CHAPTER III

RESEARCH METHODOLOGY

This chapter consists of method of the study, operational definition, variables, population and sample, validity and reliability of the test, technique for collecting the data, and technique for analyzing the data.

A. Method of Study

In this study, the writer used descriptive method. According to Abdullah (2017: 1), Descriptive method is depiction designed to obtain information about the status or symptoms regarding the population or a particular area, or map facts based on perspective (a certain frame of mind at the time research was carried out. The writer use descriptive method to find out and describe the tenth grade students' ability understanding correlative conjunction at SMA Negeri 3 OKU.

B. Operational Definition

In order to make this study clearly, the writer described some operational definition as follows:

1. Ability

   Ability is an acquired or natural capacity or talent that enables an individual to perform a particular job or task successfully
2. Understanding

   The mental process of a person who comprehend of something
3. Correlative Conjunction

   Conjunctions that work in pairs to join words and groups of words of equal weight in a sentence

C. Population and Sample

1. Population

According to Nalendra (2021:23), Population is a group of people, events or everything which has certain characteristics. Furthermore Kesumawati, (2019:11) states that Population is a generalization area consisting of objects or subjects that have certain qualities and characteristics that are applied by research to study and then draw conclusions. The population of this study is the tenth grade students of SMA Negeri 3 Baturaja. The total number of students are 183 students from four classes. Table 1 below presents the population of this study:

Table 1
The Population of the Study

No	Classes	Number of Population
1.	X.A	31
2.	X.B	32
3.	X.C	30
4.	X.D	29
Total Number of Student		122

Source: SMA Negeri 3 OKU (data base 2023-2024)

2. Sample of Study

According to Kesumawati as citied on Sugiyono (2019:11) state that The sample is part of the number and characteristics of the population , and addition by Kesumawati as citied on Hasan (2019:11) the sample is part of the population which is expected to be able to represent the population in the research.

The population in this study, the writer used the Slovin' s formula in drawing the samples as described as follows:

$$n = \frac{N}{1 + Ne^2}$$

where:

n= number of Sample

N=Number of Population

e= margin error (0,05)

$$n = \frac{122}{1+122(0,05)^2}$$

$$n = \frac{122}{1+122\ (0,0025)}$$

$$n = \frac{122}{1+0,305}$$

$$n = \frac{122}{1,305}$$

n= 93 samples

93 students of samples was taken randomly from the class as described in the following table:

Table 2

Sample of the research

No	Classes	Number of samples
1.	X.A	31
2.	X.B	32
3.	X.C	30
Total Number of Student		93

D. Technique for Collecting Data

To collect the data in this study, the writer used a test and questionnaire.

1. Test

Magdalena (2021: 2). states that instrument test is a tool that meets the requirements academic, so it can be used as a tool to measure a measuring object or collecting data about a variable. The test instrument consists of objective tests within multiple choices forming. The writer devises a test to find out the students' ability in learning correlative conjunction. The writer devise 30 questions in multiple choice taken from Pauzan (2021) by any changing in some areas match with the need of this research.

2. Validity of the test

According Najib as cited on Arikunto (2020: 26) validity that to measure how long is the test can be measure. Furthermore Nurliana as cited on Brown (2020: 31) affirmed that construct validity canbe defined as tentative demonstration which a test was measuring the constructIn order to make the test have a validity, The writer used one of the types of validity namely content validity. In order to know if the contents of the test items given are appropriate, the writer constructs the specification of test item. Table 3 shows Test specification

Table 3

Test Specification

Objective of the Instrument	**Indicators**	**Test Material**	**Test form**	**Number of Test**
To measure the students' ability in understanding correlative conjunction	The students are able to combine two sentences using correlative conjunction	*1. both…..and,* *2. Either…or,* *3. As.... as* *4. Not only…but also* *5. Whether …or* *6. Neither…nor* *7. Rather…than* *8. So…that* *9. Such …that*	Multiple choice	1, 5, 7, 12 4, 8, 9, 16 6, 11, 13, 15 2, 18, 20, 23 3, 10, 17, 21 22, 25, 29 19, 27, 30 24, 28 14, 26
Total				30 Items

According to Taherdoost (2022;14), questions can be designed to measure variables for example in a survey. On the other hand, questions can be based on aggregating into indexes or scales, for instance in tests. In order to find out the factor that influence students ability in understanding correlative conjunction, the

writer made the questionnaire specification item as proposed by Taherdoost (2022;14), as follows:

The writer tried out the instrument to check whether the instrument had a good validity or not. To analyze the validity of instrument, the writer used Pearson Product Moment Test, according to opinion Kesumawati (2019: 106) Product moment correlation is often used by researchers who have interval data.

