

CHAPTER III RESEARCH METHODOLOGY

3.1 Research Method

This research used quantitative research method. Since the design of this research used Pre-Experimental Design. According to Creswell (2008:309) Pre-experimental include assignment, but not random assignment of participants to group. Pre-experimental design is used to get preliminary information on the formulation of the problem in research.

In this study, the researcher used post-test only design. This research did not had pre-test because the researcher did not want to knew the different before for both of groups . In this research, the researcher conducted 4 meetings, that is 3 meetings for treatment in experiment class, and the last week to do post-test in the experiment class and control class.

The design can be represented as follow :

E	X	O ₂
C	-	O ₂

Picture 2.
Post-test Only Design

Descriptions :

E : Experiment Class

C : Control Class

O₂ : Post-test for Experiment Class and Control Class

X : Treatment for the Experiment Class

3.2 Population, Sample, and Sampling Technique

3.2.1 Population

According to Arikunto (2010:173) population is all of the subject in the research. Population in this research is all of eleventh graders in MAN 1 North Lampung, academic year 2019-2020.

TABLE 1
THE POPULATION OF STUDENTS AT THE ELEVENTH GRADERS OF
MAN 1 NORTH LAMPUNG ACADEMIC YEAR 2019/2020

No.	Class	Total
1.	XI MIA 1	33
2.	XI MIA 2	34
3.	XI MIA 3	32
4.	XI MIA 4	32
5.	XI IIS 1	33
6.	XI IIS 2	33
7.	XI IIS 3	34
8.	XI IIS 4	32
Total		263

Source : English Teacher of MAN 1 North Lampung Academic Year 2019/2020.

Descriptions :

MIA : Mathematics and Natural Sciences

IIS : Social Sciences

3.2.2 Sample

Getting sample is very important in scientific research because the total number of population is usually too much. According to Arikunto (2010:174) if the research only take part of the population it is call sample research. For getting the influence of using PORPE (Predict, Organize, Rehearse, Practice, Evaluate)

Strategy the researcher take the sample. The sample of this research can be seen in the table as below.

TABLE 2
THE RESEARCH SAMPLE

Class	Gender		Number
	Male	Female	
XI MIA 1	21	12	33
XI MIA 3	19	13	32
Total	40	25	63

Source : English Teacher of MAN 1 North Lampung Academic Year2019/2020

Based on the table above, it is known that the population, it is taken two classes as the samples. One class as experiment class and other class as control class. The samples of this research are class XI MIA 1 as experiment class consist of 33 students, and XI MIA 3 as control class consist of 32 students, and the total sample are 63 students.

3.2.3 Sampling Technique

This research using Purposive Sampling. According to Sugiyono (2017:85) purposive sampling is technique for determining research samples with certain considerations.

Based on the opinion above the sample in this research are XI MIA 1 and XI MIA 3. The researcher chooses by certain consideration such as : both classes have the same ability in reading comprehension, both classes are taught by the teacher, and the allocation of the time is same. Therefore, it can be said that both classes have relative same condition.

3.3 Research Instrument

The instrument used in this research is objective test in the form of multiple choice. According to Sugiyono (2017:102) instrument is a tool which is used to measure the nature and social phenomenon being observed. In this research, the test is used to get the data on students' reading comprehension in the form multiple choice test. The researcher used multiple choice tests with 4 option a, b, c, d, and e to measure the students' reading comprehension.

3.3.1 Conceptual Definition of Reading Comprehension

Reading comprehension is a process of understanding reading in interaction with the information in the text. Each individual must have different abilities in reading comprehension, to comprehend the text they can recognize the words and sentences of the text.

3.3.2 Operational Definition of Reading Comprehension

Operationally, reading comprehension is the total score of the respondents' answer of reading comprehension. The objective test is a sub-set of test with multiple choice given (option A, B, C, D or E). It means only one correct answer, while the others are to be the distracters. The correct answer will be grade 1, whereas as the incorrect one will be grade 0. Total items of the instrument are 40 items. It brings consequence that the lowest score will be 0, while highest score will be 40.

The researcher adapted the assessing reading comprehension from McNamara and Nation. The aspects from McNamara are inference making as

higher level skills and vocabulary and knowledge of word meaning as lower skill. Meanwhile, the aspects from Nation is Literal Comprehension. In scoring, the researcher used Arikunto's Formula (2010: 271). The highest score is 100.

$$S = \frac{R}{N} \times 100$$

S = The score of the test

R = The right answer

N = The total of the items

3.3.3 Instrument Specification of Reading Comprehension

TABLE 3
INSTRUMENT SPECIFICATION OF READING COMPREHENSION

No	Aspects	Indicators	Item Number
1.	Literal Reading	Identify the explicit information in the text	1,2,5,6,10,12,15,16,18,20,21,26,33,34,38,39
2.	Inference-making	Identify the implicit information in the text	3,7,9,13,22,24,27,29,31,36
3.	Vocabulary and Knowledge of word meaning	Identify the synonym of certain word in the text	14,17,19,23,25,28,37
		Identify the antonym of certain word in the text	4,8,11,30,32,35,40

Source : McNamara (2007) and Nation (2009)

3.3.4 The Validity of Instrument

Arikunto (2006:168) stated a test is valid if it measures what it purpose to be measured. The validity is an important quality of any test. To measure validity test items use content validity. Content validity is designed based on reading comprehension aspects which have each indicator, the

validity is going to be consulted with the expert. Then, the expert is asked to give judgement related to the instrument. The expert is allowed to give another instrument if it is considered inappropriate. In this research, there are two experts. The experts are Mrs. Rulik Setiani, S.S., M.Pd and Mrs. Dewi Sri Kuning, S.Pd., M.Pd. Before conducting the test, the researcher will do a trial. The researcher chooses MAN 2 North Lampung because the comparison of the right ability for MAN 1 North Lampung is MAN 2 North Lampung.

