**CHAPTER III**

 **RESEARCH METHOD**

1. **Research Design**

Research design is “The scientific method to collect data with effort and particular usefulness” (Sugiyono 2007: 3). It is defined that a research is a program made by the researcher to collect the data by using rational empiric and systematic so in the next future it can be used to comprehend and solve educational problem. Design is “preparation or plan or sketch of......” (Manser, 1991: 113). So research design is plane to find out new fact to get truth which uses a scientific method.

The type of the research is experimental design. In the experimental design there are two variable. Vocabulary mastery is dependent variable and English song and reading text is independent variable. For the simplest experiment, two groups or subjects are required: the experimental group and the control group. The original definition designated the experimental group as the one receiving a specific treatment while the control group received no treatments in a pharmaceutical experiment. The experimental group receives the drug while the control group receives no treatment or a placebo. The use of the control group enables the researcher to discount many alternate explanations to the effect of treatment.

 Detail description of the various types of experimental design follow the discussion of the general criteria. The type of experimental criteria is pre experimental design because they provide little or no control of extraneous variables. Unfortunately one fined that this design are still being used in educational research. It will be helpful to begin our discussion with these poor designs because they illustrate quite well the way that extraneous variables may operate to jeopardize the internal validity of the design and it is the internal validity.

Internal validity is “essentially the problem control” (Ary Donald, 1985: 261) it is defined that these variables must be controlled or else they might very well procedure and effect that could be mistaken for the effect of the experimental treatment. Here use pretesting to try out. Exposure to the pre test may effect to subjects performance on second test regardless of the experimental treatments.

This research is a comparative study. In this thesis, the writer intends to compare the vocabulary ability of the fourth year students of SDN II Purworejo especially guided vocabulary taught using English song and using reading text. The design of the research is quantitative research, which is concerned with hypothesis, formulation, testing and analysis of the relationship between two variables. Both of variables are selected and observed. They are shown into the number of data.

In this research the researcher uses quantitative research because the researcher wants to know which media has better result to the students’ achievement by using English song and reading text in student’s achievement vocabulary mastery and it is also done to know which media has better result. Then, the researcher gives test to the students as instruments to collect data.

1. **Variable of the Research**

There were two variables of the study

1. Dependent Variable

Dependent variable is observed to determine what effect, it any the types of variable many have on it. In other word dependent variable will act if there is any relationship. The dependent variable in this research is students’ English vocabulary mastery.

1. Independent Variable

Independent variable is an antecedent of independent variable. It selected by the research to the effect on or relationship with dependent variable. The independent variable in this research is English song and reading text.

1. **Population and Sample or Subjects**

“Population is number of people who are living in a particular country or city”. (Manser, 1995: 321). It is defines that each groups or object that contains something or people used as variable of research.

*Populasi penelitian merupakan keseluruhan (universum) dari obyek penelitian yang dapat berupa manusia, hewan, tumbuhan, udara, gejala, nilai, sikap hidup dan sebagainya, sehingga obyek ini dapat menjadi sumber data penelitian.”* (Bungin, TT: 99)

From the statement above, it can be said that that population is the whole of elements the object of research, such as: human, animals, atmosphere, symptom, values, attitude and etc, so the object can be sources as the research of data.The writer takes the population in the fourth year students of SDN II Purworejo in the academic year of 2010/2011. It is necessary to get the real data.

In a research, to use the sample it is better to do especially if the member of population is very big. Sample basically has important sectors in the research because one of determining factor is the member of sample.

Since the population is very big, it is needed to take the sample. Samples refer to subgroup. The sample therefore, is representative of the general population. As Arikunto says that a sample is a part of representative population on the research. A sample is a group of units selected from a large group (population).”An effort to minimize the errors sampling the effort is simplified measure mat of sample. So the consequences, time, power, and expense all of will increase” (Anggoro (2008: 22). In this research those population are 172 students of elementary school SDN Purworejo II Ngunut Tulungagung in academic year 2010/ 2011. The researcher uses sampling purposive technique so she takes 23 students as sample in this research.

1. **Data Collecting Method and Instrument**

The data are collected from the score after teaching learning using English song and using reading text. From those students, the writer takes the students’ worksheet. At first, the students do test. It is directed to find out the students’ at achievement after being taught using English song. Then, the second test is got after they are taught by using reading text. It is directed to know the students’ vocabulary using English song and that of using reading text.

The data collecting method and the instrument are needed to obtain the data in this research. The reason of data collecting in conducting scientific research is to get the material needed. The material must be related each other to the problem which is solved. There are some methods of collecting data, namely one group *pretest* and *posttest* design. The one group design usually involves three steps: (1) administering *pretest* measuring the dependent variable (2) applying the experimental treatment *X* to the subject and (3) administering a *posttest* again measuring the dependent variable. Differences attributed the application of the experimental treatment are then determined by comparing the *pretest* and *postest* scores.

Design One Group *Pretest-Posttest* Design

|  |  |  |
| --- | --- | --- |
| ***Pretest*** | ***Dependent Variables*** | ***Postest*** |
| ***Y1*** | ***X*** | ***Y2*** |

To illustrate the use of this design, let’s us assume an elementary teacher wants to evaluate the effectiveness of a new technique for teaching the fourth grade social studies. At the beginning of the school year the students are given standardized test that appear to be a good measure of the achievement of the objectives of the fourth grade. The teacher then introduces the new teaching technique. And at the end of the year administers the standardized test a second time and compare score from the first and second administrations of the test in order to determine what the difference the exposure to the new teaching method *X* has made.

