CHAPTER III

RESEARCH METHOD

This chapter will describe in detail the method of investigation. That is divided into several points. Those are research design, population and sample, research procedure, setting of the study, data and source of the data, research instrument, data collection technique and data analyze technique.

In this research, the reseacher uses experimental design to collect data. Otherwise, she uses quantitative to describe data. It is used to answer no. 3. It is calculate through t-test.

1. Research Design

This research will be designed through experimental design. According to Latipun that experiment is the research that is developed cause-effect; it is done by the researcher to give the treatment to the subject.[1] It is learned and observed about the effect of the instrument by the researcher. Otherwise, according to Syamsuddin and Vismaia S. Damaianti that the definition of experiment design is the predicting and controlling the event as the study is

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[1] Latipun. *Psikologi Eksperimen, second edition* (Malang: Universitas Muhammadiyah Malang, 2010), 9.

objective, systematic, and can be controlled.[2] The kind of this experiment research is needed treatment group and control group. The treatment will give three times. Both of them will be given pretest and post test.

2. **Variable of The Research**

In this research, there are 2 kinds of variables. Those are independent and dependent variable.

a. Independent variable is a program or cause that is manipulated by the researcher. It is about learning by using KWL strategy.

b. While dependent variable is the effect that is affected by independent variable. It is the result or score of the students after using KWL strategy.

3. **Population and Sample**

According to Sugiyono, Population is object / subject choosen by the researcher that has special quality and characteristics to be learned and made conclusion.[3] While the sample is the small group that is used in the research (Ibnu Hadjar, 1996). The researcher takes the population at SMPN 1 Kemlagi. The researcher uses cluster (area) random sampling as sample. There are eight

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[2] Syamsuddin AR, - Vismaia S. Damaianti, *Metode Penelitian Pendidikan Bahasa* (Bandung: Sekolah Pascasarjana Universitas Pendidikan Indonesia and PT Remaja Rosdakarya, 2009), 150.

[3] Sugiyono, *Statistika untuk penelitian* (Bandung : Alfabeta, 2010), 61.

class of grade eight, but she takes two classes for treatment and control class. They are G class for control class, it is consits of 32 students. While D class for treatment class that is consits of 32 students.

4. Research Procedure

According to Yogesh Kumar Singh, there are 9 steps of the experimental method. They may be as follows:[4]

a. Selecting and delimiting the problem.

There are two variables in this research. Those are independent and dependent variable. Independent variable is teaching trough KWL strategy, and dependent variable is the result or score of students reading comprehension (students achievement). While the hypothesis of this research as the follows:

i. the score of students who use KWL strategy is higher than students who does not use KWL strategy

ii. . the score of students who use KWL strategy is smaller than students who does not use KWL strategy

b. reviewing the literature

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[4] Yogesh Kumar Singh, *Fundamental of Research Methodology and Statistic* (Publish New Age International Publishers, 2006), 139.

c. preparing the experimental design

It is about preparing the place to do the treatment and how long to do it. The researcher does it at SMPN 1 Kemlagi, Mojokerto. In addition, the researcher needs two times meetings to do pretest and post test, not only for treatment group but also for control group. The researcher also prepares about the material, learning enforcement planning, and instrument (final test). The researcher chooses descriptive text as the material.

d. Defining the population.

The population of this research is the students of SMPN 1 Kemlagi, Mojokerto. While, the sample is students eight of SMPN 1 Kemlagi. The researcher takes class D and G.

e. carrying out the experiment

It is the activity of the experiment. That is as the follows:

i. the researcher gives pretest for both of group, the treatment group and the control group

ii. the researcher gives the treatment to the experiment class while giving lesson as usual to the control class.

iii. the researcher gives the final test to both of them (treatment and control group)

iv. the students do the test

v. the researcher collects the data

f. Measuring the outcomes.

After all of dates are collected, the researcher analyzes them by measuring the outcomes. The data is gotten from the treatment group and control group, it is from the pretest and post test

g. Analyzing and interpreting the outcomes. After measuring the outcomes, the researcher should analyze and interpret the outcomes. It will be calculated statistic analyzing.

h. Drawing up the conclusion. The conclusion is about the result of the outcomes.

i. Reporting the result. The researcher writes or reports all of the result of the research.

5. Setting of The Study

The researcher does the research in SMPN 1 Kemlagi, Mojokerto. It is done for students eight year and in the classroom.

6. Data and Source of The Data

a. There are 2 kinds of dates. Those are at the following:

    i. Qualitative Dates that is learning enforcement planning

    ii. Quantitative Dates

      a) pretest and post test score of treatment group

      b) pretest and post test score of control group

  b. Source of the Data

Source of the data is the place where the researcher gets the dates that is needed by the researcher. She takes single source of the data. That is called primary data. It is source of the data that related to the object of the research. It is gotten from score pretest and posttest of the treatment and control group.

7. Data Collection Technique

It is a instrument that is used to measure ability and students achievement.[5] The research instrument is pretest and post test. It is used for the treatment and control group.

8. Research Instrument

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[5] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek* (Jakarta: Rineka Cipta, 2010), 266.

The instrument will be done by the researcher to hold all of the dates that are needed for analyze. The research instruments that are used in this research are:

And the researcher used the instruments to get the dates:

a. Pre test

The test is very needed by the researcher to make some conclusion. It is done between the treatment and the control group. The control group's test is as similar as the treatment group's test.

b. Post test

This is the last step that is used to know how the effect of KWL strategy for the students and the class. The control group is also given the post test, but the treatment group has the treatment that is KWL strategy before doing the post test.

9. **Data Analysis Technique**

Data analysis is the effort that is done the researcher to analyze all of the dates that are gotten accurately and correctly. The researcher uses the formula as follows:[6]

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[6] Suharsimi Arikunto, *Prosedur Penelitian... 349*

1. To analyze the significance difference between the result of pretest and posttest.

$$= \frac{\overline{}}{\sqrt{\dfrac{\sum x}{(- 1)}}}$$

Where:

t : the t-ratio

Md : mean from the different pretest and posttest

xd : the deviation of each subject (d-Md)

$\sum x^2 d$: the sum deviation square

N : subject of the sample

$Md = \dfrac{\Sigma}{}$

The formula to calculate of the final test score of experiment group:

SD(treatment group) : $\sqrt{\Sigma d^2}$

SD(control group) : $\sqrt{\Sigma d^2}$

2. The last formula t-test, the writer uses to analyze the significance difference score both group

$$t = \frac{}{}$$

where:

Mx: mean score of experimental group

My: mean score of control group

$$s = \sqrt{\frac{\Sigma x^2 + \Sigma y^2}{ + - 2}\left(\frac{1}{} + \frac{1}{}\right)}$$