CHAPTER III
RESEARCH METHODOLOGY

A. The Research Method

In this research, the writer will use the correlational research. According to Arikunto, it can be interpreted as the research to find out the yes or no of correlation existence between two or among variables.¹ The characteristic of this research is it has not to be many research subjects.

The method used in this research is correlational quantitative method. Crosswell said that “quantitative research intends to explain the effect of particular variable toward another variable which only can be done by explaining the relation between each variable.”² Meanwhile, the research design used in this study is Bivariate correlation design, which usually known by the Simple Correlation Analysis. It purposes to describe the correlation between two variables. Bivariate correlation divides to three types, they are: Pearson Correlation, Kendall Tau, and Spearman Correlation. Pearson Correlation and Kendall Tau are used

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for the data of interval and ratio scale; while Spearman Correlation matches as well as the ordinal scale.\footnote{Dwi Consultant, Analisis Korelasi Sederhana:  http://dawiconsultant.blogspot.co.id/2011/11/analisis-korelasi-sederhana.html, November 2011.}

Since the variables indicated the interval and ratio data (they can be seen on page 18 and 19), the writer uses the \textit{Pearson Correlation}. Pearson Correlation has the characteristics as follow: (1) Using interval and ratio data; (2) Using Normal Data Distribution; and (3) Consisting two variables which are one independent variable (X) and one dependent variable (Y).\footnote{Razak, Korelasi Pearson dan Spearman: https://razak-bergiasi-sesama.blogspot.co.id/2015/01/pearson-dan-spearman-dengan-spss.html, 2015.} The Normal Data Distribution is indicated from the data or samples which is more than 30 (>30). Based on empirical experience of statistic experts, the data which more than 30 are assumed as normal distribution and it is usually known by big sample. This research also has samples more than 30 and two variables as well as the one of characteristics of Pearson Correlation. Therefore, this research suits the Pearson Correlation research design. Its design is represented as follow:

\[
\rho = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{(n\sum x^2 - (\sum x)^2)}\{n\sum y^2 - (\sum y^2 )\}} \\

\Sigma XY : \text{the sum of XY} \\
\Sigma X : \text{the sum of X} \\
\Sigma Y : \text{the sum of Y}
\]
\[ \sum X^2 \] : the sum of square of the \( X \)

\[ \sum Y^2 \] : the sum of square of the \( Y \)

\( N \) : the amount of subjects

After applying the formula, Correlation Index Number “\( r \)” of Product moment \( (r_{xy}) \) will be interpreted according to the guidelines in order to reach the final result. The interpretation guidelines can be seen on the table below:

**Table 3.1**

**Correlation Interpretation Guideline**

<table>
<thead>
<tr>
<th>“( r )” Product Moment ( (r_{xy}) ) Scale</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,00 – 0,20</td>
<td>There is correlation between ( X ) Variable and ( Y ) Variable, but it is very weak or very low so that it is ignored (Considered no correlation between ( X ) Variable and ( Y ) Variable)</td>
</tr>
<tr>
<td>0,20 – 0,40</td>
<td>There is weak or low correlation between ( X ) Variable and ( Y ) Variable</td>
</tr>
</tbody>
</table>

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There is *medium* or *adequate* correlation between X Variable and Y Variable

| 0.40 – 0.70 | There is *strong* or *high* correlation between X Variable and Y Variable
| 0.70 – 0.90 | There is *very strong* or *very high* correlation between X Variable and Y Variable
| 0.90 – 1.00 |

**B. The Variables**

The variables are the condition or characteristic that a researcher manipulates controls and observes. There are two kinds of variables; the independent variable (X) and the dependent variable (Y). The independent variable is the variable that influences or becomes the change cause or dependent variable, whereas the dependent variable is the variable that is influenced or becomes an effect, because of independent variable.