In this research the instrument validity is determined by using the Point Biserial formula as follows:

$$r_{pbis} = \frac{M_p - M_t}{S_t} + \sqrt{\frac{p}{q}} \quad (\text{Arikunto, 2010: 79})$$

Description :

r_{pbis} : Coefficient of point biserial correlation

M_p : Mean, value from all subjects which answer correctly

M_t : Mean, total value (average value from the entire subject)

S_t : Deviation standard

p : Total subject is answer correctly that we look for the correlation

q : $1 - p$

The instrument is said valid if the calculation of r_{pbis} ($r_{observed}$) is greater than r_{table} product moment.

3.3.5 The Reliability of Instrument

Reliability refers to be consistency of test scores. It means consistent besides having high validity, a good test should have high reliability too.

Spearman Brown formula is used to know reliability of test is KR- 20, Arikunto (2010:230) :

$$r_{11} = \left(\frac{k}{k-1} \right) \left(\frac{V_t - \sum pq}{V_t} \right)$$

r_{11} = instrument reliability

k = the number of items in the test

v_t = total variance

p = the proportion students who give the right answer

q = the proportion of students who give the wrong answer

The instrument is said reliable if the calculation of r_{11} is greater than

r_{table} .

3.4 Data Collecting Technique

In order to get some data that are needed to support this research, the researcher applied the techniques as follows :

a. Interview

Based on interviews conducted by the researcher and teachers, the researcher conducted semi-structured interviews. Sugiyono (2017: 137) said that semi structured as a guideline for interviewing was first interviewer asking a series of questions that had been structured, then one by one deepened in getting further information. Thus the answers obtained can include all variables, with complete and in-depth information.

b. Documentation

According to Arikunto (2006:158) documentation is to find and collect data on matters in the form of notes, transcripts, books, newspaper, magazines, agenda and so on. In this research, the researcher get written data such as syllabus and lesson plan.

c. Testing

The test is distributed to measure the student's reading comprehension. The researcher would give posttest to both classes to collect the data. Test was used by the researcher in the form of multiple choice and the researcher used analytical exposition text.

3.5 Data Analysis

The technique of analyzing the data is begin by conducting normality test and homogeneity test as the pre requisite test should be done before testing the hypothesis using parametric analysis.

3.5.1 Normality Test

Normality test is used to know whether the data from the sample whis was used in the research are normality distributed or not. According to Noor (2011:174) normality test is conducted to know the data from the sample are normal or not. In testing the data, researcher used Liliefors formula which is the steps as follow :

- Determine the raw number by using the formula

$$Z_i = \frac{\bar{x}_i - x}{S} \quad (\text{Sudjana, 2005:466})$$

Descriptions :

Z_i : Standard Number

X_i : Score which are gotten

\bar{x} : Average

S : Standard Deviation

- Determine the opportunity of each standard number using the formula

$$F(Z_i) = P(Z \leq Z_i)$$

- Determine the proportion using the formula

$$S(Z_i) = \frac{\text{Numbers } z_1, z_2, z_3 \dots z_n \text{ that } \leq Z_i}{n}$$

- Calculate the absolute number using the formula

$$|F(Z_i) - S(Z_i)|$$

- Determine the largest absolute value which was called $L_{observed}$, then compared the $L_{observed}$ with L_{table} . The normal criteria was; H_0 is accepted if $L_{observed} \leq L_{table}$ (the data have normal distribution).

3.5.2 Homogeneity Test

The test is given to know the data on those two groups are homogenous or not. The researcher use F-test to know the homogeneity of the data. The formula is as follows :

$$F = \frac{(\text{The highest variance})}{(\text{The lowest variance})}$$

The criteria of this test based on Sugiyono (2017:199) was as follows:

H_0 = H_0 was accepted if F-cal was smaller than F-tab

(The variance of the data was homogenous)

$H_a = H_a$ was accepted if F-cal was bigger than F-tab

(The variance of the data was not homogenous)

The instrument was said homogenous if the calculation of $f_{calculated}$ was smaller than f_{table} .

3.5.3 Hypothesis Test

Hypothesis test have done in both of groups, namely the experiment class and the control class. In this research, the researcher will use t-test to analyze the data of this research. According to Sugiyono (2017:197), the formula of t-test was :

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Descriptions:

t = t-test

\bar{X}_1 = average of experiment class

\bar{X}_2 = average of control class

s_1^2 = variant of the experiment class

s_2^2 = variant of the control class

n_1 = total number of students in experiment class

n_2 = total number of students in control class

S_2^2 = varians of second sample

Statistically the hypothesis to be proved were as followed :

$$H_0 : \mu_1 \leq \mu_2$$

$$H_a : \mu_1 > \mu_2$$

The test criteria in the hypothesis test were as follows:

- a. If t_{observe} was smaller than t_{table} , it meant that H_0 was accepted and H_a was rejected, meaning that there was no significant influence of using PORPE strategy in teaching reading comprehension.
- b. If t_{observe} was greater than t_{table} , it meant that H_0 was rejected and H_a was accepted, meaning that there was significant influence of using PORPE strategy in teaching reading comprehension.

The hypothesis of this research that will be proved was:

H_0 : There was no Influence of Using PORPE Strategy in teaching Reading Comprehension of the Eleventh Graders of Madrasah Aliyah Negeri 1 North Lampung Academic Year 2019/2020 .

H_a : There was influence of Using PORPE Strategy in teaching Reading Comprehension of the Eleventh Graders of Madrasah Aliyah Negeri 1 North Lampung Academic Year 2019/2020.