CHAPTER III
RESEARCH METHOD

This chapter discusses method used. It deals with research design, the subject of the study, the population and sample, the instrument of the study, data collection, and the data analysis.

A. Research Design

The research design of this study is correlational study since it is used to test the hypotheses. A correlational research investigates how scores on one variable or variables rise and fall as scores on other variables rise or fall[28]. In this study, the researcher investigates and describes the correlation between phenomena. If two variables are correlated, it can be predicted with a certain degree of accuracy. This research emphasizes on whether or not there is correlation between students' reading comprehension and translation ability.

B. Population and Sample

The larger group to which one hopes to apply the result is called population. While sample in a research study is the group on which information is obtained.[29] Sampling is the process of selecting a number of

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[28] Donald, Ary et.al. *Introduction to Research in Education (sixth edition)*, (Belmont: Wadsworth, 2002), 354.

[29] Jack R. Fraenkle and Norman E. Wallen, *How to Design And Evaluate Research In Education, Sixth Edition*, (New York: McGraw-Hill, 1992), 92.

individuals for a study in certain way that represent the larger group from which they were selected.[30]

The sampling technique in this research uses Non-probability Sampling that is *Quota Sampling*. *Quota Sampling* involves selecting typical cases from diverse strata of a population which is based on known characteristic of the population. The selection of elements is likely to be based on accessibility and convenience.[31]

According to Gay, the minimum numbers of subject to be acceptable for a study depend on the type of research. Hence, for correlational studies at least 30 subjects are needed to establish the existence or nonexistence of a relationship.[32] The population of this study is students of the tenth Bilingual class of MAN Kunir Wonodadi Blitar which consist of 80 students within two classes. For the easiness of accessibility the sample is taken from 40 students of the tenth Bilingual science class.

C. Instrument of The Study

The instrument in this research is a test for reading comprehension and translation ability. A test is a systematic procedure for observing one's behavior and it with the aid of numerical or category system. A test is used to collect the data of students' reading comprehension and translation ability.

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[30] Gay, L. R. *Educational Research, Competencies Analysis and Application, Fourth Edition.* (Ontario: Macmillan, 1992), 123

[31] Donald, Ary et.al. *Introduction to Research in Education (sixth edition)*, (Belmont: Wadsworth, 2002), 170

[32] Gay, L. R. *Educational Research, Competencies Analysis and Application, Fourth Edition*, (Ontario: Macmillan, 1992), 136

1. **Reading Comprehension Test**

   The test of reading comprehension was an objective test in the form of multiple choice tests consisting 25 items. There were five options in each item (A, B, C, D, and E). The researcher took some of the questions that have significant correlation with the students' compulsory book, such as Look Ahead (Published by Erlangga) and student's work sheet (LKS - Lembar Kerja Siswa PR SMA/SMK/MA Kelas X, published by Intan Pariwara) and many other sources from the internet. The researcher marked 1 for each item which is answered correctly and marked 0 for the wrong answer. Then the total correct items are multiplied by four to obtain the score.

2. **Translation Test**

   The test of translation is a subjective test in the form of essay. The translation assessment rubric employed is adopted from *Moving toward Objective Scoring: A Rubric for Translation Assessment* by Khanmohammad and Osanloo. A total value of 100% for these factors which include: accuracy (30%), finding the right and suitable word equivalence in T.T, TT's genre (25%), TL culture (20%), grammar and preservation of style (15%), shifts, addition, omission and inventing equivalents (10%). (See Appendix 4). Then the total number is multiplied by 100 in order to gain the score.

3. **Try out**

Before the instrument is used in the real situation, it is first try out. The test form was tried out in the MAN Kota Blitar on Jl. Jati No. 78 Balapan, Sukorejo, Blitar on April 14th 2016. There were 20 students who participated on the try out.

The purpose of conducting the try out was to check the time allocation, to know the reliability of the test scores and the validity of the items. The items that were proven statistically satisfactory were included in the real test, and the items that were not statistically satisfactory were revised. The time allocated for the try out was 45 minutes for each test; they are reading comprehension test and translation test. In reading comprehension test, the students were given reading text and the questions based on the text. The test consisted of 30 questions on multiple choice forms. The goals are to understand about the content and the topic of the text.

