

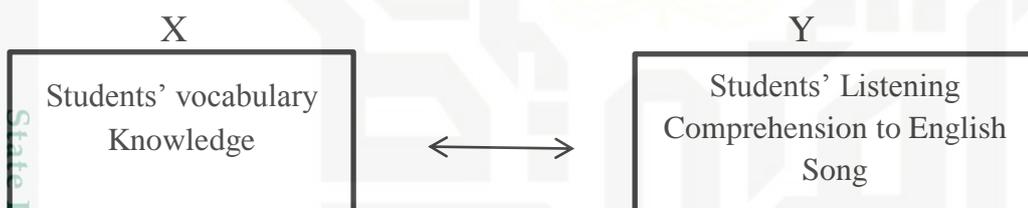
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CHAPTER III

METHOD OF THE RESEARCH

A. Research Design

This research is a correlational research design. Gay (2000, p. 204) stated that correlation research attempted to determine whether, and what to degree, a relationship existed between two or more variables. She said that the purpose of this research was to determine relationship between variables or how to use these relationships to rank prediction quantitatively. This research consisted of two variables. The first was the students' vocabulary knowledge as variable X and listening comprehension to English song as variable Y. The design of research was pictured by following diagram:



B. Location and time of the research

This research was conducted at Senior High School Muhammadiyah 1 Pekanbaru. The time of this research was in March 2017 in the academic year 2016/2017.

C. Subject and object of the research

The subject of the research was the tenth grade of senior High school Muhammadiyah 1 Pekanbaru. The object was relationship between students' knowledge in vocabulary and their listening comprehension to English song.

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D. The Population and the Sample

The population of tenth grade students was 256 students. It consisted of 8 classes. The population above was large enough to be taken all as sample of the research. Based on the design of the research, the researcher used simple random sampling to take the samples from 8 classes. According to Singh (2006, p. 84), a simple random sample is as technique for choosing the sample in which all the population get an equal and independent chance to be selected. According to Arikunto (2006, p. 134) if the population more than one hundred, the researcher can take 10-15% or 20-25% or more. Based on the theory above, the researcher chose 25% from population. The procedure of taking the sampel, the researcher used roll of paper to take the samples in each class of tenth grade students. After getting the calculation by simple random sampling. The researcher got sample 64 students. Because the population in each class of tenth grade is different. The researcher used 25% to take sample in each class. For sample try out 20 students.

The specification of population can be seen on the table below:

Table III.1
The Population of the tenth-Grade Students of
State Senior High School Muhammadiyah 1 Pekanbaru

Classes	Number of students	Sample
X.MIA 1	28	7
X.MIA 2	30	7
X.MIA 3	33	8
X.MIA 4	32	8
X.MIA 5	32	8
X.IIS 1	33	8
X.IIS 2	34	9
X.IIS 3	34	9
Total	256	64

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Note : MIA (Matematika dan Ilmu Alam)
 IIS (Ilmu Ilmu Sosial)

E. Techniques of Collecting Data

In order to collect some data in this research, the researcher applied the technique as follows:

1. Vocabulary Test

The researcher made questions based on the indicators of the students' vocabulary in learning that discussed in operational concept. The purpose of doing the test is to find out students' vocabulary knowledge. In order to get the description of the answer of the test, the data was calculated by using the formula:

$$N = \frac{\text{Number of correct answer}}{\text{number of items}} \times 100$$

Table III.2
Blue Print of Vocabulary Knowledge Test

Indicators	Number of Items	Items
The students recognize the word in written form	3	12,13,17
The students predict the concept behind the word, which will allow understanding in variety of contexts	5	6,10,15,20
The students identify synonym of the word	7	1, 9, 2,4,5,7,18
The students identify antonym of the word	6	3,8,11,14,16, 19

2. Listening Test

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The students were given a listening song test that discussed in operational concept. In order to get the description of the answer of the test, the data was calculated by using the formula:

$$N = \frac{\text{Number of correct answer}}{\text{number of items}} \times 100$$

Table III.3
Blue Print of Vocabulary Listening Comprehension Test

Indicators	Number of Items	Items
The students recall the words in listening task	10	1,2,3,4,5,6,7,8,9,10
The students clarify the meaning of words	5	1,2,3,4,5
The students clarify explicit information after listening task	3	1,2,3
The students predict the inference in listening task	2	4,5

F. Validity and Reliability

1. Validity of the instrument

According to Brown (2003, p. 22), content validity is partly a matter of determining if the content that the instruments contain is an adequate sample of the domain of content it is supposed to represent. Content validity just focuses on how well the items represented the intended area. According to Cohen (2007, p. 133), Validity is an important key to effective research. If a piece of research is invalid then it is worthless. Validity is thus a requirement for both quantitative and qualitative/naturalistic research. It means that validity is the extent to which inferences make from assessment results are useful in terms of the purpose of the

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assessment. To find out the validity of test, the researcher calculated it by using SPSS 22 version. The standard value of validity is $r_{item} > r_{table}$.

a. Validity of vocabulary knowledge

The test which is given to the students should be balance. It means that the test is not too easy and not too difficult. The researcher determined the validity by referring to the material that was related to the indicator of vocabulary knowledge itself.

