**CHAPTER III**

**RESEARCH METHOD**

This chapter presents the research method. It focuses the method used in conducting this study. The decision covers research design, population, sample and sampling, variable, data and data source, data collecting method and instruments and technique of data analysis.

1. **Research Design**

There are two kinds of approaches in research; qualitative and quantitative. In a qualitative approach the researchers will work with information in analyzing the data and does not use statistical data analysis. In a quantitative approach researchers will work with objective measurement and statistical analysis of numeric data to understand and explain phenomena.

The approach in this research is quantitative research. Quantitative research may be further classified as either experimental or non-experimental. Experimental research involves a study of the effect of the systematic manipulation of one variable(s) on another variable.(Ary,2006:28).Experimental research can be done in the laboratory, in the class and in the field. In this study the experimental research will be done in the class with taking students as population. According to Hoyle,Harris,and Judd(2002,p,237)there are three types of experimental design: Preexperimental design, Randomized Experimental Design and Quasi Experimental design.

This study will be conducted in a Preexperimental Design with Two Group Pre Test-Post Test Design. Classified as Preexperimental Design because they provide little or no control of extraneous variable (Ary, 2006: 327). In the Two Group Pre Test-Post Test Design, which uses two groups, one group is given the treatment and the results are gathered at the end. The control group receives no treatment, over the same period of time, but undergoes exactly the same tests. One common example of this is in medicine; experimental group is given a medicine, whereas the control group is given none, and this allows the researchers to determine if the drug really works.

Table 3.1Diagram of Two Group Pre Test-Post Test Design

|  |  |  |  |
| --- | --- | --- | --- |
| **Group** | **Pretest** | **Independent variable** | **Posttest** |
| *Experimental* | *T1e* | *X* | *T2e* |
| *Control* | *T1c* | *\_* | *T2c* |

*X*=Treatment

*T1e*=Pre-test for experimental group

*T1c*=Pre-test for control group

*T2e*=Post-test for experimental group

*T2c*=Post-test for control group

The procedures of experimental research that use Two Group Pre Test-Post Test Design:

1. Administering a pretest with a purpose of measuring achievement of control group and experimental group of seventh grade students at MTS Ma’arif NU
2. Applying the treatment by teaching vocabulary using TGT method as a method to the subjects to experimental group of seventh grade students at MTS Ma’arif NU
3. Administering a posttest with a purpose of measuring achievement of control group and experiment group of seventh grade students at MTS Ma’arif NU

In this study the writer use an experimental research with quantitative approach. In line with the objective of experimental research, this study will provide the effectiveness of using TGT method in teaching vocabulary to the students' achievement. The effectiveness will be known after knowing the significant differences between the students who are taught without using TGT method and students who are taught with using TGT method.

1. **Population Sample, and Sampling**

**1. Population**

Population is the group to which the researcher would like to generalize the results of the study; it includes all individuals with certain specified characteristics stated by (Fraenkel 1996:92)

The population in this research is all of seventh grades students of MTS Ma’arif NU in academic year 2011-2012.The total numbers of the first year student of it are 55 students which are divided into three classes. They are A class:18,B class:19,and C class:18.

**2. Sample**

“A Sample is any part of a population on which information is obtained. (Fraenkel 1996:111)By studying the sample, the researcher hopes to draw valid conclusions about the larger group. In this research, the researcher takes A class as experimental group and B class as control group. There are 37 as respondents in this research. The reasons why the researcher choose the class because:

* 1. The two classes nearly have some degree and ability on vocabulary.
  2. The two classes nearly have same characteristic like the same teacher, time, media, and average of their vocabulary’s score.

1. **Sampling**

Sampling is the process of selecting a number of individuals for a study in such as that the individuals represent the larger group from which they were selected.(Gay:1992).In this study, the writer uses Proportional Stratified Random Sampling because the population nearly have the homogeneous members.

1. **Variable, Data and Data Source**
2. **Variable**

Variable is condition that we investigate. Variable involved into two type, they are independent variable and dependent variable (Christopher Butler, 1985:11)

1. Independent variable (X) is variable influencing other variable. One independent variable must be the treatment variable. In this study the teaching vocabulary by using TGT method is independent variable.
2. Dependent variable (Y) is variable influenced by other variable. In this study, the dependent variable is students’ achievement in vocabulary.
3. **Data**

According to Jack R. Fraenkel, data is the kinds of information researchers obtain on the subjects of their research. (Fraenkel 1996:115).The data of this study was the students’ score from pretest and posttest of the first year students of Mts Maa’rif Karangan.

1. **Data Source**

The data resources are very significant in the research, the research will not able to get information without sources of data. According to Arikunto, there are three sources of data, namely person, place and paper (Arikunto 2006:129)

1. Person is a man who gives data or information orally. It can be done by giving questions for the subject. The resource of data (person) in this research is the students.
2. Place is resources of data that deals with place or moving something. Place can be a room. The location of research or the material, moving something can be a teaching learning process, activity of person and soon. The writer observes this place in collecting the data about geographical location of research (MTS Ma’arif NU), the conditions of the school. The conditions on the structure and infrastructure.
3. Paper is resources of data that deals with the symbol, book, or number. The paper of the research is history book of MTS Ma’arif NU. The document about structure and infrastructure the map of MTS Ma’arif NU. The total number of students and teachers year 2011/2012.
4. **Technique of Collecting Data**

The important thing in conducting a research is collecting the data because the data contains the necessary information in learning the research problem. Collecting data is not an easy work. If the data is wrong the result of the research will not be valid. To avoid this, a good data collection method should be applied.

Data of this study is collected by administering test. Test in simple terms, a tool of measuring a person’s ability, knowledge, or performance (Arikunto: 2006:150) Writer uses two kinds of tests those are Pre-test and post-test.

