

CHAPTER III

RESEARCH METHOD

A. Research Design

The method of the research used was a correlational research. According to Creswell (2012. p, 338) this research is a quantitative method in which investigators measure the degree of association or relation between two or more variables using the statistical procedure of correlational analysis. Gay et al. (2011) stated that correlational research is done by collecting data in order to find if, and to what degree, an existence of relation occurs between two or more variables. In other words correlational research is used to analyze whether there is any correlation between two or more variables.

This research involved two variables, the first is students' motivation in learning English symbolized by "X" which is the independent variable and the second is their speaking fluency symbolized by "Y" which is the dependent variable.

B. Location and Time of the Research

The research was conducted at MAN 1 Pekanbaru. This research was conducted in January 2018.

C. Subject and Object of the Research

The subject of this research was the twelfth grade students of MAN 1 Pekanbaru, and the object of this research is the students' motivation in learning English and their speaking fluency..

D. Population and Sample

1. Population of the research

According to (Creswell, 2012, p. 142), population is a group of individuals who have the same characteristic. The population of this research is the twelfth grade students of MAN 1 Pekanbaru, and the total of the students are as follows:

Table III.1
The Total Population of the Second grade Students at MAN 1 Pekanbaru

Classes	Gender		Total	Sample	Percentage
	Male	Female			
XI science 1	12	20	32	3	10%
XI science 2	13	18	31	3	10%
XI science 3	11	20	31	3	10%
XI science 4	13	19	32	3	10%
XI social 1	13	23	36	4	10%
XI social 2	12	18	30	3	10%
XI religion	15	19	34	4	10%
XI language	16	10	26	2	10%
XI science cendikia	12	15	27	3	10%
XI social cendikia	16	10	26	2	10%
Total Population	133	172	315	30	100%

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2. Sample of the Research

Considering the large amount of the population the writer just took 10% for sample. The writer used simple random sampling technique to take sample of this research. Each student had the same opportunity to be a sample of this research. Arikunto (2010, p. 126), stated that if the population is more than 100 the sample should be taken 10% to 15% or 20% to 25% of the population. So, in this research the writer took 10% of the population which consisted of 30 students.

E. Technique of Data Collection

In order to collect data in this research, the writer used the following techniques:

1. Questionnaire

According to Brown in Dornyei (2003), Questionnaires are any written instruments that present respondents with a series of questions or statements to which they are to react either by writing out their answers or selecting from among existing answers. It used to find out the correlation between students' motivation in learning English and their speaking fluency. The questionnaire consisted of 20 items and it dealt with the students' opinions in responding to the following options based on the Likert' - scale:

- a. Strongly agree
- b. Agree
- c. Undecided

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- d. Disagree
- e. Strongly disagree

2. Oral Test

Brown (2003) stated that a test refers to a method to measure one's ability, knowledge, intelligence, or performance in a supply area. The kind of test used in this research was oral test. It was done to find out how is the students' speaking fluency. The students speaking fluency in this research is as the dependent variable. So, to know students' speaking fluency, the writer conducted oral test to the students.

The oral test was done after the students answered the questionnaires. The type of oral test that was used in this research was interview.

F. Validity and Reliability of Instrument

To obtain the data from the respondents, the writer made try out the questionnaires to determine the validity and reliability of the instruments.

1. Validity

a. Validity of the Questionnaire

The validity is the individual's scores from an instrument that makes sense, meaningful, enable you, as the researcher, to draw good conclusions from the sample you are studying to the population(Cresswell, 2008: 169).It means that validity is the extent to which inferences made from assessment results are appropriate, meaningful, and useful in terms of the purpose of the assessment. This research constructed validity. The

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construct validity focuses on test scores as a measure of a psychological construct (Laurance, 2010: 231).The psychological constructs such as intelligence, motivation, anxiety and personality are hypothetical qualities or characteristics that have been “constructed” to account for observed behavior.

The writer used pearson correlation product moment to analyze the validity of the instrument, then SPSS 16.00was used to analyze it, the result is shown in the table below.

Table III. 2
Validity of the Instrument

No	Item Number	r – observed	r – table	Category
1	Item 1	0.618	0.361	Valid
2	Item 2	0.542	0.361	Valid
3	Item 3	0.413	0.361	Valid
4	Item 4	0.401	0.361	Valid
5	Item 5	0.437	0.361	Valid
6	Item 6	0.416	0.361	Valid
7	Item 7	0.593	0.361	Valid
8	Item 8	0.377	0.361	Valid
9	Item 9	0.417	0.361	Valid
10	Item 10	0.483	0.361	Valid
11	Item 11	0.609	0.361	Valid

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12	Item 12	0.555	0.361	Valid
13	Item 13	0.386	0.361	Valid
14	Item 14	0.469	0.361	Valid
15	Item 15	0.655	0.361	Valid
16	Item 16	0.438	0.361	Valid
17	Item 17	0.408	0.361	Valid
18	Item 18	0.389	0.361	Valid
19	Item 19	0.468	0.361	Valid
20	Item 20	0.423	0.361	Valid

Based on the table above, it can be seen that all of pearson correlation product moment are higher than r table ($r_{\text{observed}} > r_{\text{table}}$). It means that all of the items of the questionnaire are valid and can be used to collect research data.

b. Validity of the Test

Validity is the most important principle and criterion of an effective test. In recent years, validity has been defined as referring to the appropriateness, correctness, meaningfulness, and usefulness of the specific inferences researchers make based on the data they collect (Fraenkel and Wallen, 2009. p, 148). Validity refers to the degree to which evidence supports any inferences a researcher makes based on the data collection using a particular instrument. In addition, Anderson in Arikunto (2011. p, 64) said that a test is valid if it measures what it purpose to

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measure. Validity is not pressed to the test itself, but to the result of the test or the score. Brown (2003. p, 22) divides validity into content validity, criterion validity, construct validity, consequential validity, and face validity.

