

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents research methodology. It is divided into research design, place and time of the research, subject of the research, instrument, variable of the research, trying out instrument, technique of collecting data, and technique of analyzing of data.

3.1 Research Design

The design of this study is quasi-experimental. Sugiyono (2016:114) states that the form of quasi experimental is a development of true experimental design that is difficult to implement. Quasi experimental design was used because in reality it is difficult to get a control group used for research. The following are two forms of quasi experimental design, namely Time-Series Design and Nonequivalent Control Group Design.

In this research, the researcher used nonequivalent control group design. Nonequivalent control group design is almost the same as pretest-posttest control group design, but this design the experiment group and the control group are not randomly selected.

The model is:

Table 3.1. Design of Quasi Experimental

O ₁	X	O ₂
O ₃		O ₄

Sugiyono (2016:116)

In which:

X: Treatment in Experimental class

O₁: Pretest in experimental class

O₂: Posttest in experimental class

O₃: Pretest in control class

O₄: Posttest in control class

3.2 Place and Time of the Research

The research was held in SMK Islam Jepara which is located in Jl. Ratu Kalinyamat No. 1. This research was carried out for a month, start from December 28th, 2018 to January 28th, 2019. The schedule of the research is showed in the table below:

Table 3.2. The Schedule of the Research

No.	Activities	Date
1.	Asking permission for conducting the research	On January 2 nd , 2019
2.	Validity Test in class who were not experimental group and control group	On January 9 th , 2019
3.	Giving pretest in the experimental group and the control group	On January 12 th , 2019
4.	Giving treatment in the experimental group and the control group	On January 15 th , 2019 to January 24 th , 2019
5.	Giving posttest in the experimental group and the control group	On January 26 th , 2019

3.3 Subject of the Research

3.3.1 Population

Mubarok (2015:38) states that population is a unit of the object or subject that has certain qualities and characteristics which are studied by the researchers then be deduced. The population of this research was the tenth grade multimedia students of SMK Islam Jepara in the academic year of 2018/2019. The total of students are 255.

Table 3.3. Total of the Students

Class	Total of The Students
X OTKP (Otomatisasi dan Tata Kelola Perkantoran) 1	33
X OTKP (Otomatisasi dan Tata Kelola Perkantoran) 2	32
X OTKP (Otomatisasi dan Tata Kelola Perkantoran) 3	33
X PS (Perbankan Syariah)	22
X ATPH (Agribisnis Tanaman Pangan dan Hortikultura)	16
X MM (Multimedia) 1	19
X MM (Multimedia) 2	21
X OTO (Teknik Ototronik)	21
X TKRO (Teknik Kendaraan Ringan Otomotif) 1	30

X TKRO (Teknik Kendaraan Ringan Otomotif) 2	28
TOTAL	255

3.3.2 Sample

Mubarok (2015:39) states that sample is part of the quality and characteristics of the population. The total number of sample in this research was 40 students who were divided into 2 classes. The Multimedia 1 was 19 students, consist of 3 male students and 16 female students and the Multimedia 2 was 21 students consist of 3 male students and 18 female students. The writer would use purposive sampling because in SMK the vocabulary and the characteristic every major are different. The difference is they focus on what major that they choose but in SMA the English subject is general. In SMK Islam Jepara in majoring in multimedia are only 2 classes. In choosing a sample where the writer took samples based on the objectives and the specific intent that was predetermined.

3.4 Instrument

The instrument is used by the researcher to get the data by using test. Sulistyorini (2009:87) states that test is a tool to collect official information it is full of boundaries. Test is also one of the tools for measuring, namely a tool to collect the information on the characteristics of an object. Test in language education can be divided into broad categories, namely written test and spoken test. Written test can be done for reading and writing test, while

spoken test can be done for listening and speaking test (Mubarok, 2015:68). In this study, the writer used pre-test before doing treatment and post-test after doing treatment in both classes. The researcher used Multiple Choice for pre-test and post-test. The total number of the questions was 25 items. The questions are given according to basic competence that has already, regarding recount text. The story of recount text and the vocabularies used is related to the major, which is multimedia.

3.5 Variable of the Research

Sugiyono (2016:60) states that variable of the research is everything in the form of what is determined by the researcher to be studied so the information can be obtained about it, and then it is concluded. There are two kinds of variable. First, independent variable is a variable that affects the dependent variable. Second, dependent variable is a variable that are influenced by independent variable. In this study, there were two variables. They are independent variable and dependent variable. Independent variable in this study was the use of Pictionary game signed by (X), while dependent variable in this study was students' vocabulary mastery signed by (Y).

3.6 Trying Out Instrument

a. Validity

Arifin (2012:245) states that validity is a degree of accuracy of the instrument (measuring instrument), meaning whether the instrument used is correct to measure what will be measured.

$$r_{xy} = \frac{(N \cdot \sum XY) - (\sum X \sum Y)}{\sqrt{\{N \cdot \sum X^2 - (\sum X)^2\} \{N \cdot \sum Y^2 - (\sum Y)^2\}}}$$

Widoyoko (2014:239)

Where:

r_{xy} : correlation coefficient between variable X and Y

X : item score

Y : total score

b. Reliability

Arifin (2012:248) states that reliability is the degree of consistency of the instrument in question. To get the overall correlation coefficient number from the test must be calculated with the Spearman Brown formula:

$$r_{nn} = \frac{2r_{1.2}}{1 + r_{1.2}}$$

Arifin (2012:249)

Where:

r_{nn} : coefficient of reliability

$r_{1.2}$: reliability of half test

3.7 Technique of Collecting Data

In collecting data, the researcher used test to get the data as follow:

a. Pre-test

The researcher gave a test to both of the class (experimental group and control group) before implementing the game in learning process. It was to know the capacity of students' knowledge in the class before receive a treatment. Both of the class got the same test. The type of the test was objective test, which was multiple choice.

b. Treatment

After doing the test, the researcher gave a treatment to the students by applying Pictionary game twice in experimental group. In this research, the researcher was as a teacher. The researcher taught the vocabulary in multimedia major related to the material using Pictionary game. The researcher did the treatment for two meetings in both classes.