These variables represent interval data. It is the measured data which is obtained from measurement technique, where the range of
scale of variables, already known. In this research, these two investigated variables are:

a. English Culture Understanding (X)

It is the independent variable. This variable is indicated by the student score of English culture understanding test that the research will conduct based on History of English Development, Introduction of English Literature, and Cross Cultural Understanding subjects that the sixth semester students of English Education Department had learned. The writer writes these points as follow:

- History
- Literature
- Religion
- Manner

b. Grammar Skill (Y)

It is the dependent variable. This variable is indicated by the student score of grammar test that the research will conduct
regarding to the advanced grammar, as equal as the grammar level of sixth semester student of English Education Department had learned. The writer writes these points as follow:

- Word Classes (Nouns, Pronouns, Verbs, etc.)
- Phrases (Noun Phrase, Verb Phrase, Adjective Phrase, etc.)
- Clauses (Independent Clause, Dependent Clause, etc.)
- Sentences (Affirmative Sentence, Interrogative Sentence, etc.)

C. Research Site

The writer takes the research in English Education Department of Islamic State University ‘Sultan Maulana Hasanuddin’, Palima, Serang, Banten. The time of the research is around 1 month that will start at September until October 2017.

D. Population and Sample

1. Population

According to Sugiyono, “Population is generalization region consisting of: objects / subjects that have certain qualities and
characteristics defined by the researchers to learn and then drawn conclusions”.\(^6\)

The population of the research is selected from the total of 150 sixth semester students of English Education Department of Islamic University Sultan Maulana Hasanuddin Banten in academic year 2016/2017.

2. Sample

The sample is calculated by using Slovin formula as follow:

\[
n = \frac{N}{\left(1+Ne^2\right)}
\]

Where:

- \(n\) = Total of sample  
- \(N\) = Total of population  
- \(e\) = Level of error = 5%

The population (\(N\)) is 150 people and the level of error (\(e\)) is 5%, therefore the total of samples are:

\[
n = \frac{150}{(1+150 \times 0.05^2)}
\]

\(n = 109.09\) or 110 people

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The result is 109.09 and rounded to 110. So, the proper total of sample of the research is 110. Since the sixth semester have five classes, the researcher will divide to 22 samples each classes.

In selecting the samples, the writer uses random sampling technique and one of Moser Graham’s procedures called the ‘lottery method’. First of all, the writer writes all the student’s names of each class on small pieces of paper and they are rolled and put into 5 glasses. Glass A for class A, glass B for class B, glass C for class C, glass D for glass D, and glass E for glass E. Secondly, the writer shakes each glasses one by one and let 8 rolled papers drop out. After having the total number of the samples, the writer stops it.

E. The Method of Data Collecting

- Primary Data

The primary data is obtained from the test. The test consists of 30 questions measuring how far the student’s understanding of English culture. It also assesses the result of student’s understanding of English culture to grammar ability actually.

F. The Research Instrument

To collect the data actually and authentically, the writer decides to use the test. The assessment of subject score in English
Education Department of State Islamic University Sultan Maulana Hasanuddin Banten is based on the presences, activities, mid-test semester, and final test semester. Following this, the writer thinks to prefer use the test to measure the variables and reaches the authentic result of the research.

- **Test**

The test is a way to collect data to provide a test the object studied. In order to measure the English culture understanding and grammar ability, the writer designed test which consist of 24 questions for English culture understanding and 40 questions for grammar ability, which equals to advanced English foreign learner.

**G. The Data Processing**

The collected data is still raw and need to be processed before being executed for the research. The data will be processed right after the necessary data is collected. Then, the data is processed through the steps such as:

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1. Editing: The collected data will be edited in order to be complete, clear, relevance, and consistence.

2. Coding: First, the research will give the variable code to the result of questionnaire in order to ease in inputting and analyzing data and then visualize the result of test score to the table.

3. Data Entry: The data code will be inputted to the application of computer program of analysis statistic data.

4. Cleaning: Data will be cleaned to eliminate the data that will interrupt the analysis.

The first step to do in analyzing data is *editing*. The data editing will be executed with checking whether there are the errors or lacks in each questionnaire sheets that filled by respondents (students) in order to validate it finished and completed. It will be done when receiving the questionnaire from Sixth Semester English Education Students of Islamic State University ‘Sultan Maulana Hasanuddin’. Next step is to create data structure and data file. The structure data is extended according to the analysis that will be executed with computer software.
Third step is *coding*, giving the code to the result of questionnaire and test in order to ease in *entry data*. *Entry data* is the process of inputting data into the computer software to manage the data furthermore. The last step is *cleaning*. The inserted data is rechecked to ensure that the data is cleaned from the errors. The use of *data cleaning* is to get the *missing data*, data variation and data consistence.