In this research, the writer used test by gave Pre test and Post test to know the students’ vocabulary achievement. The test is given before and after doing an experimental research study to experimental and control group.

The procedures were:

*Firstly*. The researcher came to the classroom to observe the students activities and ask the teacher how method in teaching vocabulary.

*Secondly*. The research typically involves two groups are experimental and control group.The experimental group (class VII-A) typically receives of Team Game Tournament (TGT) as method,while control group (class VII-B) receive the different method or was treated as usual.

*Thirdly*.The different treatment was conducted in both group,experimental and control group.There are experimental group using Team Game Tournament (TGT) as method and control group without using Team Game Tournament (TGT) as method.The duration of time,schedule,topic,and quantity of teaching for each class was same.

*And the last*.After the group have been exposed to the treatment for some period of time, the administer test of dependent variable, classification, analyzing the data and then determiners whether the treatment made the difference.

1. **Instrument**

According to Arikunto 2006:126, instrument is a tool used by the researcher when he / she use the methods.The instrument in this study is test. According to Subagiyo (2007) actually there are two kinds of instrument, those are: Test instrument is to measure students’ vocabulary achievement and Non Test instrument used to measure attitude.

In this study the writer uses test as instrument, therefore, the writer applied pre-test and post-test test. Before the research begun, the writer prepared the material used for teaching learning process. The writer also prepared the instrument employed to test the student’s vocabulary before and after treatment.

The material used for the teaching and learning process during the period of the experiment was taken from some source for example English On Sky 1 for junior high school students and Buku Kerja Siswa for SMP 1.Especially English On Sky 1 for junior high school students, this book was developed by Mukarto Msc and Suyanto B.S S.Pd.The editor were Dwi Wahyu Priyanto. The book was printed by PT Gelora Aksara Pratama and published by Erlangga; Jakarta on 2004.The number of ISBN is 979-741-217.

There are two types of test administered in this study pre test and post test

1. Pre Test

Pre-test was given before doing an experimental research study or before teaching by using TGT method at April, 27th 2012, in this pre test students given task to fill in the blank of the text, find new word and matching the sentences .The materials were taken from some books for first grade of junior high school, ”Buku Kerja Siswa”for SMP 1.Pre test was given to control group and experiment group.

1. Treatment

After pre test, the researcher teaches by using TGT method to experiment group. In this research, the student divided into six groups heterogeneously. Each team competes to be a winner. This treatment is given for 6 meeting. Every meeting, there is an evaluation about English vocabulary they learned to.

1. Post Test

Post test which was given after doing the experimental research study or after teaching by using TGT method at May, 21th 2012.Post test was given to control group and experiment group. In this post test the students given task to fill in the blank of the text, find new word and matching the sentences and the material were taken from some sources for the first grade of junior high school students; they are “English On Sky 1 for junior high school students and Buku Kerja Siswa for SMP 1.

1. **Place and Time of Research**

In this study, the research took place in MTS Ma’arif NU Karangan located in Karangan Trenggalek(66361)and the researcher was conducted on April 27th up May 21th 2012.

1. **Technique of Data Analysis**

Data analysis is a process of classifying data. In this research, the writer uses a quantitative data analysis technique. The quantitative data of this research is analyzed by using statistical method. This technique is used to find the significant difference on the students’ vocabulary achievement taught by using TGT method. The writer used a test to collect the data. After collecting data, they were processed with the following procedure:

Coding.

Each answer sheet is coded by giving code such as 1, 2, 3…..and so on in order to keep the students privacy.

* 1. Scoring

In this step, the writer gives the score for the students’ work based on the correct answer that the students make by using the following formula:

SCORE= X 100

The writer considered interval or category as follow:

Data interpretation:

Table.3.2 The interpretation of scoring

|  |  |  |  |
| --- | --- | --- | --- |
| No | Rating | Interval | Data interpretation |
| 1 | 6 | 91 up to 100 | Excellent |
| 2 | 5 | 81 up to 90 | Very good |
| 3 | 4 | 71 up to 80 | Good |
| 4 | 3 | 61 up to 70 | Enough |
| 5 | 2 | 51 up to 60 | Poor |
| 6 | 1 | <40 | Very Poor |

* 1. Tabulating

After scoring the students’ works, the data will be classified on the table.

* 1. Analyzing

In the last procedures, the writer used T-test by using statistical program to ensure the effectiveness and to get stronger conclusions without taught and taught by using Team Game Tournament (TGT) method in teaching vocabulary process.

1. Find the mean of students score is:

Mx=

Mx=Mean of score in experimental group

∑x=Total of score in experimental group

Nx=Total of subject in experimental group

1. Find the T-test formula,the formula is;

t=

t:The different mean between experimental group and control group

Mx:Score of experimental group

My: Score of control group

∑X²: The sum deviation of experimental group score

∑Y²: The sum deviation of control group score

Nx:The total subject of experimental group

Ny:The total subject of control group

1. Find the degree of freedom(Df)

Df= (Nx+Ny-2)

Significance level 5%

According to Arikunto (2006:76)”As usual the research on education science use 0,05 (5%) significance level. The significance of 5% means that the result of t-test formula is 95% believed and 5% is not. When the t-test is bigger than the t-table, It means that null hypothesis is rejected.

1. **Hypothesis Testing**

The hypothesis of this study was as follow:

* 1. If T-Test score is bigger than T-table, the alternative hypothesis (Ha) is accepted. It means that there is different score to the seventh grades taught with using TGT method and without using TGT method. The difference is significance.
  2. If T-Test score is bigger than T-table, the Null Hypothesis (Ho) is rejected. It means that there is no different score to the seventh grades taught with using TGT method and without using TGT method. The difference is not significance