Table 3.4. Treatment Procedure of Experimental Group and Control Group

1. Experimental Group

Treatment 1	Observing
	<p>a. The students were stimulated relating to the material, which was recount.</p> <p>b. The students told about their holiday or what have they done when doing holiday. After that the researcher told the learning purpose.</p> <p>c. The students observed the text that was given by researcher.</p>

	<p>Asking</p> <ol style="list-style-type: none"> a. The students were given a chance to ask about recount text or related the text. b. The students answered all the questions by stimulating.
	<p>Exploration</p> <ol style="list-style-type: none"> a. The students read the text that was given by the researcher. b. The students looked for the generic structure and the vocabularies of the text.
	<p>Association</p> <ol style="list-style-type: none"> a. The students played the game, which is pictiory game in the learning activities. b. The students were divided class into group. c. The students were explained the rules of pictiory game and were prepared all needed by the researcher. d. Every student in the group drew and other students in the group guessed the vocabulary. It took turn to another group.
	<p>Communication</p>

	<ul style="list-style-type: none"> a. Every group had to present the result of vocabulary that was guessed by their group. b. The students concluded the material and individually assignment. c. The students were told the next material and given a motivation to the students.
Treatment 2	Observing
	<ul style="list-style-type: none"> a. The students reviewed the material that had learnt in the previous meeting. b. The students were stimulated relating to the material and after that the students told the learning purpose.
	Asking
	<ul style="list-style-type: none"> a. The students continued the text and students were given a chance to ask related the material. b. The students answered all the questions by stimulating.
	Exploration
	<ul style="list-style-type: none"> a. The students read the text that is given by the researcher. b. The students looked for the generic structure and the vocabularies of the text.
Association	

	<p>a. The students looked for some vocabularies related to majoring multimedia.</p> <p>b. Every student told some vocabularies that were found by them.</p>
	Communication
	<p>a. Every group had to present the result of vocabulary that was found by them.</p> <p>b. The students concluded the material and individually assignment.</p> <p>c. The students were given motivation by the researcher.</p>

2. Control Group

Treatment 1	Observing
	<p>a. The students were stimulated relating to the material, which was recount.</p> <p>b. The students told about their holiday or what have they done when doing holiday. After that the researcher told the learning purpose.</p> <p>c. The students observed the text that was given by researcher.</p>
	Asking
	<p>a. The students were given a chance to ask about recount text or related the text.</p>

	<p>b. The students answered all the questions by stimulating.</p>
	Exploration
	<p>a. The students read the text that was given by the researcher.</p> <p>b. The students looked for the generic structure and the vocabularies of the text.</p>
	Association
	<p>a. The students used discussion method in the learning activities.</p> <p>b. The students looked for the vocabularies related to majoring in multimedia.</p> <p>c. The students told some vocabulary that was found by them.</p>
	Communication
	<p>a. Every partner in pairs had to present the result of vocabulary that was guessed by their group.</p> <p>b. The students concluded the material and individually assignment.</p> <p>c. The students were told the next material and given a motivation to the students.</p>
Treatment 2	Observing
	<p>a. The students reviewed the material that had</p>

	<p>learnt in the previous meeting.</p> <p>b. The students were stimulated relating to the material and after that the students told the learning purpose.</p>
	Asking
	<p>a. The students continued the text and students were given a chance to ask related the material.</p> <p>b. The students answered all the questions by stimulating.</p>
	Exploration
	<p>a. The students read the text that is given by the researcher.</p> <p>b. The students looked for the generic structure and the vocabularies of the text.</p>
	Association
	<p>a. The students looked for some vocabularies related to majoring multimedia.</p> <p>b. Every student told some vocabularies that were found by them.</p>
	Communication
	<p>a. Every partner in pairs had to present the result of vocabulary that was found by them.</p> <p>b. The students concluded the material and</p>

	<p>individually assignment.</p> <p>c. The students were given motivation by the researcher.</p>
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c. Post-test

The researcher gave the posttest after doing pretest and treatment. The test was given to experimental class and control class to know students' improving after receiving the treatment using Pictionary game in learning process. The type of the test was objective test, which was multiple choice.

3.8 Technique of Analyzing Data

3.8.1 T-test

In analyzing data the researcher used quantitative data where the calculating using statistic. It used "t-test" and SPSS 17.0 for comparing the data. The writer compared the students' pretest and posttest. T-test was used to analysis the differences between both of the data which was students' pretest and posttest who was taught by using Pictionary game and students pretest and posttest who was not taught by using Pictionary game.

The formula of t-test is:

$$t_0 = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Sa'idah (2017:172)

Where:

t = t-value

\bar{X}_1 = the average score of experimental class

\bar{X}_2 = the average score of control class

S = standard deviation

n_1 = the number of students in the test in experimental class

n_2 = the number of students in the test in control class



