

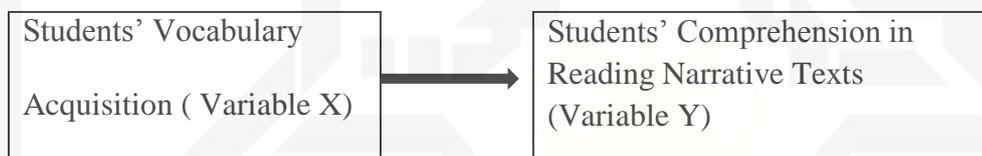
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## CHAPTER III RESEARCH METHOD

### A. Reseach design

This research is correlation research, the researcher used 2 tests. The first is vocabulary test to measure students' vocabulary acquisition as "X" variable and the second one is reading comprehension test to find out the reading comprehension which is symbolized as "Y" variable.



According to John W. Creswell (2008,p. 338), correlational design is procedures in quantitative research in which investigation measure the degree of association or relation between two or more variables using the statistical procedure of correlation analysis. The kind of this research is causal comparative that wants to know or the reason the relation between two variable based on the observation. This degree of association expressed as a number, indicates whether the two variables are related or wheter one can predict another. Correlation studies provide a numerical estimate of how related two variables. Clearly, the more the two variables are related and the more accurate are predictions based on the relationship. Rarely are two variables perfectly uncorrectable, but many are sufficiently related to permit useful prediction.



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## **B. The Time and the Location of the Research**

The research was conducted at Vocational High School Kansai Pekanbaru which is located at Damai Ujung street Pekanbaru. The research was conducted on from August to October 2017.

## **C. The Subject and the Object of the Research**

The subject of this research was the tenth grade students of Vocational High School Kansai Pekanbaru. The object of this research was the correlation between students' vocabulary acquisition and their reading comprehension of narrative texts.

## **D. The population and the Sample of the research**

According to Gay (2012,p. 130), there are two points how to describe population. First, populations may be any size and may cover almost any geographical area. Second, the entire group of interest to the researcher is rarely available. According to Borg and Gall (2003,p. 163), at least 30% of the total population is representative. It means that all of the population can be a sample. In addition, Arikunto (2006) stated that if the amount of the subject is more than 100, it will be better to take 10-15%, 20-25% or more than it and if it is lower than 100 subjects, it must be taken all.

From the explanation above, the writer took the sample 20% from 210 the total of population in each class. The technique that the writer used to take the sample was random sampling. Thus the total number of sample was 59 students.

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**Table III.2**  
**The Population of Students**

No	Class	The Number of Students		Total Population	Sample (20%)
		Male	Female		
1	AKA	4	29	33	6
2	ADP	1	28	29	5
3	MC	32		32	6
4	MO	33		33	6
5	ELKA/LISTRIK	38		38	7
6	TKJ	23	22	45	9
TOTAL		131	79	210	39

**E. The Technique of Collecting Data**

The data of this research were collected by using two kinds of tests, they are as follows:

1. For Vocabulary Test

Multiple – choice items from which they had to choose one correct answer among provided options. This test was used to measure the students' vocabulary acquisition. It consisted of twenty questions and every question was scored five if the students answered correct one.

**Table III.3**  
**The Blue Print of Vocabulary Acquisition**

Indicator	Number of items
a. The students are able to differentiate between noun, verb, adverb, and adjective.	1, 5, 9, 11
b. The students are are able to identify the meaning of words.	2, 4, 8, 17
c. The students are able to identify the correct spelling of the word.	3, 6, 7, 13
d. The students are able to identify the relation between one and another word.	10, 12, 18, 14, 16, 15
e. The students are able to identify synonyms of words.	19,20,
f. The students are able to identify antonyms of words.	

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## 2. For Reading Comprehension Test

This method was used to find out the students' score in reading comprehension. Therefore, the researcher needed this test as an instrument. The writer distributed reading test consisting of twenty questions. The students were ordered to answer the questions after reading the narrative texts. The writer provided 45 minutes to the students to read narrative text and answer the questions. If the students answered with the correct one, they were given five .