In translation test, the students are given a text. The students have to translate the text from English into Indonesian. The purpose of this test is to check and to know the result of the student's translation ability. After the try out is administered, the reliability and the validity of the test can be determined.

a. **Reliability**

Reliability is concerned with the effect of such random errors of measurement on the consistency of scores.

1) Reliability of Reading Comprehension Test

Cronbach's Alpha estimate powered by SPSS ver. 23 is employed to cultivate the reliability of the test. The result of estimation is presented at table 3.1

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Table 3.1
The Reliability of Reading Comprehension Test

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Cronbach's Alpha	N of Items
.730	30

The coefficient of reliability is 0.00 – 1.00. The closer of coefficient to 1.00, it means that the stronger, the reliability of the test.[33] On the other hand, the closer of coefficient to 0.00, it means that the weaker the reliability of the test. Based on this criterion, the reliability estimate for the 30 items of reading comprehension test is 0.730, so the tests are reliable.

2) Reliability of Translation test

The reliability estimate of translation test uses the inter-rater reliability. Here, the test scoring is done by two raters, the reliability of their evaluations can be checked by comparing the

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[33] M Soenardi Djiwandono, *Tes Bahasa Dalam Pengajaran*, (Bandung: ITB Bandung, 1996), 98

scores they give for the same students based on the translation assessment rubric. (See Appendix 4)

From the information of the two raters of translation test above, then is computed by Pearson's product moment formula. The result of computation is presented at table 3.2

Table 3.2
The Reliability of Translation Test

		Rater1	Rater2
Rater1	Pearson Correlation	1	.830**
	Sig. (2-tailed)		.000
	N	20	20
Rater2	Pearson Correlation	.830**	1
	Sig. (2-tailed)	.000	
	N	20	20

**. Correlation is significant at the 0.01 level (2-tailed).

A complete lack of reliability is indicated by coefficient of 0.00 and perfect positive reliability is indicated by coefficient 1.00. Based on these criteria, the reliability estimate for the translation test is 0.83. So the test is reliable.

b. Validity

Validity is concerned with the extent to which test result serves their intended used. It means that test used in this study is expected to be able to measure the students' achievement well. There are many types of validity, they are content validity, predictive validity, concurrent validity and construct validity. A kind of validity that the

researcher used in this study is content validity. Content validity is concerned with what goes into the test. The degree of content validity in a test related to how well the test measures the subject matter content studied.

The effectiveness of the test items can be measured from two points; they are item difficulty and item discriminating power. According to Haris, items are said to be statistically satisfactory if they meet two requirements, they are suitable level of difficulty and the discriminate between high and low students.[34]

1) The Index of Difficulty

The index of difficulty (FV) is generally expressing the fraction (or percentage) of the students who answered the item correctly. It is calculated by using the formula:

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

In which:

FV   : facility value (index of difficulty)

R   : the number of correct answers

N   : the total number of students taking the test

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[34] David P. Haris, *Testing English As Second Language* (New York: MC Graw Hill Book Company, 1969), 103.

2) The Index of Discrimination

The discrimination index measures how well a test item identifies differences in achievement level of students. The discrimination index provides important information for the test. To estimate the item discriminating power is by comparing the number of students in the upper and lower group who answered the item correctly, the formula is:

$$DP: \frac{D - U}{N}$$

In which:

D : the index ofthe discriminating

U : the number of students in the upper level group who answered the item correctly

L : the number of students in the low level group who answered the item correctly

N : number of students in each of the group

The measure of index difficulty and index discrimination can be seen on the table below.