In this research, the researcher used content validity because the test measured the subject which was taught by the teacher to the students at school. To see the validity of the test, the researcher tried out the test to the students which are not included in the sample.

2. Reliability

a. Reliability of the Questionnaire

Reliability means that scores from an instrument are stable and consistent (Cresswell, 2008: 169). Reliability has to do with accuracy of measurement. This kind of accuracy was reflected in obtaining the similar results when measurement was repeated on different occasion or with different instruments or by different person. The characteristic of reliability is sometimes termed consistency (Cresswell, 2008: 20). And this research is internal consistency reliability. Internal consistency reliability is the instrument administered once, using one version of the instrument and each participant in the study completes the instrument (Cresswell, 2008: 9).

(Guilford, 1956: 145) stated that there are five categories of reliability, they are:

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Table III. 3

The Category of Reliability

No	Score	Category
1	$0.80 < r_{11} \leq 1.00$	Very high
2	$0.60 < r_{11} \leq 0.79$	High
3	$0.40 < r_{11} \leq 0.59$	Average
4	$0.20 < r_{11} \leq 0.39$	Low
5	$-1.00 \leq r_{11} \leq 0.19$	Very low (unreliable)

The writer used alpha formula to analyze the reliability of the instrument, the alpha formula is like shown below (Hartono, 2010: 102):

$$r_{11} = \left(\frac{k}{k-1} \right) \left(1 - \frac{\sum S_i}{\sum S_t} \right)$$

The writer used SPSS 16 to find out the result of reliability coefficient. The result is shown like in the table below:

Table III. 4

Reliability of the Instrument

Cronbach's Alpha	N of Items
.816	20

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Based on the table above, it is known that the score of Cronbach's alpha is 0.816. The total item is 20. Then the reliability of the instrument is categorized Very High Reliability.

By comparing the value of r observed with r table by using $df = N - 2$. It is known that r observed is higher than r table ($0.482 < 0.16 > 0.606$). Then the writer concludes that all of the questionnaire items are reliable and can be used to collect the data of research

b. Reliability of the Test

Fraenkel and Wallen (2009. p, 154) state that reliability refers to the consistency of the scores obtained—how consistent they are for each individual from one administration of an instrument to another and from one set of items to another. A test may be reliable, but it is not valid. However, a valid test will be commonly reliable.

A reliable test is consistent and dependable. The issue of reliability of a test may best be addressed by considering a number of factors that may contribute to the unreliability of a test. The 3 common factors according to Arikunto (2011. p, 87) are:

- 1) The things which are related to the test itself such as the length of the test and the questions.
- 2) The things which are related to the person of testee.
- 3) The things which are related to the test implementation.

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Reliability in quantitative analysis takes two main forms, both of which are measures of internal consistency: the split-half technique and the alpha coefficient. To see whether the test is reliable or not, the researcher used split-half technique by using SPSS Version 20.0.

The categories of reliability test are as follows (Cohen 2007. p, 506):

>0.90	very highly reliable
0.80–0.90	highly reliable
0.70–0.79	reliable
0.60–0.69	marginally/minimally reliable
<0.60	unacceptably low reliability

Bryman and Cramer as cited in Cohen (2007. p, 506) suggest that the reliability level is acceptable at 0.8, although others suggest that it is acceptable if it 0.67 or above.

G. Technique of Data Analyses

In analyzing the data of the research, the writer used Pearson Product Moment as formula, because product moment correlation was one of the technique that is usually used to find out the significance of the correlation between two variables. It is called product moment correlation because it is usually used to correlate one variable to another variable based on its correlation coefficient value. The first variable was the students' motivation in learning

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English (variable X) independent variable. The second variable was the students' speaking fluency (variable Y) dependent variable. The formula of pearson product moment correlation (Hartono, 2010, p. 85) is as follows:

$$r_{xy} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[n(\sum X^2) - (\sum X)^2][n(\sum Y^2) - (\sum Y)^2]}}$$

Where:

- r_{xy} : coefficient of correlation each instrument item
- n : total number of respondent
- X : score of each item
- Y : total score

Pearson product moment correlation can be interpreted by using the table below (Hartono, 2008: 87)

Table III. 5
The Interpretation of Pearson Product
Moment Correlation

Coefficient r Product Moment	Interpretation
0.00 – 0.200	Very Weak
0.200 – 0.400	Weak
0.400 – 0.700	Enough
0.700 – 0.900	Strong
0.900 – 1.000	Very Strong