To know whether the test items are valid or not, the writer concluded two hypotheses as follow:

a. If the critical value ($r_{obtained}$) is positive and more than r_{table}, it mean that the item is valid.
b. If the critical value ($r_{obtained}$) is negative and less than r_{table}, it means that the item is invalid

The tryout of the instruments was done by the nonsample students at SMA Negeri 3 OKU. The result of try out was described as follow:

Table. 4 Try out

No	Name	True	False	Score
1	**AP**	26	4	86.67
2	**AY**	20	10	66.67
3	**AL**	22	8	73.33
4	**DY**	2	28	6.67
5	**DK**	20	10	66.67
6	**EA**	20	10	66.67
7	**F**	15	15	50.00
8	**FN**	15	15	50.00
9	**HG**	10	20	33.33
10	**IH**	19	11	63.33
11	**IP**	24	6	80.00

12	**IS**	2	28	6.67
13	**MS**	27	3	90.00
14	**AS**	27	3	90.00
15	**ND**	3	27	10.00
16	**NY**	7	23	23.33
17	**NR**	25	5	83.33
18	**RH**	21	9	70.00
19	**RW**	4	26	13.33
20	**R**	21	9	70.00
21	**RJ**	20	10	66.67
22	**RT**	13	17	43.33
23	**SD**	25	5	83.33
24	**J**	27	3	90.00
25	**SM**	3	27	10.00
26	**SG**	9	21	30.00
27	**YK**	25	5	83.33
28	**YO**	16	14	53.33
29	**Y**	3	27	10.00

The writer had been checked whether the instrument has a good validity or not, the writer used Pearson Product Moment Test. The writer had tried out the instruments of the research to nonsample students. The writer had gotten some data which is needed to calculated the validity of the instruments. The writer used the SPSS 19 program to calculated the validity of the instruments. The writer determined the Significance level (α) of the test is 0,05 or 5% from the confidence interval 95%, and the value $\mathbf{r_{table}}$ of this test is 3673 (df = N-2 = 27). To know whether the test items were valid or not, the writer concluded two hypotheses as follow:

a. If the critical value ($r_{obtained}$) was positive and more than r_{table}, it mean that the item was valid.

b. If the critical value ($r_{obtained}$) was negative and less than r_{table}, it means that the item was invalid

Table 5 .

The Critical Value ($r_{obtained}$) and r_{table}

No.	Question Items	Critical Value ($r_{obtained}$)	r_{table}	Conclusion
1	Item 1	0.584	0,367	Valid
2	Item 2	0.584	0,367	Valid
3	Item 3	0.584	0,367	Valid
4	Item 4	0.067	0,367	Invalid
5	Item 5	0.695	0,367	Valid
6	Item 6	0.476	0,367	Valid
7	Item 7	0.794	0,367	Valid
8	Item 8	0.701	0,367	Valid
9	Item 9	0.804	0,367	Valid
10	Item 10	0.794	0,367	Valid
11	Item 11	0.794	0,367	Valid
12	Item 12	0.381	0,367	Valid
13	Item 13	0.554	0,367	Valid
14	Item 14	0.593	0,367	Valid
15	Item 15	0.794	0,367	Valid
16	Item 16	0.776	0,367	Valid
17	Item 17	0.747	0,367	Valid
18	Item 18	0.589	0,367	Valid
19	Item 19	0.448	0,367	Valid
20	Item 20	-0.169	0,367	Invalid
21	Item 21	0.554	0,367	Valid
22	Item 22	0.554	0,367	Valid
23	Item 23	0.593	0,367	Valid
24	Item 24	0.600	0,367	Valid
25	Item 25	0.565	0,367	Valid

26	Item 26	0.554	0,367	Valid
27	Item 27	0.448	0,367	Valid
28	Item 28	0.660	0,367	Valid
29	Item 29	0.457	0,367	Valid
30	Item 30	-0.169	0,367	Invalid

The tables showed that there were 3 items (item 4, item 20, item 30,) were invalid and the rest 27 items were valid. So, the writer used 27 items which was valid as the research instrument.

