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CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

This research was an experimental research. In experimental research designs Creswell (2012, p.295) says that we use the experiment to test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable. Experimental designs are procedures in quantitative research in which the investigator determines whether an activity or material makes a difference in result for participants.

In this research, the researcher use a quasi experimental research. Creswell (2012, p.309) states that quasi experiment includes assignment, but not random assignment of participants to groups. A quasi experimental study might compare outcomes for individuals receiving program activities with outcomes for a similar group of individuals not receiving program activities. The type of this research also might compare outcomes for one group of individuals before and after the group's involvement in a program (pre-test/post-test design). The design of this research is a quasi experimental research, to know the effect of using One Word Story Game on students' speaking ability.

This research design use two groups. The first group was an experimental group treated by using One Word Story Game and the second group was control group treated without using One Word Story Game. In conducting this research, the researcher involved the tenth grade students of

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Vocational High School Muhammadiyah 3 Terpadu Pekanbaru, the classes was given a pre-test to know students' speaking ability.

After that, the experimental class was given the treatment by using One Word Story Game for 6 meetings while the control class was given conventional teaching strategy.

Table III.1
The Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental	O ₁	X	O ₂
Control	O ₃	-	O ₄

Note :

- O₁ = Pre-test for experimental group
- O₃ = Pre-test for control group
- X = Treatment for experimental group by using One Word Story Game
- = The using of traditional strategy
- O₂ = Post-test for experimental group
- O₄ = Post-test for control group

B. Location and Time of the Research

This research was conducted at Vocational High School Muhammadiyah 3 Terpadu Pekanbaru. It is located on Jl. Cipta Karya Number 15 Pekanbaru, Riau. Then, this research was conducted on July 2018 in the academic year of 2018/2019 .

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C. Subject and Object of the Research

The subject of this research was the tenth grade students of Vocational High School Muhammadiyah 3 Terpadu Pekanbaru in the academic year of 2018/2019. Then, the object of this research was the use of one word story game on their speaking ability.

D. Population and Sample

1. The Population of The Research

The population of this research was the tenth grade students of Vocational High School Muhammadiyah 3 Terpadu Pekanbaru in the academic year of 2018/2019. The population consist of eight classes. Total numbers of the students are 220 students.

Table III.2
The Total Population of the Tenth Grade Students at Vocational High School Muhammadiyah 3 Terpadu Pekanbaru

No	Classes	Total
1	X TKJ 1	25
2	X TKJ 2	25
3	X TKJ 3	27
4	X TKR 1	28
5	X TKR 2	25
6	X TSM	30
7	X ADP	30
8	X AK	30
Total Population		220

2. The Sample of The Research

In this research, not all the population regarded as the participants. Based on the total population above, so the researcher took two classes for

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the samples by using Cluster Random Sampling. Cluster random sampling is most useful when the population is very large or spread out over a wide geographic area.

Based on Howitt and Cramer (2005, p.79) cluster random sampling confines the research to a limited number of relatively compact geographical areas thus reducing travel and related costs to a certain extent. In cluster random sampling, the sample is randomly selecting people but from a limited number of geographical areas. Having the sample, the researcher used lottery by passing out the small rolled paper marked by the sequence name of the class. The total sample of this research was 50 students that consisted of 2 classes. X TKJ 1 that consisted of 25 students is selected randomly by using lottery as experimental class and X TKJ 2 that consisted of 25 students as control class.

E. Technique of Collecting Data

The researcher use a test for collecting the data, the test was speaking test. Speaking test is used to collect students' data. The students expressed their ideas based on the topic given.

In this research, researcher gave pre-test and post-test to every groups. The test would be explained as follows :

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a. Procedures of collecting data for experimental class :

1) Pre-test

Pre test was given to measure students' speaking ability before they were taught by using one word story game. This test was given to both experimental and control group.

2) Treatment

The treatment was conducted for the experimental class. This research use One Word Story Game for six meetings.