Based on the try out result, the samples consisted of 20 students. The value of r_{table} was 0,4438. It had determined that all of the items were valid.

The result of try out was as follows:

Table III.4
The Analysis of Vocabulary Knowledge Test Validity

Item Number	r-item	r-table	Result
1	0,46	0,4438	Valid
2	0,60	0,4438	Valid
3	0,60	0,4438	Valid
4	0,60	0,4438	Valid
5	0,44	0,4438	Valid
6	0,49	0,4438	Valid
7	0,51	0,4438	Valid
8	0,52	0,4438	Valid
9	0,62	0,4438	Valid
10	0,60	0,4438	Valid
11	0,51	0,4438	Valid
12	0,52	0,4438	Valid
13	0,57	0,4438	Valid
14	0,52	0,4438	Valid
15	0,52	0,4438	Valid
16	0,48	0,4438	Valid
17	0,49	0,4438	Valid

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18	0,46	0,4438	Valid
19	0,48	0,4438	Valid
20	0,47	0,4438	Valid

b. Validity of listening comprehension

The test can be valid if it measures accurately whether the test is appropriate, meaningful, and useful. The researcher determined the validity by referring to the material that related to indicator of curriculum K- 13. It used song as media in doing try out. Based on the try out result, the samples consisted of 20 students. The value of r_{table} was 0.4438. It had determined that all of the items were valid. The result of try out was as follows:

Table III.5
The Analysis of Listening Comprehension Test

Item Number	r-item	r-table	Result
1	0.56	0.4438	Valid
2	0.44	0.4438	Valid
3	0.56	0.4438	Valid
4	0.44	0.4438	Valid
5	0.49	0.4438	Valid
6	0.49	0.4438	Valid
7	0.49	0.4438	Valid
8	0.56	0.4438	Valid
9	0.49	0.4438	Valid
10	0.49	0.4438	Valid
11	0.46	0.4438	Valid
12	0.44	0.4438	Valid
13	0.46	0.4438	Valid
14	0.46	0.4438	Valid
15	0.56	0.4438	Valid
16	0.46	0.4438	Valid
17	0.58	0.4438	Valid
18	0.48	0.4438	Valid

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19	0.58	0.4438	Valid
20	0.58	0.4438	Valid

2. Reliability of Instrument

Reliability is the degree to which a test consistently measures whatever it is measuring (Gay & Airasian, 2000). In accordance, Brown (2004, p. 20) said that a reliable test is consistent and dependable. This research is internal consistency reliability. According to Creswell (2012, p. 160), internal consistency reliability is the instrument administered once, using one version of the instrument and each participant in the study completed the instrument.

The table below is categorized of reliability test in determining the level of reliability of the tests (Cohen, Manion, & Morrison, 2007).

Table III.6
The Level of Reliability

Reliability	Level of Reliability
>0.90	Very High
0.80-0.90	High
0.70-0.79	Reliable
0.60-0.69	Marginally/Minimally
<0.60	Unacceptably Low

a. Reliability of vocabulary knowledge

To obtain the reliability of the vocabulary knowledge test, the researcher used SPSS 22.0 program to find out whether the test was reliable or not.

Table III.7
The Analysis of Vocabulary Knowledge Test Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.862	20

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From the table above, it can be seen that the value of cronbach's alpha was 0.862. Based on the table of reliability the test is categorized in high reliable.

b. Reliability of listening comprehension

In this listening comprehension test the researcher made the test based on the indicators of curriculum K-13 at Senior High School Muhammadiyah 1 Pekanbaru. The test consisted of 20 items.

Table III.8
The Analysis of Listening Comprehension Test Reliability

Reliability Statistics	
Cronbach's Alpha	N of Items
.842	20

From the table above, it can be seen that the value of cronbach's alpha is 0.842. Based on the table of reliability the test is categorized in high reliable.

2.3 Techniques of Analyzing Data

In analyzing students' knowledge in vocabulary and their listening comprehension at Senior High School Muhammadiyah 1 Pekanbaru, the researcher analyzed the data by using the statistical analysis. In this research, the researcher used Pearson Product moment.

To analyze the first and second formulation of the problem, the researcher used descriptive analysis by analyzing the score of two variables. In measuring

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the score of students' vocabulary knowledge and listening comprehension, the researcher used the classification of the score by David Haris (1969. p, 9)

Table III.9
The Classification of Students' Score

Score	Categories
80-100	Very Good
70-79	Good
60-69	Fair
50-59	Poor
Below 49	Less

Then, to determine the level of correlation between two variables, the following category is used Hartono (2008, p. 87):

Table III.10
Table Interpretation of Correlation Coefficient

Coefficient Interval	Level of Correlation
0.00-0.200	Very Low
0.200-0.400	Low
0.400-0.700	Medium
0.700-0.900	Strong
0.900-1.00	Very Strong

Statistically the Hypotheses were:

$$H_a : sig. < 0.05$$

$$H_o : sig. > 0.05$$

- a. H_a was accepted if $sig > 0.05$ or there was a significant relationship between students' vocabulary knowledge and their listening comprehension to English Song.
- b. H_o was rejected if $sig > 0.05$ or there was no significant relationship between students' vocabulary knowledge and their listening comprehension to English Song.