

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

The method of this research was the correlational research that involved two variables. Gay and Airisian stated that “correlational research involves collecting data to determine whether and to what degree a relationship exists between two or more variables”.¹

In this research, there were two variables that become the focus of this research. Firstly, the students’ self-esteem as independent variable which was symbolized by “X” and then secondly, students’ reading comprehension as dependent variable which was symbolized by “Y”. This research was done to determine whether or not there is a correlation between students’ self-esteem and their reading comprehension.

B. The Location and the Time of the Research

The research had been conducted at the seven grade students of Junior High School 10 Tapung Kampar Regency. Then, this research had been done in May 2014.

C. The Subject and Object of the Research

1. The subject of the research

The subject of the research was the seven grade students of Junior High School 10 Tapung Kampar Regency.

¹ Gay, L.R., & Peter Airasian. *Loc. It.*

2. The Object of the Research

The object of the research was the correlation between self-esteem and reading comprehension.

D. The Population and the Sample of the Research

The population of the research was the seven grade students of Junior High School 10 Tapung in Kampar Regency in 2013-2014 academic year. They were 112 students. Gay and Airisian state that “for a correlational study, 30 participants are generally considered to be a minimally acceptable sample size”.² In relation to that theory, the researcher chose 30 students as samples. The researcher took 25% of the population as the sample. Then the technique was used in this research was stratified random sampling technique.

The specification of the population and the sample can be seen in the table below:

**TABLE III.1
THE POPULATION AND THE SAMPLE OF THE RESEARCH**

No	Class	Students			Sample
		Male	Female	Total	
1	VIIA	16	11	27	7
2	VII B	19	10	29	8
3	VII C	16	11	27	7
4	VII D	14	15	29	8
Total		65	47	112	30

²Gay, L.R., & Peter Airasian. Op. Cit. p. 322.

E. The Technique of Collecting Data

In this research, the data were collected by using some techniques, they were:

1. Questionnaire

Questionnaire had been used to find out the students' self-esteem. It consisted of 24 items. The questionnaire showed the level of the students' self-esteem of seven grade at Junior High School 10 Tapung in Kampar regency. The questionnaire was presented in Likert scales. According to Gay and Airisian:

Likert scale asks participants to respond to a series of statements by indicating whether they strongly agree (SA), agree (A), undecided (U), disagree (D), or strongly disagree (SD) with each statement. Each response is associated with a point value, and an individual's score is determined by summing the point values of each statement. For example, the following point values are typically assigned to positive statements: SA = 5, A = 4, U = 3, D = 2, SD = 1.³

³ Gay, L.R., & Peter Airasian. Op. Cit. p. 156.

TABLE III.2
MATRIX OF STUDENTS' SELF-ESTEEM

No	Indicators	Sub Indicators	Number of Items
1	<i>Self-knowledge</i>	Students' ability to develop and maintain their personal values – their guiding principles in life.	3,18
		Students' ability to understand differences and commonalities – how they are different from others in looks and character and how they can also have things in common with others.	9,24
2	<i>Self and others</i>	Students' ability to understand the difficulties inherent in relationships and in learning to co-operate with each other.	2,5
		Students' ability to understand their emotions and being aware of the ways in which they express them.	14,15
3	<i>Self-acceptance</i>	Students' ability to accept that it is natural to make mistakes and that this is often how we learn best.	23,6
		Students' ability to know that they are doing the best that they can with the knowledge and skills currently available to them.	4,17
4	<i>Self-reliance</i>	Students' ability to build a measure of independence and self-motivation.	1,12
		Students' ability to be able to self-monitor and adjust their actions, feelings and thoughts according to realistic assessments of their progress.	21,22
5	<i>Self-expression</i>	Students' ability to develop creativity in self-expression. Recognizing and celebrating the unique ways in which they each express who they are.	7,13
6.	<i>Self-confidence</i>	Students' ability to know that their opinions, thoughts and actions have value and that they have the right to express them.	8,20
		Students' ability to be able to accept challenges and to make choices.	11,16
7.	<i>Self-awareness</i>	Students' ability to know what they are capable of, and learning to set realistic yet challenging goals.	10,19

2. Test

Reading comprehension test was used to find out the students' reading comprehension. The test was multiplechoice. The test consisted of 25 items. The reading comprehension test was a standardized test taken from the exercises of the students' text book.

