	0,414	0,351	Valid
Q18	0,525	0,352	Valid
Q19	0,639	0,353	Valid
Q20	0,416	0,354	Valid

Based on table 3.6, can be concluded that r-counted > r-table, in other word r-counted < 0,349. Therefore, 20 items was valid and can be used as an instrument of this research.

3.4.2. Reliability of the Instrument

The purpose of reliability is to know as far as where the results of a measurement unchanged consistent, if to do with twice measurement or more about the same indication with using instrument of measures the same also (Siregar, 2013:87). The reliability of a research instrument concerns the extent to which the instrument yields the same results on repeated trials. Although unreliability is always present to a certain extent, there will generally be a good deal of consistency in the results of a quality instrument gathered at different times. The reliability will be analyzed by using SPSS version 20.

To determine whether the test was reliable or unreliable. the writer used creation by Arikunto (2006:246) as follows:

1. 0,800 – 1,000
2. 0,600 – 0,800
3. 0,400 – 0,600
4. 0,200 – 0,400
5. 0,000 – 0,200

Table 3.7. Reliability of instrument

Reliability Statistics

Cronbach's Alpha	N of Items
,731	25

Based on the Table 3.7, it can be concluded that the value of Cronbach's Alpha was 0.731, it means that the value 0.731 was higher than the minimum value Cronbach's Alpha (0.600). So, the research instrument used was reliable in category high.

3.5. Data Collection Technique

In this research, writer was collected the data by distributing the test to the students. They are pre-test and post-test. The writer gives pre-test and post-test for experimental group.

1. **Pre-Test**

Before treatment, the writer given the pre-test to the students. The writer give pre-test before Herringbone technique in teaching and learning. The purpose of pre-test is to find out the students' reading comprehension on recount text before using herringbone technique.

2. **Treatment**

After giving pre-test, the writer began the treatment using herringbone technique in teaching and learning process in the classroom. The purpose of treatment is to know the develop of the students' reading comprehension on recount text.

Table 3.8. Material of the Research

No	Meetings	Material	Group
1	Meeting I (Pre-test)	• Trip to Kasang Kulim Zoo • Holiday in Solop Beach • My short holiday in Siak Sri Indrapura • A Trip to Tesso Nillo National Park	Control and Experimental
2	Meeting II (Treatment)	• My Trip to Muara Takus Temple	Experimental
3	Meeting III (Treatment)	• Holiday in Rupat Beach	Experimental
4	Meeting IV (Treatment)	• Trip to Bukit Tiga Puluh	Experimental
5	Meeting V (Treatment)	• Holiday in 86 Waterfall	Experimental
6	Meeting VI (Post-test)	• Holiday in Tembulun Waterfall • Holiday in the Labersa Waterpark • Holiday in Ulu Kasok Tourism • Holiday in King Lake	Control and Experimental

Table 3.9. Teacher and Students Activities

Activities	Teacher Activities	Students Activities
Pre-teaching	• Greeting Assalammualaikum, good morning students, how are you today? • The teacher check the students attendance list.	• Give response to the teacher

While Teaching	• The teacher ask about the last material. • The teacher preparation of the reading material. • The teacher explain definition and purpose of recount text. • The teacher explained about generic structure, language features, and kind of recount text. • The teacher asked to the students to search important information in the text. • The teacher ask the students answer question used 5W+H question to herringbone diagram. • The teacher helps students make summary of the text.	• The students give respond to the teacher. • The students listen to the teacher while explain material. • The students attention the diagram. • The students read and write important information about the story in their notebook. • The students answer the question. • The students to give more attention to the teacher.

Post Teaching	• The teacher asks the students about the material from the beginning. • The teacher gives the conclusion of the meeting how to way good reading comprehension on recount text. • The teacher give point for the best student which can write recount text. • Greeting.	• The students tell the point about the material the students make the conclusion. • The students make the conclusion.

3. Post- Test

After finishing treatment, the writer gave a post-test to the students. The purpose of post-test is to know there is any development of the students' reading comprehension on recount text after treatment by using herringbone technique in teaching and learning process. The test consists of 20 items multiple choice.

3.6. Data Analysis Technique

The data analysis presented the statistical result followed by the discussion about the significant effect of using Herringbone technique toward students' reading comprehension of recount text at the second grade of SMPN 4 Seberida. The data were divided into two classes: experiment and control scores. In analyzing the data, the writer used the pre-test and post-test score of experimental and control group as the data of the research. The data was analyzed by using T-test (independent sample t-test). It was calculated by using software SPSS version 20.

Table 3.10. The Classification of Student's Score

No	Range of Score	Level
1	90- 100	Excellent
2	81- 89	Very Good
3	70- 80	Good
4	60- 70	Fair
5	< 59	Poor

(Huges, 1993:91)