

## **CHAPTER III**

### **RESEARCH METHOD**

This chapter discusses the research method. The researcher describes several topics related to the research method used in this research. They are the research design, variable, hypothesis, site and participants, research instruments, data collection, and data analysis.

#### **3.1 The Research Design**

For getting the data accurately and completely the researcher applied quantitative research methodology which was correlational research. Correlational research was used because this study aimed to identify the relationship between students' reading comprehension in TOEFL and their ability in translating English texts into Indonesian. Sugiyono (2014, p. 8) states that quantitative research is used to investigate certain population and sample, to collect data using research instrument, to analyze data in quantitative/statistic, and to examine the determined hypothesis. In correlational research, the relationships among two or more variables are studied without any attempt to influence them. There is no manipulation of variables in correlational research (Fraenkel & Wallen, 2012).

##### **3.1.1 Variable**

Variable can be classified into independent and dependent variables. Independent variable is a variable which is selected, organized, and evaluated by the researcher (Hatch & Farhady, 1982). Meanwhile, dependent variable is the variable in which the researcher observed in order to find out the effect of the independent variable (Loc Cit). As for this study, the independent variable was the students' reading comprehension in TOEFL, while the dependent variable was the students' ability in translating English texts into Indonesian. Hence, in this current

study, reading comprehension in TOEFL was presumed to have an effect on students' English- Indonesian translating ability.

### **3.1.2 Hypothesis**

Since this study was a quantitative correlational research, it is important to predict a particular relationship between two variables, the students' reading comprehension in TOEFL and the students' ability in translating English texts into Indonesian. This research had a set of hypothesis as follows:

- H0 = There is no relationship between students' reading comprehension in TOEFL and their ability in translating English texts into Indonesian.
- H1 = There is relationship between students' reading comprehension in TOEFL and their ability in translating English texts into Indonesian.

### **3.1.3 Site and Participants**

This research was conducted in Indonesia University of Education (UPI), Bandung. The participants of this research were 25 semester eight students of English Education Department batch 2010 who were Indonesian natives. The students involved in this study were the students of Translating-Interpreting program who had taken and passed four credit of English-Indonesia Translating course who took. The purposive sampling was used to determine the sample of this study. Purposive sample is done by taking subjects to obtain sample based on the purpose of the study not based on stratum, random or location (Arikunto, 2013). By selecting these students, the researcher assumed that they were capable of translating English texts into Indonesian much better because they had more exposures to translation practices than the students who took ESP program.

### **3.1.4 Research Instruments**

Reading comprehension and English-Indonesian translation tests were administered to all of the participants. The researcher used TOEFL texts to collect data of students' reading comprehension and students' translating ability for this research. The texts were taken from "*Cliffs TOEFL Preparation Guide Test of English as a Foreign Language*" by Michael A. Pyle, M.A. and Mary Ellen Muñoz Page, M.A (2002). Reading comprehension test and English-Indonesian translation test were using the same TOEFL texts.

#### 3.1.4.1 The Reading Comprehension Test

This study concerned with the students' skill in reading comprehension; therefore, the research opted to use TOEFL texts practice test which is very similar in format to the real institutional administration. The participants had to take this test under testing condition, exactly as the actual test with time allocation. This test was aimed at answering the first research question about the students' reading comprehension in TOEFL.

The test item consisted of five texts from "*Cliffs TOEFL Preparation Guide Test of English as a Foreign Language*" (p. 451- 462) and followed by approximately fifty multiple choice related to the texts. To obtain the score of the test, this study employed a simple formula. The formula is:

$$\frac{CA}{N} \times 100$$

Where :

CA = number of correct answers

N = number of the total items

Score 100 would be the highest score. After obtaining the data, the researcher used Five Scales Absolutes Norm with following scale table:

Table 3.1  
Five Scale Absolute Norm

The Mastery Process	Raw Score	Standard Score	Category
90% - 100%	85 – 100	A	Very Good
80% - 89%	71 – 85	B	Good
65% - 79%	51 – 70	C	Fair
55% - 64%	41 – 50	D	Poor
0% - 54%	0 – 40	E	Very Poor

(Nurkencana, 1992)

#### 3.1.4.2 The English-Indonesian Translation Test

The researcher used TOEFL texts from “*Cliffs TOEFL Preparation Guide Test of English as a Foreign Language*” (p. 451- 462) that were also used in reading comprehension test as the material for the translation test. The participants were asked to translate the text regardless of translation method which they used. This translation test was aimed to answer the second research question about the student’s ability in translating English texts into Indonesian.