Before the test was given to the students, it was tried out to 30 non sample students of the seven grade at Junior High School 10 Tapung Kampar Regency.

TABLE III.3
MATRIX OF READING COMPREHENSION

No	Indicators	Number of Items
1	The students' ability to identify information from short descriptive text.	1,6,13,19,22
2	The students' ability to identify the word references in descriptive text	2,8,14,18,23
3	The students' ability to identify the generic structure of short descriptive text	3,10,12,17,24
4	The students' ability to identify the linguistic features of short descriptive text	4,7,11,16,21
5	The students' ability to find out the meaning of vocabulary in short descriptive text	5,9,15,20,25

F. Technique of Data Analysis

In analyzing the data dealing with the correlation between self-esteem and reading comprehension of the seven grade students at Junior High School 10 Tapung in Kampar Regency, the researcher used the analysis of bivariate pearson product moment correlation coefficient.

Because the data from self-esteem were ordinal data, so the researcher should change them into interval data by using formula:⁴

$$T_{1=50+10} \frac{(xi-x)}{SD}$$

Where :

X_i = Data of ordinal variable

\bar{X} = Mean

SD = Standard Deviation

Then, to know the significant correlation between two variables. The researcher used the formula of product moment correlation. The formula is as follows:⁵

$$r_{xy} = \frac{n \sum xi yi - (\sum xi) (\sum yi)}{(n \sum xi^2 - (\sum x)^2) (n \sum yi^2 - (\sum y)^2)}$$

Where:

r = Index of correlation “r” product moment

N = Sample

($\sum xy$) = The sum of Score x and y

($\sum x$) = The total of Score x

($\sum y$) = The total of Score y

In the process of data, the researcher used the SPSS Program 16.0 version for windows. SPSS is one of the computer programs that is used to manufacture the statistical data.

⁴ Hartono, *Analisis Item Instrument*. (Bandung: Nusa Media, 2010), p. 126

⁵ *Ibid*, p.84

G. The Validity and The Reliability of the Instrument

1. Validity

a. Validity Of The Questionnaire

In this research, the researcher used construct validity. Siregar described that construct validity means the validity related to the ability of instrument to measure the concept being measured.⁶ Non test instrument which is used to measure attitude includes in construct validity.

To analyze the validity of questionnaire data, the researcher used SPSS 16.0 program for windows. The following table is the criteria of item validity.

TABLE III.4
THE CRITERIA OF ITEM VALIDITY

R	Interpretation
$0.80 < r < 1.00$	Very High
$0.60 < r < 0.79$	High
$0.40 < r < 0.59$	Average
$0.20 < r < 0.39$	Low
$0.00 < r < 0.19$	Very Low

Based on the result of the test that had been tried out, it showed that 20 items were valid and 4 items were invalid. It means that there were 20 items that can be used in this research. In the following table is the result of the instrument validity.

⁶ Sofyan Siregar. *Statistik Parametrik untuk penelitian Kuantitative*. (Jakarta: Bumi Aksara, 2013), p.

TABLE III.5
THE ANALYSIS OF QUESTIONNAIRE

Item	R	Interprtation of Valididty	Status
1	0.51	Average	Valid
2	0.51	Average	Valid
3	0.80	High	Valid
4	0.68	High	Valid
5	0.64	High	Valid
6	0.75	High	Valid
7	0.71	High	Valid
8	0.74	High	Valid
9	0.76	High	Valid
10	0.50	Average	Valid
11	0.27	Low	Invalid
12	0.77	High	Valid
13	0.51	Average	Valid
14	0.55	Average	Valid
15	0.55	Average	Valid
16	0.70	High	Valid
17	0.46	Average	Valid
18	0.43	Average	Valid
19	0.45	Average	Valid
20	-0.05	Very Low	Invalid
21	0.42	Average	Valid
22	0.50	Average	Valid
23	0.36	Low	Invalid
24	0.34	Low	Invalid

b. Validity Of The Test

Based on the try out that was conducted to see the validity of the test, the item difficulties showed how easy or difficult a particular item was. The items that were too difficult (<0.30) and too easy (>0.70) were revised. . The formula of item difficulty is as follows:⁷

$$P = \frac{B}{JS}$$

⁷ Suharsimi Arikunto. *Manajemen Penelitian*. (Rineka Cipta:Jakarta, 1990), p 230

