CHAPTER III

RESEARCH METHOD

In this chapter the researcher presents some points related to this research include research design, population and sample, research instrument, validity and reliability, data collecting method and data analysis.

A. Research Design

In this research, the researcher would like to use quantitative method by applying Quasi-Experimental design. This design is applied because the researcher comparing two group. It is comparing between experimental class and control class. In experimental class the students gave pretest, treatment and posttest. In control class the students is not given treatment only as control.

The researcher conducts quasi experimental research design by using two groups pretest and posttest. For more detail about the design of quasi-experimental, see the table below:

Table 3.1 Quasi-Experimental Design

Group	Pre-test	Independent	Post-test
E	Y1	X	Y2
C	Y2	-	Y2

(Ary, et.al 2010:316)

In which,

E = experimental group

C = control group

Y1 = reading comprehension before the manipulation of treatment

X = treatment using tea party technique

Y2 = reading comprehension after the manipulation of treatment

In this design, the two groups were taught by using the same topic but with different startegy. The experimental group was taught by using KWL strategy, while the control group was taught by using lecturing strategy. Random assignment to treatment groups is not used in this design. The effect will be known after knowing the significant differences between post-test in experimental group and post-test in control group. The researcher chose this design because schedules in this school cannot be disrupted nor classes reorganized to accommodate a research study. So, the researcher cannot take randomly assignment in both classes.

B. Population, Sampling Technique and Sample

A population is defined as all members off any well-defined class of people, event, or object (Ary, 2010: 148). It means that population is all subjects of the research. The populations of this research are students of seventh grade at SMP IT Nurul Fikri. The total numbers of seventh grade students at SMP IT Nurul Fikri were 52 students and distributed into 2 class.

In this research the researcher used purposive sampling technique. Based on the information of English teacher in SMP IT Nurul Fikri and preliminary observation in SMP IT Nurul Fikri, the researcher found that VIII A and VIII B had equal

average of achievement in English in the previous examination (mid-test). The researcher took VIII A as an experimental group and VIII B as control group.

According to Ary (2010: 148) a sample is a portion of a population. It means that sample is smallest part from population. The researcher took two classes for this research. The VIII A becomes an experimental group and VIII B become a control group. In VIII A consists of 26 students, 13 male students and 13 female students and in VIII B consist of 26 students, 11 male students and 15 female students.

C. Research Variables

According to Sugiyono (2007: 3) variable is everything which is in every form which is settled by the researcher to be learnt as the purpose to get the information about these, and then get the conclusion. In this research, the researcher uses two variables, they are:

1. Independent Variable

   The independent variable is variable that influence dependent variable (Sugiyono :2007, 4). Independent variable usually symbolized by "X". In this research, independent variable is the use of KWL strategy.

2. Dependent Variable

   The dependent variable is the variable which the researcher observes and measures to determine the effect of the independent variable (Sugiyono: 2007, 4). Dependent variable usually symbolized by "Y". Dependent Variable in this research is the score of the students' reading comprehension.

D. Research Instrument

A test, in simple term, is method of measuring a person's ability, knowledge of performance in a given domain (Brown, 2001: 384). Moreover, it will be used as an instrument to gather the data in this research. The test used to measure the students' achievement in reading comprehension before and after being taught by using KWL strategy. The test consists of 20 items of multiple choice questions. It disributed for 2 classes. The first class is VIII A as an experimental group and consist of 27 students. The second class is VIII B as a control group and consist of 26 students. The time allocation are 80 minutes in each class. The topic of the test is descriptive text. There are 2 descriptive texts in the pre-test entitled "Elephant, Klara", and there are 2 descriptive texts too in post-test entitled "Rabbit, Kylee's father". Each item questions got 5 score. So, when the students answered 20 items truely, the score would be one hundred.

E. Validity and Reliability Testing

In this research, the researcher used test as instrument to collect the data. The test should be measure the students' comprehension in reading. Two very important concepts that researchers must understand when they used instruments are validity and reliability (Ary, 2010:224). It means that validity and reliability are important roles in research instrument. In this part, the researcher will explain about the two-important thing above.