The translation assessment used the indicator for quality categories according to Barnwell (as cited in Mulyati, 2010) as shown as follow:

Table 3.2  
Translation Quality Categories

Aspects	Score	Level	Qualification
Accuracy	1	Bad	Semantically misleading and incomprehensible, unclear meaning, the presence of some grammatical errors and deviation of meaning.
	2	Fair	Correct meaning, minimum redundancy and grammatical errors.
	3	Good	Correct meaning, no omission, addition or any changes of meaning.
	4	Excellent	Accurate, clear, no omission, addition or any changes of meaning.
Clarity	1	Bad	Stylistically awkward, structurally burdensome, poorly structured, diction and mechanical errors.
	2	Fair	Complex syntax but understandable meaning and some diction that have mechanical errors.
	3	Good	Appropriate words, phrases and grammar and also clear meaning.
	4	Excellent	Easy to be understood, correct words, phrases and grammar, and no ambiguity.
Naturalness	1	Bad	Unnatural forms, awkward language, linguistically unnatural, stylistically awkward.
	2	Fair	Makes sense and minimum unnatural words, grammar, phrases and idioms.
	3	Good	Correct meaning, appropriate idioms, and words but there are some syntactic structure errors.

	4	Excellent	Makes sense and read naturally (written in ordinary language, common grammar, proper idioms and words).
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After obtaining the score of translation quality, the researcher converted that score with another translation categories which is proposed by Machali (2000, cited in Putra, 2012) in order to get translation quality category and mark of translation evaluation.

Table 3.3  
Categories in Translation Evaluation

Category	Mark Average (%)	Indicator
Nearly Perfect Translation	86-100 A	Natural expression; no inversion and deviation of meaning; no incorrect choice of standard term mistake; sounds like a native language.
Very Good Translation	76-85 B	No distortion of meaning; no rigid word for word translation; no incorrect choice of standard terms; but there is still a few of spelling mistakes.
Good Translation	61-75 C	No distortion of meaning; no rigid word for word translation; but is not relative more than 15% of the whole text; there are

		also a few of incorrect choice of standard terms.
Fair Translation	46-60 D	Sounds of translation, there are some of rigid word for word translation but are not relatively more than 25% of the whole text; there are some grammatical errors, but is not relatively more than 25% of the whole text. Some incorrect choice of standard terms and unclear meaning are found
Bad Translation	20-45 E	Sounds a pure translation; too many rigid word for word translation. Distortion of meaning and choice of terms mistake are found more than 25% of the whole text.

(Machali, 2000)

### 3.2 Data Collection

#### 3.2.1 Research Procedures

These steps were the research procedures in order to collect the data:

1. Selecting the relevance theories and references on reading comprehension in TOEFL and translation.

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2. Selecting the material for reading comprehension test and translation test from TOEFL texts.
3. Selecting the site and participants of the research.
4. Administering the test; the students were given 120 minutes to finish the reading comprehension test and translation test. English dictionary was allowed.
5. Checking and scoring the students' for reading comprehension test and translation test results.
6. Analyzing the findings of the research.
7. Interpreting the meaning of the results and verifying whether or not the data support the theory, research questions and hypotheses.

### 3.3 Data Analysis

#### 3.3.1 Validity Test

Validity refers to the appropriateness, meaningfulness, and usefulness of the inferences a researcher makes (Fraenkel & Wallen, 2012). In short, it is the accuracy of a measurement. Therefore, validity test is measured to support any inferences made based on the data gained using particular instrument (Ibid). To examine the validity of reading comprehension in TOEFL, the researcher used Pearson Product Moment Correlation (Arikunto, 2013, p. 319). The result of the tests were calculated by SPSS 21 for Windows. The criteria which are determined the degree of the item validity is shown below:

Table 3.4  
The Criteria of Validity

Correlational Coefficient	Validity Criteria
$0,80 \leq r_{xy} \leq 1,00$	Very High
$0,60 \leq r_{xy} \leq 0,80$	High
$0,40 \leq r_{xy} \leq 0,60$	Moderate
$0,20 \leq r_{xy} \leq 0,40$	Low



$0,00 \leq r_{xy} \leq 0,20$	Very Low
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( Arikunto, 2013)

### 3.3.2 Difficulty Level

Difficulty level test was used in this study to measure whether the item was relevant with the students' (in this case, the test takers) ability level or not. Difficulty index is the ration of the number of students that can answer the question correctly to the total number of the students who take the test (Cheang & Hasni, as cited in Johari, et al., 2011).

In this study, the difficulty level was used to find whether each of the test items was very easy, easy, moderate, difficult or very difficult. The formula which was used to determine the level of difficulty for a small group of students was as follows:

$$DI = \frac{B}{J}$$

DI : difficulty index

B : number of students who answered that question correctly

J : the total number of test takers

Loon (2007, as cited in Johari, et al., 2011) proposed the classification of difficulty level for different ranges of the difficulty index and actions to be taken as shown in table below.

Table 3.5  
Classification of Difficulty Level

Difficulty Index	Difficulty Level	Modification Results
DI < 0,3	Too Hard	Modify

$0,3 < DI < 0,8$	Moderate	Accept
$DI \geq 0,8$	Too Easy	Modify

### 3.3.3 Reliability Test

In a research study, reliability test also plays an important part in gathering the data. Stainback (as cited in Sugiyono, 2014) defines the meaning of reliability:

Reliability is often defined as the consistency and stability of data or findings. From a positivistic perspective, reliability typically is considered to be synonymous with the consistency of data produced by observations made by different researchers (e.g. interrater reliability), by the same researcher at different times (e.g. test retest), or by splitting a data set in two parts (split-half).