Where

P : Index of difficulty or facility value

B : the number of correct answers

JS : the number of examinees or students

If the index of facility value between 0.30 and 0.70 the test item can be accepted. On the other hand, if the index of the facility value is smaller than 0.30 or bigger than 0.70, the test item is rejected because the test item is either too easy or difficult for the students. So, it should be changed to the new items that are more appropriate. The proportion of correct is represented by “B”, whereas the proportion of incorrect is represented by “Q”. The calculation of item difficulty can be seen in the following table :

TABLE III.6
FIND OUT INFORMATION FROM DESCRIPTIVE TEXT

Variable	Item No.					N
	1	6	13	19	22	
B	19	20	20	15	16	30
P	0.63	0.66	0.66	0.5	0.53	
Q	0.37	0.34	0.34	0.5	0.47	

Based on the table, the item numbers of question for finding the information are 1, 6, 13, 19, and 22. It shows that the proportion of correct answer for finding information of test item number 1 is 0.63, the proportion of correct answer for test item number 6 is 0.66, the proportion of correct answer for test item number 13 is 0.66, the

proportion of correct answer for test item number 19 is 0.67, and the proportion of correct answer for test item number 22 is 0.53. The total correct answer of finding factual information is 0.59. Then, based on the standard level of difficulty, all items for finding information or “p” is >0.30 and <0.70 . So, the items of finding factual information are accepted.

TABLE III.7
IDENTIFY THE WORD REFERENCES

Variable	Item No.					N
	2	8	14	18	23	
B	18	20	19	16	15	30
P	0.6	0.66	0.63	0.53	0.5	
Q	0.4	0.34	0.37	0.47	0.5	

Based on the table, the item numbers of question for identifying the word references are 2, 8, 14, 18, 23. It shows that the proportion of correct answer for identifying main idea of test item number 2 is 0.6, the correct answer for test item number 18 is 0.66, the correct answer for test item number 14 is 0.63, the proportion of correct answer for test item number 18 is 0.53, and the proportion of correct answer for test item number 23 is 0.5. The total correct answer of identifying the word references is 0.52. Then, based on the standard level of difficulty, all items for identifying word references or “p” is >0.30 and <0.70 . So, the items of identifying word references are accepted.

TABLE III.8
IDENTIFY THE GENERIC STRUCTURE

Variable	Item No.					N
	3	10	12	17	24	
B	20	18	20	16	13	30
P	0.66	0.6	0.66	0.53	0.43	
Q	0.34	0.4	0.34	0.47	0.57	

Based on the table, the item numbers of question for identifying the generic structure are 3, 10, 12, 18, and 24. It shows that the proportion of correct answer for identifying the generic structure of test item number 3 is 0.66, the proportion of correct answer for test item number 10 is 0.6, the proportion of correct answer for test item number 12 is 0.34, the proportion of correct answer for test item number 17 is 0.53, and the proportion of correct answer for test item number 24 is 0.43. The total correct answer of identifying the generic structure is 0.57. Then, based on the standard level of difficulty, all items for identifying the generic structure or “p” is >0.30 and <0.70 . So, the items of identifying the generic structure are accepted.

TABLE III.9
IDENTIFY THE LINGUISTIC FEATURES

Variable	Item No.					N
	4	7	11	16	21	
B	13	13	20	18	20	30
P	0.43	0.43	0.66	0.6	0.66	
Q	0.57	0.57	0.34	0.4	0.34	

Based on the table, the item numbers of question for identifying the linguistic features are 4, 7, 11, 16, and 21. It shows that the proportion of correct answer for identify the linguistic features of test item number 4 is 0.43, the proportion of correct answer for test item number 7 is 0.43, the proportion of correct answer for test item number 11 is 0,66, the proportion of correct answer for test item number 16 is 0,6, and the proportion of correct answer for test item number 21 is 0,66. The total correct answer of locating meaning of vocabulary is 0,55. Then, based on the standard level of difficulty, all items for identify the linguistic features or “p” is >0.30 and <0.70 . So, the items of identify the linguistic features are accepted.