1. Validity

Validity is defined as the extent to which scores on a test enable one to make meaningful and appropriate interpretations (Ary, 2010:224). It means that validity become standard that shows whether the instrument is valid or not. In this research, the researcher will use content validity, construct validity and face validity.

a. Content Validity

Content validity is prime of importance for achievement test, a test called have content validity if the content of the test can represent sample of the language skill. Creswell (2012:619) said that content validity is the extent to which the questions in the instrument and the score from these questions are representative of all the possible questions that could be asked about the content or skill. In this test the researcher ask students to answer the test to measure students' vocabulary achievement. In the term to fulfill the content validity of the test, the researcher will make the test based on the standard competences. The test specifications of pretest and posttest can be seen in the table 3.3 as follows:

Table 3.2 The Test Specifications of Pretest and Posttest

Learning objective	Types of test	No Items of Pretest and Postest
Students are able to determine the kind of the text	Multiple choice	A: 1 B: 1, 11

Students are able to determine the topic of the text	Multiple Choice	A: 2, 17 B: 3, 12
Students are able to determine the information of the text (literal comprehension)	Multiple Choice	A: 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 18, 20 B: 4, 5, 6, 7, 8, 9, 14, 15, 16, 17, 18, 19, 20
Students are able to determine the main idea	Multiple Choice	A : 3 B : 2, 13
Students are able to determine antonym and synonym of the word	Multiple Choice	A: 9, 10, 19 B: 10

b. Face Validity

According to Ary (2010:228) states face validity refers to the extent to which examinees believe the instrument is measuring what it is supposed to measure. The face validity of this research is based on experts opinion. The first is advisor who guides the researcher in the process of conducting the research. The second is an expert English lecturer of IAIN Tulungagung. The third expert is teacher who teaches English language to the students in SMP IT Nurul Fikri Tulungagung. The researcher asks her opinion about the test question is it appropriate for students or not.

c. Construct Validity

Construct validity is testing that done to measure the behavior of students. Gay (1992: 157) states that construct validity is the degree to which a test measures an intended hypothetical construct. You cannot see a construct, you can only observe its effect. In fact, constructs were "invented" to explain behavior. We cannot prove the exist; we cannot perform, however, do amazingly good job of achievement student scores, their intelligence, etc, but their ability or effect after we give the treatment. In this study the researcher use two kinds of formula in choice test is involves choose the correct answer from a, b, c, d.

2. Reliability

A test like any other type of instrument is used to measure, should give the same result every time it measure and should be practical to. A test must be reliable as a measuring instrument. Isnawati (2011:18) says that a reliable test is consistent and dependable. Reliability test instrument can be done by using Cronbach's Alpha. According to Triton in Sujianto (2009:97) the value of Cronbach's Alpha can be follow:

Table 3.3 Cronbach's Alpha Interpretation

Cronbach's Alpha	**Interpretation**
0.00-0.20	Less Reliable
0.21-0.40	Rather Reliable
0.41-0.60	Quite Reliable
0.61-0.80	Reliable
0,81-1,00	Very Reliable

The result of reliability testing by using SPSS 16.0 can be seen from the table:

Table 3.4 Reliability Checking

Correlations

		rater1	rater2
rater1	Pearson Correlation	1	.546*
	Sig. (2-tailed)		.035
	N	16	15
rater2	Pearson Correlation	.546*	1
	Sig. (2-tailed)	.035	
	N	15	15

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3.5 Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.696	2

Choyimah (2014:63) stated that perfect correlation, either positive or negative one, is respectively denoted with +1 or -1. Thus, the closer to 1, the stronger the correlation is, and the closer to 0, the weaker the correlation is. If it closer to +1, it has strong positive correlation. In contrary, if it closer to -1, it has strong negative correlation. Referring to table 3.4, it can be seen that the result

of Pearson Correlation is 0.546. From the table 3.5 above, the value of Cronbach alpha is 0.696. It means that the test is reliable. It means that the result of statistical correlation either from tryouts' score corrected by two raters indicated the strong respectively positive correlation. So, it could be concluded that the instrument was reliable.