3. Index of Difficulty

The index of difficulty is general expressed as the fraction (percentage) of the students who answer the items correctly.. The writer analyzed validity of each item of the instrument by using formula as follow :

$$FV = \frac{R}{N}$$

In which:

FV = Index of difficulty (facility value)

R = Numbers of correct

N = Number of students taking the test.

Dealing with the index of difficulty of test items, according Magdalena (2021) as cited on Witherington the the Interpretation of the difficulty level of test items measure. The criteria of index of difficult such as follow :

0.00 --------- 0.30	Difficult
0,31--------- 0,70	Medium
0,71 ---------1,00	Easy

Tabel 6

The result of difficulty Index test

Number Of The Test	Number Of Students' Correct Answer	Average Index Of Difficulty	Category
1	16	0.55	medium
2	16	0.55	medium
3	16	0.55	medium
4	6	0.21	difficult
5	15	0.52	medium
6	17	0.59	medium
7	16	0.55	medium
8	19	0.66	medium
9	18	0.62	medium
10	16	0.55	medium
11	16	0.55	medium
12	14	0.48	medium
13	17	0.59	medium
14	16	0.55	medium
15	16	0.55	medium
16	18	0.62	medium
17	17	0.59	medium
18	17	0.59	medium
19	18	0.62	medium
20	6	0.21	difficult
21	17	0.59	medium
22	17	0.59	medium
23	16	0.55	medium
24	15	0.52	medium
25	19	0.66	medium

26	17	0.59	medium
27	18	0.62	medium
28	18	0.62	medium
29	18	0.62	medium
30	6	0.21	difficult

Based on table 6, it was found that there were 3 items (item 4, item 20, item 30,) were difficult and there were no easy items. and the test 27 items were medium. So, the writer used 27 items which was valid as the research instrument. It means that the questions were not easy and difficult. So, all question could be used as instrument.

Table 7

The Result of Difficulty Index Test

Score	Criteria	Number of item
0,0 – 0,30	Difficult	4,20,30
0,31 – 0,70	Medium	1,2,3,5,6,7,8,9,10,11,12,13,14,15,16,17,18 ,19,,21,22,23,24,,25,26,27,28,29
0,71 – 1,00	Easy	-

4. Reliability of the test

Reliability refers to the consistency of test scores. According to Nurliana as cited on Widoyoko (2020:31) mention that reliability means something that can be trusted. A test is reliable if it is consistent when being used repeatedly. It is concern with precision and accuracy.

According Quansah as cited on Schmitt (2017) presenting coefficient alpha as an index of reliability or the internal consistency of psychological construct has turned out to be routine practice in almost all social science and psychological

research which makes use of the measurement of multiple-item of a construct. To estimate the instrument is reliable or not, the writer found the reliability by using the Cronbach Alpha Test. The writer used the SPSS 19 program to calculate the reliability of the instruments.

To know whether the test items are reliable or not, the writer concluded two hypotheses as follow:

a. If the Cronbach Alpha Point is more than 0.70, it mean that the items were reliable.
b. If the Conbrach Alpha Point is less than 0.70, it mean that the items were not reliable.

Table 8 .
Reliability Statistics

Cronbach's Alpha	Number of Items
0.936	30

The table showed that the Cronbach' s Alpha Point was 0.936, it was more than 0.70. So, it means that the items of the instruments were reliable and could be used as the instrument to get the data of the research.

E. Technique for Analyzing the Data

1). Scoring System

1. The Scoring of the Test

   To calculate the score of the students test, the writer used the pattern in the following formula.

$$S = \left(\frac{R}{N}\right) X 100$$

   Where:

   S = Score of students' test

   R = The correct of students answer

   N = Total of questions

Source: (Rahmawati as citied on Arikunto, (2020:6))

2. Calculating the average student' s score.

   To calculate of the mean student' s score. The writer used the following formula below:

$$\overline{X} = \left(\frac{\sum xi}{n}\right)$$

   Where :

   $\overline{X}$ = Mean

   $\sum xi$ = Individual Score

   n = Number of Students

Source: (Pratama (2018: :31))

In determining the level of the students' ability in understanding correlative conjunction. The writer used the criteria as follows Arikunto below,:

Table 9

Score Range and Criteria

No	Score Range	Score Criteria
1	80-100	Very Good
2	66-79	Good
3	55-65	Fair
4	46-54	Poor
5	< 45	Fail

Source: (Nurgiyantoro, 2010)