

## **Chapter Three**

### **Methodology of the Research**

In this chapter, I explained about methodology of the research which consists of research design, population and sample, instrument of the research, technique of collecting data, technique of analyzing data. To see the details, I explained more.

#### **Research Design**

One of the important things in doing a research accurately and objectively was research design. Research design was arranged to explore the validity of the research result, which can give a guarantee about the scientific of a research. According to Ali (1984) research design, as base of research was the whole thinking process and planning for doing something in order to get the target effectively.

In this research, the design used was experimental research which used the randomized pretest-posttest control group design. It involved two groups, both of which were formed by random assignment. There was one group received the experimental treatment while the other did not, and then both groups were post tested on the dependent variable (Fraenkel, 2008). So the design was called true experiment. That was aimed to examine the cause and result after treatment had been done towards experiment group and control group then compare the result between those groups.

Fraenkel (2008) formulates the diagram of this design as follows:

Table 3.1 design of experimental research

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Treatment group	: R	X	O
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Control group	: R	C	O
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Notes:

R of treatment group : random assignment; respondents of experimental group

R of control group : random assignment; respondents of control group

X : treatment

C : control group / without treatment

O : post test

The experimental research was applied to the tenth grade students of *SMK Wisudha Karya Kudus* in academic year 2015/2016 to explore the result of the writing ability of descriptive text taught by using clustering and using guiding question. I gave the experimental group a treatment by using clustering, while the control group was not given treatment. After giving the treatment to the respondents, the last stage was giving them post test.

There were two variables; independent variable that was condition influencing the appearance of an indication and dependent variable that was implementation of an experiment. The independent variable which was called X variable was the use of clustering to the tenth grade students of *SMK Wisudha*

*Karya Kudus* in academic year 2015/2016. Meanwhile Y variable was the writing ability of descriptive text.

### **Population and Sample**

A sample is a subset of a population. Typically, the population is very large, making a census or a complete enumeration of all the values in the population impractical or impossible. Samples are expected to be selected in such a way as to avoid presenting a biased view of the population.

**Population.** Arikunto (2006) defines that population is the whole subject of research. While Fraenkel (2008) states that population was always all of the individuals who possess a certain characteristic (or set of characteristic). Creswell (2008) supports this statement. He states that population is a group of individuals who have the same characteristic. From those definitions above, it can be concluded that population is a group of individuals, all of whom have common characteristic from which a researcher gets the data. The population in this research was 540 students divided into eight main classes programs of tenth grade. In this population, there was problem arises.

**Sample.** After the population had been decided, the next step was determining a sample. According to Fraenkel (2008) sample is the group on which information is obtained. While Arikunto (2006) defines that sample is a part of population which is investigated and assumed to be representative.

For taking the sample from population, there were two types of sampling such as random and non random sampling. The random sampling consisted of simple, stratified, cluster, and two stage random sampling. While non random

sampling consisted of systematic, convenience, and purposive sampling (Fraenkel, 2008).

The sampling technique used in this research was cluster random sampling technique that can be used when it was impossible or difficult to select a random sample of individuals so it is often far easier to applying in schools (Fraenkel, 2008). He adds that it is frequently less-time consuming. I made lotteries that consisted of eight main classes. The dividing these eight main classes were to find out the equivalent ability of the students. I shook those small papers and took one. The result was that X engineering class. Because the engineering consisted of six classes, so I made two rolling small papers inscribed with each class of X TP 1, X TP 2, X TP 3, X TP 4, X TP 5, and X TP 6. The last, I took the rolling and getting X TP 1 as experimental group and X TP 3 as control group. The total number of experimental group is 41 students, meanwhile there are 40 students in control group. So, the total sample of this research is 81. Degree of freedom is 79 which is got by the total of experimental and control group minus 2.

### **Instrument of the Research**

In order to get data, a researcher could use instrument to gather the data. Ismawati cited in Arikunto (2003) states that instrument of the research is an instrument that is used by researcher to collect the data for good result accurately, completely, systematically so it can be easier to be analyzed.

There are two types of research instrument called test and non-test. In a test, the series of question or exercise is used to measure skill, knowledge, intelligence, ability or talent possessed by individual or group. Meanwhile, non-

test includes interview, questioner, rating skill, observation, and documentation (Arikunto, 2003).

In this research, I used written test as the instrument to measure the ability of writing descriptive text. The students had to make a text based on the topic that was given. I chose essay test because it provides a chance for students to develop their writing ability. They were also given freedom to generate their idea.