3) Post-test

After conduct the treatment, the post-test was administered and it analyzed as final data for this research. The test was given the same test as given in the pre-test.

b. Procedure of collecting data for control class :

1) Pre-test

The control class was given pre-test to know their speaking ability. The test was the same as experimental class.

2) No Treatment

3) Post-test

Post-test was given to control class and the result analyzed and used as final data for this research

Then, the researcher take the total score from the result of the speaking ability test. The classification of the students' score is shown below :

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Table III.3
The Classification of Students' Scores

Score	Categories
80-100	Excellent
66-79	Good
56-65	Average
40-55	Poor
30-39	Fail

(Arikunto, 2008)

From the table above, it can be seen that the high score 80-100 is excellent, 66-79 is good, 56-65 is average, 40-55 is poor, and 30-39 is fail.

F. Validity and Reliability of the Instrument
1. Validity

Validity refers to appropriates of a given test or any of its components parts as a measure of what it is purposed to measure. A test is said to be valid to the extent that measures what is supposed to measure. According to Creswell (2012, p.159) validity is the degree to which all of the evidence points to the intended interpretation of test scores for the proposed purpose.

Futhermore, Brown (2003, p.20) divides validity into content validity, criterion validity, construct validity, consequential validity, and face validity. All of them have different use and function. The researcher use content validity in this research. Content validity examines whether the test is a good representation of the material that needs to be tested and also there is no formula used in this kind of validity and there is no way

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how to express it quantitatively. Content validity just focused on how well the items represent the intended area.

2. Reliability

Validity and reliability are related. According to Gay (2000, p.169) reliability is the degree to which a test consistently measures whatever it is measuring. A test is said to be reliable if it can produce stable or consistent scores although the test is administered at different time. Reliability is a very important characteristic of a test. A test is not valid unless it is reliable. There are some factors which affect the reliability of a test, namely; the sample performance, the number of items, the administration of the test, the students' motivation and other factors beyond the control of the tester (such as students sickness, etc).

According to Creswell (2012, p.160) there are five types of reliability. They are test-retest reliability, alternate forms reliability, alternate forms and test retest reliability, interrater reliability and internal consistency reliability. In this research, to know the realibility of the speaking test the researcher use interrater reliability because the researcher has two raters in order to score the students' speaking ability. Brown (2003, p.21) says that Interrater reliability occurs when two or more scores yield inconsistent scores of the same test, possibly for lack of attention to scoring criteria, inexperience, inattention, or even preconceived biases. Inter-rater reliability of an instrument measures the degree of agreement

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between two or more raters, and indicates the extent to which the raters assess by using the instrument in the same way.

G. Technique of Data Analysis

In order to find out whether or not there is a significant effect of using one word story activity on students' speaking ability. In analyzing the data, the researcher used students' post-test score in experimental and control classes. This score was analyzed statistically. In this research, the researcher used these formulas :

1. Independents sample t-test

Hartono (2010, p.177) says that the function of independent sample t-test is to find out whether there is a significant difference between two variables or not. To know about that, the researcher can look at the sig. (2-tailed) which appears under the section labeled t-test for equal of means.

Pallant (2005, p. 239) stated Independent sample t-test is used when you want to compare the mean scores of two different groups of people or conditions. In this research, the data will be analyzed by using SPSS 22 Version in order to find out the result of the students who are taught and who are not taught by using one word story.

2. Effect Size

According to Pallant (2005, p.208) effect size was the strength of the difference between groups or the influence of independent variable. There are a number of different effect size statistics, the most commonly

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used is eta squared. Eta squared can range from 0 to 1 and represents the proportion of variance in the dependent variable that is explained by the independent (group) variable. The formula for eta squared is as follows :

$$\text{Eta squared} = \frac{t^2}{t^2 + (N1 + N2 - 2)}$$

Where :

$$t^2 = t_o$$

$$N = \text{Number of Students}$$

Pallant (2005, p.208)

Based on the statement from Cohen et al., (2007, p.522) the result of effect size (Eta Squared) can be interpreted as in the following criteria :

0.01	:	small effect
0.06	:	moderate effect
>0.14	:	large effect