

## Chapter Three

### Research Methodology

Syamsuddin and Damaianti (2011) stated that research methodology is used to solving the research problems, the aim of research methodology is obtaining the fact and conclusions. There are various types of research method including quantitative and qualitative research. Quantitative method is used to test a theory that shows the relationship between variables, and also developing the concept.

Sugiyono (2014) states that there is treatment in doing an experimental research, so that is why experimental research can be interpreted as a method that used to find the effect of treatment. This chapter provides information about the methodology of the research that the researcher applies in this study. The chapter contains design, population and sample, instrument of the research, method of data collection and data analysis.

#### Research Design

The research design used in this study is pre-experimental design in the form of one-group pre-test and post-test. Sugiyono (2014) states that by using one group pretest and posttest design, the researcher get an accurate result because the pre-experimental design only compares the condition before and after being treated, this design can be described as follows :

$$\boxed{O_1 \quad X \quad O_2}$$

*Figure 2. Formula of pre-experimental Design*

O<sub>1</sub> = Pretest      X      = Treatment      O<sub>2</sub>' = Posttest

As following the formula above, the researcher gives the students pretest to measure the dependent variable, and then the researcher gives treatment by using ratatouille movie. After that, the researcher makes the final result by giving posttest to find out the effectiveness of using ratatouille movie in learning vocabulary mastery at Junior High School.

### **Population and Sample**

*Population.* Sugiyono (2013) states that population is the total of the members of the research subject. In addition, population mentions that population is the entire aggregation of items from which samples can be drawn; "it is an estimate of the mean of the Population. In this case, the population is the entire of the first-grade students of Junior High School in Yogyakarta. The number of population is 256 students which divide into 8 classes from each grade.

*Sample.* Sugiyono (2013) states that sample is a part of the population. The researcher only takes one class, they are the language class of first grade of Junior High School in Yogyakarta. A number of a student in one class is 32 and the researcher uses them all as an experiment, because of the recommendation from a supervisor and the English teacher at that school. The time to doing that experiment is quite simple and short, so it will be easier to the researcher focus to do pre-experiment.

## **Data Collection Method**

Sugiyono (2012) stated that data collection prosed is the important thing in an experimental research because the aim of experimental is to get the data. Without knowing the technique of collecting the data, the researcher will not be able to collect the data.

The data are something that the researcher needs to analyze, therefore the researcher needs the data collection to accomplish the experiment. Data collection that researcher used in this experiment is a test. The test has divided into pretest and posttest. Treatment that the researcher will provide is to obtain a better result in the posttest. The aim test is to get the data from *pre-test* and *post-test* in learning vocabulary,

***Pre-test.*** The exercise consists of 40 items, 20 items multiple choice and 20 item matching the world with the meaning that are related to the movie. The questions are made same as the students usually do in learning vocabulary. It is because the researcher wants to know how the way they learn vocabulary before a new method uses. The aim of this pre-test is to measure that the students have known about learning vocabulary, and also the way they used it for before the treatments using The Ratatouille Movie. The researcher has already consulted with an English teacher and making lesson plan based on syllabus and also asking about the materials that usually use in learning vocabulary, so the researcher takes the questions from the other resources based on the recommendation of the English teacher.

**Treatments.** The next steps after doing the pre-test are treatment. It gives after pre-test, the researcher did some treatment about how easier to remember vocabulary by using Rattatouille movie and also the use of it based on the movie. The researcher already cut the movie into 5 plots for the student, so it would be easier for students to learn. Plot is the storyline of a text. What is plot? Plot is the part of movie that brings the storyline.

Typically, the researcher develops a plot in such a way to pique the reader's interest. That said, the storyline is not usually resolved until the near end of the text. The researcher gives some highlight of every plot in ratatouille movie to measure that the student understands the meaning and the how that vocabulary use. It takes one to three meetings to deliver the treatments.

First meeting, the researcher gave students 30 minutes to watch the first plot in ratatouille movie, the researcher showing the highlight of vocabulary that has already exist on that plot, so that the students can identify the word by watching ratatouille movie, after watching the first plot of ratatouille movie the researcher asked the students about the 8 word that exist on the first plot that the researcher give during they watch a movie, and also the researcher show to the students which minutes that the word appeared. The researcher teach the students vocabulary by matching the vocabulary, is the vocabulary exist on the first plot or not.