The test as the instrument must fulfill the standard of validity and reliability. Validity refers to the appropriate of test item. Arikunto (2006) states that validity is the quality of data gathering instrument which enables to determine what design to determine is. It means that validity is used for getting or measuring whether the test is valid or not. To get the test validity and to measure the content of each item were by using table of specification. While reliability of the test shows the stability of the test scores when the test is used. Arikunto (2006) states that reliability means an instrument can be reliable enough to use as a means of collecting data because is good.

In this research, I did not use any formula in calculating validity and reliability of the instrument. It was caused by the research instrument of this study used standardized test developed by Boardman and Fry Den Berg (2002) (table 3.2).

In scoring the students' achievement of writing descriptive, I used criteria in each elements of scoring guide of Boardman and Fry Den Berg(2002) that had maximal score 100. There were 5 categories that must be fulfilled by the students to compose a good descriptive text; there were content / ideas, grammar,

mechanics, organization, and word choice. Criteria of guiding scores based on Boardman and Fry Den Berg (2002) are:

Table 3.2 criteria of guiding scores

Scoring	Aspect of Good Writing
exceptional: 25-23 very good : 22-20 average : 19-17 poor : 16-0	<b>Content or ideas</b> <ul style="list-style-type: none"> <li>• Has excellent support</li> <li>• Interesting to read</li> <li>• Has unity and completeness</li> <li>• Adheres to assignment parameter</li> </ul>
exceptional: 25-23 very good : 22-20 average : 19-17 poor : 16-0	<b>Structure</b> <ul style="list-style-type: none"> <li>• Demonstrated control of basic grammar (e.g. tense, verb form, preposition)</li> <li>• Shows sophistication of sentence structure with complex and compound sentence</li> </ul>
exceptional: 10 very good : 9-8 average : 7-6 poor : 5-0	<b>Mechanics</b> <ul style="list-style-type: none"> <li>• Has good paragraph format</li> <li>• Demonstrate good control over use capital letters, period, and comma.</li> <li>• Demonstrate control over spelling</li> <li>• Does not have fragment comma splices or run on sentences</li> </ul>

	<b>Organization</b>	
	<b>Paragraph</b>	<b>Essay</b>
exceptional: 25-23 very good : 22-20 average : 19-17 poor : 16-0	<ul style="list-style-type: none"> <li>• Has topic and will controlling idea</li> <li>• Has supporting sentence</li> <li>• Has controlling sentence</li> <li>• Has coherence and cohesion</li> </ul>	<ul style="list-style-type: none"> <li>• Has introductory paragraph with clear thesis statement</li> <li>• Has body paragraph with good organization good organization</li> <li>• Has concluding paragraph</li> <li>• Has coherence and Cohesion</li> </ul>
exceptional: 15-14 very good : 13-12 average : 11-10 poor : 9-0	<b>Word choice</b> <ul style="list-style-type: none"> <li>• Demonstrated sophisticated choice of vocabulary item</li> <li>• Has correct idiomatic use of vocabulary</li> <li>• Has correct item</li> </ul>	

The highest value was 100 by counting all of the scores of the element of the criteria. The description of the students' scores was classified into four criteria as follows:

Exceptional : 100-89

Very good : 88-76

Average : 75-63

Poor : 62-0

### **Technique of Collecting Data**

In collecting data, I conducted several steps:

**First.** Taking two groups of the population of the tenth grade students of *SMK Wisudha Karya Kudus* as the experimental group and control group.

**Second.** Giving pretest for experimental and control group to know initial ability of the students before giving treatment. The pretest was conducted once.

**Third.** Giving treatment using clustering for the experimental group. The researcher did teaching descriptive text four times of each group. Each meeting was done on 90 minutes.

**Fourth.** Giving posttest for experimental group and control group to find out the data of the student's ability in writing descriptive text. The posttest was conducted once.

**Fifth.** Collecting the student's score of their assignment.

**Sixth.** Comparing the result of experimental and control group by calculating with t-test formula to know if there was a significant difference or not.

### **Technique of Analyzing Data**

After collecting the data of students in writing descriptive text and the total number of students in each group, I analyzed if there was significant difference on the ability in writing descriptive text of the tenth grade student of *SMK Wisudha Karya Kudus* in academic year 2015/2016 who are taught by using clustering. It

means that the research used enumeration in processing data, and because this research was quantitative research. In this research, I used statistical analysis using t-test with SPSS. In analyzing the data, mean and standard deviation were also calculated. Mean was calculated to get the average score of students. Meanwhile standard deviation is device for comparing characteristics that may be quite different or that may be expressed in different units of measurement (Best, 1981) it is used as measure of the spread or dispersion of scores in a distribution.