F. Normality and Homogeneity

1. Normality Testing

Normality test is used to know whether the data is in normal distribution or not. The data is called normal distribution which in the form of bell shaped. It means that the distribution of data was symmetrical, it does not skew to left or right. In calculating the normality, researcher used SPSS 16. The technique that is used was *I sample k-s technique*. In this case, researcher will used statistic non parametric. The hypotheses of normality testing are:

a. Ho : data is in normal distribution

b. H_1 : data is not in normal distribution

The hypotheses above explained that the data is in normal distribution if Ho is accepted and the data is not in normal distribution if H_1 is accepted. The Ho is rejected when the significant value is lower than 0,05 (α= 5%) while Ho is accepted if the significant value is higher than 0,05(α= 5%). When the H_1 is rejected automatically Ho is accepted. The result can be seen in the table below:

Table 3.6 Normality Test

One-Sample Kolmogorov-Smirnov Test

		Experimental	Control
N		26	26
Normal Parameters[a]	Mean	68.46	59.4231
	Std. Deviation	9.568	10.03264
Most Extreme Differences	Absolute	.291	.246
	Positive	.196	.246
	Negative	-.291	-.176
Kolmogorov-Smirnov Z		1.485	1.256
Asymp. Sig. (2-tailed)		.024	.085

a. Test distribution is Normal.

Based on the table 3.6 above, output One Sample Kolmogrov-Smirnov Test shows that sample of every class are 26 students. The Asymp. Sig (2-tailed) in Experiment class was 0.024 and Control class was 0.085. If the probability > 0.05, it means that the data is normal. Both of them were above 0.05. This means that the distribution of data in both classes was normal.

2. Homogeneity Testing

Homogeneity test intended to show two or more group of data sample come from population having the same variance. Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. The computation of homogeneity testing using SPSS 16.0 version is Test of

Homogeneity of Variances by the value of significance 0.05. before doing homogeneity testing, the researcher decides hypothesis in this homogeneity as follow:

a. Ho: Variance of every group was homogeny

b. Hα: Variance of every group was not homogeny

The hypotheses said that the data was homogeny if Ho was accepted and the data was not in homogeny if H_1 was accepted. The Ho was rejected when the significance value was lower than 0.05 (α=5%) while Ho is accepted if the significance value is higher than 0.05 (α=5%).When the Hα was rejected, automatically Ho was accepted, conversely. The result can be seen in the table below:

Table 3.7 Test of Homogeneity

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.318	1	50	.575

Based on the result of testing homogeneity above, the significant was 0.575 on pre-test. It means that the significant of group higher than significant level 0.05. So, it can be conclude that Ho was not rejected. It means that the variance of data is homogeneous.

G. Data Collecting Method

Data has very important role in a research, because without data, it is impossible to get result of the research. To obtain the data, the research has to use instruments of collecting data. In this study the researcher uses test as data collecting method and also the instruments. The researcher administered both pre-test and post-test based on the planning as follow:

1. Pre-test

   Pre-test was given before giving treatment in experimental research study or before teaching by using KWL strategy. The pre-test had done to get the reading comprehension score of the students before doing treatment. The pre-test was conducted on March 4th, 2019 in experimental group followed by 26 students. The pre-test in class control group was conducted on March 13th, 2019 followed by 26 students.

2. Post-test

   Post-test was given after doing strategy as a treatment. The post-test was conducted on April 8th, 2019 in experimental group followed by 26 students. The post-test in class control was conducted on April 10th, 2019 followed by 26 students. The questions of post-test are similar from pre-test and consists 20 items, in the form of multiples choice items.

H. Data Analysis

In this research, the researcher used SPSS to analyze the data. According to Qomari (2009: 8) stated that SPSS (*Statistical Programs for Social Sciencies*) helps some researchers to analyze the data in their research such as descriptive statistic, correlative and comparative. To know the significant different from experimental group and control group, the researcher should compare the mean both of classes. There are 5 techniques to compare means using SPSS 16, they are: Mean, One Sample t-test, Independent Sample t-test, Paired sample t-test and One-way ANOVA (Prasetyowati, 2016:77). In this research, the researcher used Independent Sample t-test, because the researcher will compare means of two independent sample. This technique is used to find the significant difference of students' achievement both of classes. The first data is students' score taught by using KWL strategy and the second data is students' score taught by using lecturing strategy.