Table 3.3
Item Analysis of Reading Comprehension

Items	D	Criteria	P	Criteria
1	0	Deleted	0,7	Easy
2	0,2	Revised	0,65	Fair
3	0,2	Revised	0,5	Fair
4	0,4	Used	0,65	Fair
5	0,3	Used	0,7	Easy

Items	D	Criteria	P	Criteria
6	0,4	Used	0,65	Fair
7	0,2	Revised	0,65	Fair
8	0,2	Revised	0,65	Fair
9	0,3	Used	0,7	Easy
10	0,4	Used	0,65	Fair
11	0,4	Used	0,6	Fair
12	0,4	Used	0,65	Fair
13	0,5	Used	0,65	Fair
14	0,5	Used	0,7	Easy
15	0,4	Used	0,65	Fair
16	0,3	Used	0,55	Fair
17	0,3	Used	0,55	Fair
18	0,3	Used	0,6	Fair
19	**0**	**Deleted**	**0,65**	**Fair**
20	0,3	Used	0,7	Easy
21	**0**	**Deleted**	**0,7**	**Easy**
22	0,2	Revised	0,65	Fair
23	**0**	**Deleted**	**0,55**	**Fair**
24	0,2	Revised	0,7	Easy
25	0,2	Revised	0,6	Fair
26	0,3	Used	0,55	Fair
27	0,3	Used	0,75	Easy
28	0,2	Revised	0,45	Fair
29	**0**	**Deleted**	**0,55**	**Fair**
30	0,1	Revised	0,55	Fair

Items that show a level difficulty between 0,30 until 0,70 are fairly easy items.[35] Based on the level of difficulty, the items

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[35] Anas Sudjono. *Pengantar Evaluasi Pendidikan*, (Jakarta: PT Raja Gratindo Persada, 1996), 372.

above are perfect because the results are between 0,30 and 0,70. So, they can be used in the future test. But based on the discrimination index, the items that had to revise are items 2, 3, 7, 8, 22, 24, 25, 28, and 30 and that has to delete are items 1, 19, 21, 23, and 29.

D. Data Collection

In this research, the researcher utilizes quantitative approach in order to get the data relating to the students reading comprehension and their translation ability. The data are collected by means of test as the instrument. The researcher conducted two tests, reading comprehension test and translation test.

The researcher conducted a try out in order to determine validity and reliability. After the test is valid and reliable, the researcher distributes timed-reading comprehension test to tenth bilingual science and asks the students to answer 25 questions in 45 minutes. The students submit the answer sheet after the time is up. The data is obtained from the student's score.

The second test is translation test. The researcher uses subjective test to know the students' translation ability. The researcher asks students to translate a text from English into Indonesian in 45 minutes and submit them when time is up. Then the researcher objectively scores the students' answer sheets with the second rater based on translation assessment rubric. Both of the tests are given outside classroom activity to avoid the interruption in learning process.

E. Data Analysis

The result of data analysis is used to check hypothesis whether H_0 is rejected and H_a is accepted or vice versa. The hypotheses are as follow:

H_0 : There is no correlation between reading comprehension and translation ability.

H_a : There is correlation between reading comprehension and translation ability.

Data collected through the above-mentioned research instruments are tabulated, analyzed, and interpreted in the light of the objectives of the study by using statistic. The collected data is calculated in **IBM*SPSS* Software** version 23. According to Hasan, correlation coefficient has value between -1 and 1.[36] The result of calculation is categorized based on a chart of coefficient correlation to mark whether the correlation is low or high presented on table 3.4 below.

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Table 3.4
Standard of Correlation Coefficient[37]

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No	CC	Interpretation
1	$CC = 0$	There is 0 correlation
2	$0 < CC \le 0.20$	The correlation is very low
3	$0.20 < CC \le 0.40$	The correlation is low
4	$0.40 < CC \le 0.60$	The correlation is average
5	$0.60 < CC \le 0.80$	The correlation is high
6	$0.80 < CC \le 1.00$	The correlation is very high
7	$CC = 1$	The correlation is excellent

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[36] V. Wiratna Sujarweni, *Belajar Mudah SPSS untuk Penelitian Skripsi, Tesis, Disertasi, dan Umum,* (Sleman: Global Media Informasi, 2008), 120

[37] Suhsarsimi Arikunto, *Prosedur Penelitian* (Jakarta: PT Aneka Cipta, 1996), 260.