**Table III.4**  
**The Blue Print of Reading Comprehension**

Indicator	Number of items
a. Students are able to identify main idea of the narrative texts.	1, 7, 12, 16, 10 2, 4, 8, 11, 14
b. Students are able to locate inference in the narrative texts.	3, 5, 6, 17, 9, 13, 15, 18, 19, 20
c. Students are able to identify factual information of the narrative texts .	
d. Students are able to make inference in the narrative text.	

## F. The Technique of Data Analysis

The researcher used the data which were analyzed by using statistical method in order to find out whether there is a significant correlation between students' vocabulary acquisition and reading comprehension or not. If there is a significant correlation or there is no significant correlation between two or

more variables that can be analyzed by using product moment correlation (Arikunto: 2010:274).  $H_0$  is accepted if the significance 2-tailed value is bigger than  $\alpha$  ( $\text{sig-t} > \alpha$ ). In this case,  $\alpha$  value is 0.05.

Meanwhile, in order to get easy in analyzing the data, the writer used SPSS 17.0 program for Windows. The product moment correlation coefficient was obtained by considering the degree of freedom ( $df = N - nr$ ; ( $N =$  number of sample,  $nr =$  number of variable)).

In addition, the procedures of processing the data by using SPSS 17.0 program as follows:

1. Open SPSS 17.0 program
2. Click *variable view* on SPSS data editor.
  - a. On column *name*, for the first row is Respondent, for the second row is X, and for the third row is Y.
  - b. On column *type*, for the first row change from numeric to string.
  - c. On column *label*, for the second row is vocabulary acquisition and for the third row is students' reading comprehension.
3. Next, click *data view* in the left corner on SPSS data editor. Input the respondent in column *respondent*, scores of vocabulary in column X, and scores of students' reading comprehension in column Y.
4. Then, to find the correlation between the score; click *analyze correlate bivariate*
5. From *bivariate correlaton* input X and Y to *variable*
6. Click *Pearson on correlation coefficient*
7. Choose *two tailed* on *test of significance*

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8. Click OK.

Statistically, the hypotheses are:

$$H_a : r_o > r_{table}$$

$$H_o : r_o \leq r_{table}$$

$H_a$  is accepted if  $r_o > r_{table}$  or there is a significant correlation between the vocabulary acquisition and reading comprehension.

$H_o$  is accepted if  $r_o \leq r_{table}$  or there is no significant correlation between vocabulary acquisition and reading comprehension.

According to Haris D.P (p.79, 1974), to analyze the students' score in vocabulary and reading test, the writer used the following scale:

**Table III.5**  
**Classification of Students' Score.**

Value	Score	Category
80-100	A	Very Good
70-79	B	Good
60-69	C	Enough
50-59	D	Less
0-49	E	Fail

## G. Validity and Reliability of the Instrument

### 1. Validity of Vocabulary Acquisition Test

According to Gay (1992:154), validity is the most important quality of any test. Validity is concerned with what a test measures and for whom it is appropriate. Thus, the validity of instrument is the device used to get the validity of data. Those mean that the instrument can be used to measure what should be measured.

According to Brown (2003: 22), there are five kinds of validity. They are content validity, criterion-related validity, consequential validity,

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face validity, and construct validity . An instrument is valid if it is able to measure what must be measured.

Furthermore, in this research, the researcher used construct validity to measure students' prior knowledge. Construct validity is any theory, hypothesis, or models that attempts to explain observed phenomena. Based on the try out result, it was determined that all of the items were valid. The result of try out is as follows:

**TABLE III.6**  
**The Analysis of Students' Vocabulary**  
**Acquisition Test Validity**

Item Number	r-item	r-table	Result
1	0.324379	0.316	Valid
2	0.371404	0.316	Valid
3	0.722607	0.316	Valid
4	0.585827	0.316	Valid
5	0.366764	0.316	Valid
6	0.540632	0.316	Valid
7	0.448246	0.316	Valid
8	0.488345	0.316	Valid
9	0.386646	0.316	Valid
10	0.424551	0.316	Valid
11	0.615993	0.316	Valid
12	0.448246	0.316	Valid
13	0.372436	0.316	Valid
14	0.34963	0.316	Valid
15	0.528618	0.316	Valid
16	0.489019	0.316	Valid
17	0.383532	0.316	Valid
18	0.497533	0.316	Valid
19	0.521225	0.316	Valid
20	0.497533	0.316	Valid

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Based on the table, the researcher concluded that the result of instrument validity to the 20 items of prior knowledge test were valid. Then, the researcher took 20 items used in this research

## 2. Validity of Reading Comprehension Test

In this research, the researcher used content validity to measure the students' reading comprehension comprehension. According to Brown (2003: 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. Test has content validity if the test is appropriate with the lesson that is taught in the class. Thus, the test was given based on the material studied by the students. The material of the test was taken from the syllabus of the first grade students at vocational High School Kansai Pekanbaru. Based on the try out result, it was determined that all of the items were valid. The result of try out is as follows:

**TABLE III.7**  
**The Analysis of Students' Reading Comprehension Test Validity**

Item Number	r-item	r-table	Result
1	0.37845	0.316	Valid
2	0.345578	0.316	Valid
3	0.702318	0.316	Valid
4	0.33561	0.316	Valid
5	0.663357	0.316	Valid
6	0.583226	0.316	Valid
7	0.395042	0.316	Valid
8	0.576314	0.316	Valid
9	0.38495	0.316	Valid
10	0.436725	0.316	Valid
11	0.333467	0.316	Valid

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Item Number	r-item	r-table	Result
12	0.541325	0.316	Valid
13	0.444374	0.316	Valid
14	0.419292	0.316	Valid
15	0.39773	0.316	Valid
16	0.384425	0.316	Valid
17	0.361697	0.316	Valid
18	0.375522	0.316	Valid
19	0.404071	0.316	Valid
20	0.348637	0.316	Valid

Based on the table, the researcher concluded that the result of instrument validity to the 20 items of reading comprehension test were valid. Then, the researcher took 20 items used in this research.

### 3. Reliability of Vocabulary Aquisition test

Reliability is the degree to which a test consistently measures whatever it is measuring (Brown,2003:19 ). accordingly, a reliable test is consistent and dependable. This research is internal consistency reliability. According to Sugiyono (2010:174), internal consistency reliability is the instrument administered once, using one version of the instrument and each participant in the study completes the instrument. The following table is the level of internal consistency of Cronbach Alpha (Arikunto: 2010:115)

**Table III.8**  
**A Commonly Accepted Rule of Thumb for Describing Internal Consistency by Using Cronbach Alpha**

Cronbach Alpha	Internal Consistency
>0.90	Very highly reliable
0.80-0.90	Highly reliable
0.70-0.79	Reliable
0.60-0.69	Minimally reliable
<0.60	Unacceptably low reliability

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To obtain the reliability of the vocabulary acquisition test, the researcher used SPSS 17.0 program to find out whether the test was reliable or not.

**Table III.9**  
**Reliability Statistics of Vocabulary Acquisition Test**

Reliability Statistics	
Cronbach's Alpha	N of Items
813	20

From the table above, it could be seen that the value of cronbach's alpha was 0.813. which was higher than 0.70. It indicated that the items were reliable, where the value of internal consistency was  $0.70 > 0.795 > 0.70$ , so the reliability of the test was reliable.

#### 4. Reliability of Reading Comprehension Test

**Table III.10**  
**Reliability Statistics of Reading Comprehension Test**

Reliability Statistics	
Cronbach's Alpha	N of Items
.773	20

From the table above, it could be seen that the value of cronbach's alpha was 0.773. which was higher than 0.70. It indicated that the items were reliable, where the value of internal consistency was  $0.70 > 0.773 > 0.70$ , so the reliability of the test was reliable.