Since the design involves only one group and one teacher, it would seem to control inter subject differences and situational variables. The control is only superficial.

In this method, the researcher will look for supporting data from this school to prove truth research using some activities. For example: *pretest*, and *posttest*. In this research, the writer uses it to get the data from SDN II Purworejo. They are one group *pretest* and *posttest* design.

Anggoro further mentions that “Suatu alat yang digunakan untuk mengumpulkan data dan informasi yang di inginkan. “Instrument is something used to collect data and information. By using instrument the researcher can do his/ her activity to ask and observe the variable. According to Arikunto, “*Instrumen adalah alat yang digunakan dalam mengumpulkan data itu*.” From the statement above, it can be concluded an instrument is a medium or tool in which could be used to collect the data or information that the writer supposes to use is the suitable one the aim of the research.

The major limitation of the one group design is that since the control group is used, the experimenter cannot assume that the change between the *pretest* and *posttest* is brought about by the experimental treatment. There is always the possibility that some extraneous variables account for all or part of the change. Thus this design is lacking in interval validity.

Some methods which can be used to collect the data like the instrument above. The other important thing to consider in collecting data is the data source. In conducting a research, the researcher has to find reliable data source.

It is known that, research design is tools or facilities used by the researcher to collect of the data in order to conduct work more easily and the result is better, in the sense, it is more accurate, complete and systematic so it will make easier to conduct the process. (Arikunto, 2006:150)

The instrument for collecting data in this research which is used by the writer is test items.

1. **Test**

Test is the series of questions or exercise or other tools is used to measure the skill, science, intelligence, ability or the material of individual or groups. (Arikunto, 2006: 138). By using test the teacher and the researches know how students’ understand about the material. Test is important to use to know the students’ mastery vocabulary taught using English song and using reading text. In this stage, there is one kind of test. The test is given to the students in the fourth year class at SDN Purworejo about the material in the second semester. The English song materials are taken from song for toddlers’ cassette and the reading text materials are taken from Elementary stories for Reproduction step by step to speak English both of them, to measure how the students achievement with English vocabulary.

The kind of test are use is pretest and post test. Between pretest and posttest the students are growing mentally and physically and they may have learning experiences that could affect the dependent variable. Te test items for pretest consist of 50 multiple choices. The students must choose the correct answer to know the standard of students ability. This test is given to students before the teacher teaches them by using English song and by using reading text. Then, the researcher gives the second test namely the posttest.

The post test is gives to the students after the teacher teaches them by using English song and reading text. This test is done to know which one media is the better result to teaching students English vocabulary. The test items for posttest consist of multiple choices. For the English song and for reading text the writer gives 50 questions, they are asked choose the correct answer about vocabulary meaning. In this test the writer asks the students to circle the correct meaning. The writer uses this kind of test because it helps see the full meaning of words by providing natural contexts and it can help students to add how many vocabularies they understand.

1. **Data Analysis**

After collecting data, the writer will analyze the collected data. In this case the method uses here statistical analysis as stated by (Hasan, 2004: 29),”Data analysis is compare two matter or two variable values to know difference then take its conclusion.

Analysis quantitative is “*Sebuah analisis data yang dilakukan dengan menggunakan bantuan statistik baik yang deskriptif maupun yang inferensial tergantung tujuannya.*” (Anggoro, 2008: 6.12). So it is known that an analysis uses quantitative characteristic’ instrument, it is better to use the models such as mathematical model, statistical model and econometrical model to gather, organize, analyze, and interpret numeral data and it is the basic phases of the research. The analysis result is presented with numeral and then explained descriptively. It is important tool and of model understanding of statistical terminology, methodology and logic are important for the consumer of research

The data obtained are raw score of the students’ vocabulary mastery. The data are analyzed using statistical method with SPSS 16.0. In analyzing the data, the writer uses independent-sample t-test formula because it is done to compare between teaching using English song and using reading text and the sample is small (< 30 sample). By considering the assumption standard deviation both of group is not the same (Ø₁≠Ø2).

 The result will be consulted with the t-table of significance level 5%. It means the writer’s calculation has mistake 5%. It is based on the appropriate member of degree of freedom.

In test: the t-score which the writer wants to find out must be based on this formula.

(*X*1-*X*2) : the mean of the experimental group using English song

(µ1-µ2) : the mean of controlled group using reading text

S1 dan S2 : standard deviation of the sample

Formula :

$$t=\frac{\left(X₁-X₂\right)-(µ₁-µ₂)}{\frac{\sqrt{(n^{1}-1)S1²+\left(n2-1\right)S2²}}{n1+n2-2}}\frac{1}{\sqrt{(\frac{1}{n1}+\frac{1}{n1})}}$$

 (Trihendradi, 2005: 37)

1. If t- score > t- table and the degree of the significance of 0.05 (5%) it means that there is significance so, Ho is rejected while Ha is accepted.
2. If t- score t- table, and the degree of significance of 0.05 (5%), it means the different is not significance. So Ho or Null hypothesis is accepted and Ha or alternative hypothesis is rejected.