

CHAPTER III

RESEARCH METHOD

This chapter discusses the research method. The researcher tries to describe several topics related to the research method used in this research. They are research method, population and sample, instruments, data collection and data analysis.

3.1 The Research Method

This research used descriptive with ex-post facto design. Syamsudin (2007) as cited in Nurmalasari (2009) said that ex-post facto design is a design that while the research each variable has not get any treatment at all but it happened before. The ex post facto design divided into two kind, correlation and causal-comparative.

This research will employ correlational method since the aim of this research is to investigate the existence and the degree of correlation between students' English grammatical mastery and their translating ability. This research was conducted by using a descriptive method with a quantitative approach. This method was applied to answer the problems found in this research. The research is based on a correlation design. In the introduction, it is mentioned that the research is aimed to investigate whether there is any correlation between two variables; the student's mastery of English grammatical structure and their ability to translate English into Indonesian.

In addition, according to Fraenkel (1993:287), "correlation research attempts to investigate possible relationship among variables without trying to influence those variables". Correlational research is also sometimes referred to as a form of descriptive research, because it describes an existing relationship between variable. In correlational research, researcher seeks to determine if a relationship exist between two or more quantitative variables, such as age and weight or reading and writing ability. A major purpose of correlational research is to clarify our understanding of important phenomena through identification of relationships among variables. In this research, the researcher is using correlational research to find out the relationship between grammatical mastery and translating ability.

3.2 The Population and Sample

3.2.1 The Population

The population of this research is the seventh semester students of English Education Department of Indonesian University of Education (UPI) who took Translating-Interpreting program.

3.2.2 The Sample

The sample subjects of the research were 20 of 39 students of batch 2008 who took Translating-Interpreting program. According to Best and Khan (2002), in order to make a research acceptable, the sample of the research is about 25% of the population. They were chosen since they had taken four credits of English-Indonesian Translating courses. The researcher assumed that they were capable of translating English text into Indonesian.

3.3 Instruments of the Research

The researcher used two kinds of instrument to collect data for this research. They are English grammatical structure test and English-Indonesian translation test.

3.3.1 The English Grammatical Structure Test

Since this research is concerned with the students' mastery of English grammatical structure, the researcher used English grammatical structure test taken from Cliffs TOEFL preparation Guide Test of English as a Foreign Language, to measure the students' mastery of English grammatical structure. The test consists of 40 multiple choice questions.

Wilman Adi Putra, 2012

The Relationship Between Students' Grammatical Mastery And Their Ability in Translating English-Indonesian

Universitas Pendidikan Indonesia | repository.upi.edu

According to Heaton (1988), multiple choice items are considered to be most widely used types of items in objective tests. Further, they can prove useful in measuring student's ability to recognize correct grammatical forms (Heaton: 1988).

In terms of scoring, the researcher scores 2.5 points for each correct test item. Score 100 is the highest score with 100% of the performance scales. After counting the data, the researcher makes ranking scale using Five Scales Absolutes Norm (Nurkanca,1986:79) with the 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 |

3.3.2 The English-Indonesian Translation Test

The researcher used a simple text as the material for the translation test given by the lecturer which would be used as the material the material English-Indonesian translation final test. The respondents were asked to translate the text by their own method.

To measure the translation test the researcher will show the categories of translation assessment used by the lecturer of English-Indonesian Translation subject.

Table 3.2

Categories in Translation Evaluation

| Category | Mark Average (%) | Indication |
|----------------------------|---------------------|--|
| Nearly Perfect Translation | 86-100 A | Natural expression; no inversion and deviation of meaning; no choice of standard term mistake; sound 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 meanings 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 2000:119)

3.4 Administering the Test

After selecting the materials for English grammatical structure and translation test, the researcher administered the two instruments to the students who became the subject of the research.