TABLE III.10
FIND OUT MEANING OF VOCABULARY

Variable	Item No.					N
	5	9	15	20	25	
B	17	19	17	15	19	30
P	0.56	0.63	0.56	0.5	0.63	
Q	0.44	0.37	0.44	0.5	0.37	

Based on the table, the item numbers of finding the meaning of vocabulary are 5, 10, 15, 20, and 25. It shows that the proportion of correct answer for making inference of test item number 5 is 0.56, the proportion of correct answer for test item number 10 is 0.63, the proportion of correct answer for test item number 15 is 0.56, the proportion of correct answer for test item number 20 is 0.5, and the proportion of correct answer for test item number 25 is 0.63. The total

correct answer of finding the meaning of vocabulary is 0.57. Then, based on the standard level of difficulty, all items for finding the meaning of vocabulary or “p” is >0.30 and <0.70 . So, the items of finding the meaning of vocabulary are accepted.

3. Reliability

a. Realibility of the questionnaire

According to Gay and Arisian, “reliability is the degree to which the test consistently measures whatever it is measuring”.⁸ The following table is the level of internal consistency of Cronbach Alpha :

**TABLE III.11
INTERNAL CONSISTENCY BY USING CRONBACH ALPHA**

Cronbach Alpha	Internal Consistency
> 0.90	Very high reliable
0.80 – 0.90	High reliable
0.70 – 0.79	Reliable
0.60 – 0.69	Minimally reliable
< 0.60	Unacceptably low reliable

To obtain the reliability of the questionnaire, the researcher used SPSS 16.0 program to find out whether or no the questionnaire is reliable.

**TABLE III.12
CRONBACH ALPHA
RELIABILITY
STATISTICS**

Cronbach's Alpha	N of Items
.748	25

⁸ L.R. Gay and Peter Airasian. Loc.it.

From the table above, it can be seen that the value of cronbach's alpha is 0.748. Then, the researcher compared the r_{11} to r_t . The $r_{11} = 0.748$ is higher than r_t as significant level 5% is 0.367 and at 1% level of significant is 0.471 where r_t ($dk=N-1= 30-1= 29$). It means that the items are reliable, where the value of internal consistency is $0.79 > 0.748 \geq 0.70$. So, the realibility of questionnaire was reliable.

b. Realibility of the test

Reliability is a necessary characteristic of good test. Brown Says that realibility has to with accuracy of measurement.⁹ It is clear that reliability is used to measure the quality of the test scores and the consistency of the test. The writer then used the Kuder Richardson 20 (K-R 20) formula to calculate the reliability of the test. The formula is as follows¹⁰:

$$r_{11} = \frac{k}{k - 1} \frac{V_t - \sum pq}{V_t}$$

Where :

r_{11} : Instrument reliability

k : Number of items

V_t : Variance total (the square of Standard Deviation)

p : The proportion of the students who are correct in answering an item divided with the total number of the students

⁹ H. Douglas Brown. *Language Assesment: Principles and Classroom Practice*. (Pearson Education Inc: New York, 2003), p.19

¹⁰ Suharsimi Arikunto. 1990. *Manajemen Pendidikan*. Rhineka Cipta : Jakarta, p.229

q : The proportion of the students who are incorrect in answering an item divided with the total number of students.

Based on the data , the researcher got:

K : 25

V_t : 16.58

pq: 5.62

$$r_{11} = \frac{25}{25 - 1} \frac{16.58 - 5.62}{16.58}$$

$$r_{11} = \frac{25}{24} \frac{10.96}{16.58}$$

$$r_{11} = 1,04 \quad 0,66$$

$$r_{11} = 0.686$$

To know whether the test is reliable or not, the value of r_{11} must be compared with r product moment. The value of r_{11} must be higher than r table. From the calculation above, the value of r_{11} is 0.686. Then the r_t at 5% grade of significance is 0.374. While r_t at 1% grade of significance is 0.479. So, it can be concluded that $0.479 < 0.686 > 0.374$. In other word, the instrument is reliable because the value of r_{11} is higher than r_t .