Second meeting, the researcher continued to play the Ratatouille movie and give the students highlight of vocabulary than the students watching movie around 70 minutes which is the plot that the researcher use is plot number two and three, so the

student has a highlight of plot number two and three are around 16 vocabularies then use it to identify is that word exists in the movie or not.

The last meeting of the treatment, the researcher continuing the last part of the ratatouille movie, that was plot number four and five. Then the students identified 16 word from plot four and five that exist on the last part of The Ratatouille Movie. At the end of treatment, the researcher evaluated student by asking them the meaning of all 40 vocabularies in the highlight and also when that words come out on ratatouille movie that would be easier to remember vocabularies.

**Post-test.** After pre-test and treatments conducted the researcher did the post-test. The aim is to measure the students' achievement and to compare the result between pre- and post-test that would be processed into data. The tests consist of 40 items that are similar to the pre-test. The question takes from the Ratatouille movie. The types of question are also in the form of multiple choices so that the student can answer the questions based on what they have learned from ratatouille movie. The researcher also has a key answer to make sure that the answer is correct or incorrect. In order to get the valid data, the researchers conducted: 1) Face validity: a try out was valid in term of face validity because with superficial inspection of the test format.

**Research Instrument.** Sugiyono (2013) states that instrument is a tool to gather the research variable.in the other side, Instrument is the generic term that researchers use for a measurement device (survey, test, questionnaire, etc.). To help distinguish between instrument and instrumentation, consider that the instrument is

the device and instrumentation is the course of action (the process of developing, testing, and using the device). For the instrument the researcher use test. There are several steps before the researcher use test:

**Lesson Plan.** Before the researcher doing some test, the researcher prepared a lesson plan, the lesson plan is A lesson plan is a detailed step-by-step guide that outlines the teacher's objectives for what the students will accomplish during the course of the lesson and how they will learn it. Creating a lesson plan involves setting goals, developing activities, and determining the materials that you will use. The teacher will give the result of the researcher's lesson plan, the purpose is to know how far the researcher can make some lesson plan correctly, and also the lesson plan should relate to the syllabus.

**Test.** This test was an English test for the seven grade of Junior High School in Yogyakarta. The validity of the test is important, a test has good validity if most of the teste will be motivated to try harder and do the test as the result the test seems to be effective. Content validity is a kind of validity which depends on careful analysis of the language being tested and particular test. Trying out the test of this study had content validity because the items taken were from the seven grade students.

**Reliability:** Sumarna (2004) states that reliability is a necessary characteristic of any good test for it to be valid at all and a test must be reliable as measuring instruments. Lydiya (2013) used Cornbach Alpha using statistics program to estimate the reliability of the test. The result from reliability test was 0.74 which categorized to

'highly reliable'. Since the reliability test was done by Lydiya (2013), the researcher decided not to test the reliability as well.

## **Data Analysis**

Sugiyono (2009) state that data analysis is used to answer the research question or hypothesis. They are several formula in analysis data that the researcher used :

***Descriptive statistics.*** This technique is used to describe the basic feature of the data in a study. They provide simple summaries about the sample and the measures. According to Siregar (2013), the descriptive statistic is quite simple, you can describe by using a graphic, table, diagram, pictogram mean, median, and modus. The researcher use the mean to analyze the data and to answer the research question number one and two.

$$\text{Means} = \frac{\text{The total Score of posttest} - \text{Total score of pretest}}{\text{Total number of student}}$$

*Figure 3. The Formula of Means*

***Inferential statistics.*** The researcher trying to get a conclusion before and after the student watch animation movie as media in learning vocabulary. Arikunto (2006) state that quantitative data analyzing is also called statistical analysis. Usually, the data classified into numerical form. In the pre-experimental research by using pretest and post-test one group designs, the data are analyzed by *Paired Sample T-test*. . Paired samples t-test is used to test the means of two variables in the same group. The variables are pre-test and post-test. In other words, the test is used to see

whether the means of pre-test and post-test has significant difference. The researcher looks at the result of paired sample t-test by t-value and significance value. T-value should be higher than t-table, and the significance should be less than significance level ( $p < 0.05$ ). Then, hypothesis is accepted. These results indicate that there is a difference between experimental and control group.