Wilman Adi Putra, 2012

The Relationship Between Students' Grammatical Mastery And Their Ability in Translating English-Indonesian

Universitas Pendidikan Indonesia | repository.upi.edu

The students were given 30 minutes to finish the English grammatical structure test. While in translation test, the researcher was allowed to take the time of English-Indonesian Translating final test.

3.5 Trying-out the Instruments

Trying out the instrument was needed to examine the reliability and validity of instruments that were applied in this research, whether the instruments is appropriate or not.

The try-out test was given to the students of English Education, which also took the same subject which is English-Indonesian translating course. They were taken since they were considered to have the same level of ability with the sample of the research. The try-out was only conducted on English Grammatical test since the translation test is considered to be valid and reliable. Since the test was made by the lecturer, the validity and reliability of this test was granted.

3.5.1 English Grammatical Structure Reliability

According to Hatch and Farhady (1982:244), reliability can be defined as *the extent to which a test produces consistent result when administered under similar condition*. To measure the reliability of the English grammatical structure test instrument, internal reliability was applied. The internal reliability was gained by analyzing data from one test result (Arikunto, 1997). In addition, he said that there are seven techniques to find in internal reliability. This research uses The Spearman-Brown in determining the reliability of the test, which is also called as split-half technique. The procedures for determining the split-half reliability were conducted as follows:

- a. Divide the items of the test into even and uneven number items, therefore each subject has two scores.
- b. List the score of each student
- c. Square each score and enter the number in the X^2 and Y^2
- d. Multiply the X and Y score together and enter them in the XY column
- e. Correlate them using PPMC formula.

$$r_{xy} = \frac{N\sum XY - (\sum X)(\sum Y)}{\sqrt{((N\sum X^2 - (\sum X)^2)(N\sum Y^2 - (\sum Y)^2))}}$$

r_{xy} = correlation coefficient between correlated variables

X = Score X

X^2 = square of X

Y = score Y

Y^2 = square of Y

N = total number of the students

Since the correlation coefficient gained only show the relationship between two split of the two instruments, then the reliability coefficient of the test instrument is calculated using Spearman-Brown formula:

$$r_{11} = \frac{2X r_{1/21/2}}{(1 + r_{1/21/2})}$$

r_{11} = the instrument reliability coefficient

$r_{1/21/2}(r_{xy})$ = the correlation coefficient between the two split of instrument

The level significance used for testing reliability is 0.05 (directional/one tailed). If the calculation shows that $r_{\text{observed}} > r_{\text{critical}}$, then the instrument is considered to be reliable. On the contrary, if the $r_{\text{observed}} < r_{\text{critical}}$, the instrument is not reliable.

After the instrument was tested, the result of the computation is consulted to the table below to recognize the degree of its reliability.

Table 3.2
Correlation Coefficient Interpretation (Arikunto, 1998:260)

| Coefficient interval | Interpretation |
|----------------------|----------------|
| 0.0 – 0.20 | Very low |
| 0.21 – 0.40 | Low |

| | |
|-------------|-----------|
| 0.41 – 0.60 | Fair |
| 0.61 – 0.80 | High |
| 0.81 – 1.00 | Very high |

3.5.2 English Grammatical Structure Validity

In order to measure the validity of English grammatical structure, the researcher used external validity which is conducted by Arikunto (1998). The external validity is established when the data resulted in instrument is equal to other data information deals with the intended variable of the research. In this case, the researcher correlates the score of English grammatical structure with their structure IV score.

To calculate the correlation coefficient of the two test result, the researcher made an interpretation of the students' structure IV score. The score were classified from A to E. below is the interpretation of the structure IV score classification.