(Stainback, 1988)

The reliability of the instruments for this study was analyzed by internal consistency. Reliability test by internal consistency is done by trying out the instrument once, and then the data is analyzed by a specific technique. Meanwhile, Cronbach's Alpha formula is used to facilitate internal consistency. Results of the analysis could be used to predict the reliability of the instrument. The Cronbach's Alpha formula is stated below:

$$\alpha = \frac{K}{K - 1} \left( 1 - \frac{\sum_{i=1}^K \sigma_{Y_i}^2}{\sigma_X^2} \right)$$

(Arikunto, 2013)

Where :

$\alpha$  = alpha coefficient of reliability

K = number of components or items

$\sigma_X^2$  = variance of the observed total test scores

$\sigma_{Y_i}^2$  = the variance of component

$i$  = the current sample of persons

The instrument can be said as reliable instrument if it has Cronbach coefficient ( $\alpha$ ) which is higher than 0.70 (Nunnally, as cited in Ghozali, 2011). After obtaining the reliability coefficient, then the researcher interpreted the result using the reliability level based on the alpha value as follows.

Table 3.6  
The Reliability Level Based on the Alpha Value

Reliability Coefficient	Criteria
$0.80 \leq r_{11} \leq 1.00$	Very high
$0.60 \leq r_{11} \leq 0.80$	High
$0.40 \leq r_{11} \leq 0.60$	Moderate
$0.20 \leq r_{11} \leq 0.40$	Low
$0,00 \leq r_{11} \leq 0.20$	Very low

(Sugiyono, 2014)

#### 3.3.4 Test of Normality

The normality testing is intended to know the data distribution in the variables (Ghozali, 2011). In this study, normality test was carried out by Kolmogorov-Smirnov test formula using SPSS 21 for Windows. If the data is normally distributed, it means that the sample represents the whole population. On the contrary, if it is not normally distributed, it only works at the sample. The null hypothesis works in the test which is elaborated as follows:

$H_0$  = the data of students' reading comprehension in TOEFL and students' English-Indonesian translating ability are normally distributed.

$H_a$  = the data of students' reading comprehension in TOEFL and students' English-Indonesian translating ability are not normally distributed.

If the data were in normal distribution, the Pearson Product Moment formula is appropriate to use:

$$r_{xy} = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{\{N\sum x^2 - (\sum x)^2\}\{N\sum y^2 - (\sum y)^2\}}}$$

(Sugiyono, 2014, p. 183)

Where :

r = correlation coefficient

N = the numbers of pairs of measurement

x = results of students' reading achievement (variable x)

y = results of translating ability (variable y)

$\sum$  = sum

Meanwhile, if the data were not normally distributed, the data used Spearman Correlation for ranked data. The formula is as follows:

$$\rho = 1 - \frac{6\sum d_i^2}{n(n^2 - 1)}$$

(Sugiyono, 2014)

Where :

d = the difference in statistical rank of corresponding variables

n = the number of pairs of ranking

After calculated the normality distribution and found out if this study used Pearson or Spearman formula, and then coefficient correlation was used based on Sugiyono's (2014) criteria.

Table 3.7  
r Coefficient Correlation

Coefficient interval	Correlation level
0,00 – 0,199	Very weak
0,20 – 0,399	Weak

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0,40 – 0,599	Moderate
0,60 – 0,799	Strong
0,80 – 1,000	Very strong

(Sugiyono, 2014, p. 184)

### 3.3.5 Test of Linearity

Test of linearity is intended to examine the significance of the relationship of the variables which were observed in this study. Since the variables in this study are only two variables: variable X (students' TOEFL reading comprehension) as independent variable and variable Y (students' English-Indonesian translating ability) as dependent variable. The calculation of linearity testing was based on simple regression formula which is stated as follow:

$$Y = a + bX$$

(Kurniawan, 2011)

Where :

Y = dependent variable

a = constant

b = coefficient regression

X = independent variable

### 3.3.6 Calculating the Contribution of Students' TOEFL Reading Comprehension

This computation is intended to see the percentage of the contribution of students' TOEFL reading comprehension variable towards students' English-Indonesian translating ability variable. The percentage was calculated based on the formula below using SPSS 21 for Windows.

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$$CD = r^2 \times 100\%$$

(Coolidge, 1997)

Where :

CD = Coefficient Determinant

$r^2$  = squared correlation coefficient

### 3.3.7 Comparing the Mean of Each Type of Reading Skills

The process of comparing the mean of each type of reading skills is meant to discover the frequency of reading skills which are employed by the students in TOEFL reading comprehension. To meet this purpose, the mean of each reading skills was compared one other and then compared with the mean of translating ability score. The reading skill which has the highest mean is categorized as the most helpful reading skill to improve students' translating ability.