Table 3.3

| Score Classification | Interpretation |
|----------------------|----------------|
| A | 85 |
| B | 75 |
| C | 65 |
| D | 50 |
| E | ≤ 40 |

Thus, to calculate the coefficient correlation, Pearson-Product Moment Correlation (PPMC) formula is applied.

$$r_{xy} = \frac{N\Sigma - (\Sigma X)(\Sigma Y)}{\sqrt{((N\Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2)}}$$

- r_{xy} = correlation coefficient between correlated variables
- X = Score X
- X^2 = square of X
- Y = score Y
- Y^2 = square of Y
- N = total number of the students

The level of significance (α) used for testing validity is 0.05 (directional/one tailed). If the calculation shows that $r_{\text{observed}} > r_{\text{critical}}$, then the instrument is Valid. On the contrary, if the $r_{\text{observed}} < r_{\text{critical}}$, the instrument is invalid.

3.6 Data Analysis Techniques

1. Testing the Normal Distribution

Before displaying the students' score of the two test into a correlation testing, the normal distribution of the data must be founded. The score can be normally distributed if $X^2_{\text{observed}} < X^2_{\text{table}}$. The steps to find the normal distribution are:

- Calculating the mean of X variable and Y variable:

$$\bar{X} = \frac{\sum X}{N}$$

\bar{X} = mean

$\sum X$ = sum or total score

N = sample

- Calculating the standard deviation of the two variables:

$$SD = \sqrt{\frac{\sum X - \bar{X}}{N - 1}}$$

- Calculating the value of chi-square:

$$X^2 = \sum \frac{(O - E)^2}{E}$$

X^2 = Chi-square

O = Observed frequency

E = Expected frequency

- Calculating the value of X^2 from the table

2. Testing the Correlation Coefficient

Wilman Adi Putra, 2012

The Relationship Between Students' Grammatical Mastery And Their Ability in Translating English-Indonesian

Universitas Pendidikan Indonesia | repository.upi.edu

To calculate the correlation coefficient between the two variables, the researcher used the Pearson Product Moment Correlation (PPMC) method:

$$r_{xy} = \frac{N\Sigma - (\Sigma X)(\Sigma Y)}{\sqrt{((N\Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2)}}$$

r_{xy} = correlation coefficient between correlated variables

X = Score X

X^2 = square of X

Y = score Y

Y^2 = square of Y

N = total number of the students

After that the coefficient of determination is calculated by using the formula:

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

CD = coefficient of determination

r = correlation coefficient.

4. Finding the Significance of the Correlation

The significance of the correlation is calculated in order to answer the research question and to know whether the correlation is significance or not. If the $t_{\text{observed}} > t_{\text{table}}$, the correlation is considered to be significance. The formula used:

- Finding the t score

$$t = \frac{r \sqrt{N-2}}{\sqrt{1-r^2}}$$

- Finding the t score from the table

$$df = N - 2$$

5. Analyzing the Translation Error

In analyzing the translation error made by the students in their works, the researcher analyzed each sentence using the guidelines proposed by National Authority for Accreditation of Translator and Interpreter (NAATI), and categorized them into two main categories. They are:

- Isolated errors

Isolated errors represent incorrect rendering of the original, but are limited to a single word or phrase, and do not distort the wider meaning of the text. Kinds of isolated

errors are incorrect choice of translated word, incorrect word order, untranslated words and grammatical error.

- General errors

These errors are characterized by the distortion of meaning that does not extend beyond the sentence and affect a large portion of the text. The researcher divided these errors into two types, common general error and broader general errors.

3.7 Collecting the Data

The followings are some procedures of statistical tests for data analysis:

1. Preparation, it deals with searching some relevant theories and references.
2. Testing the try-out instrument to the other. On this occasion the sample did not included. They were chosen randomly. The test is aimed to investigate the reliability and validity of the test.
3. Testing the normality of the distribution of the scores normal. Parametric calculation is used when the distribution of the score is normal. In contrast if it is not normal, the researcher used the nonparametric test.
4. Analyzing the regression, to investigate whether the correlation between the two variables is linier.
5. Analyzing the correlation to investigate the relationship between students' mastery of English grammatical structure and their English-Indonesian translating ability.
6. Discussing the result.
7. Forming the result or the outcome of the study.