Chapter Three

Methodology

In this chapter, the researcher discussed the frame related to the method of analyzing the problem of the study. This chapter includes the discussion of research design, research setting, research participants, research instruments, data collection method and data analysis

Research Design

This research wanted to know the correlation between the use of English dictionary and vocabulary mastery. The research design is quantitative approach with the correlational method. According to Cresswell (2012), correlation design is procedures in quantitative research in which investigators measure the degree of association (or relation) between two or more variables using the statistical procedure of correlational analysis. Postlethwaite (2005) stated that correlational design is the best application in a research when a researcher seeks to relate two or more variables. This research aimed to know the correlation between two variable, namely the use of dictionary and vocabulary mastery. The best research design for this research is correlational design.

Research Setting

This research was conducted at EED of UMY. There were two reasons why the researcher chose EED of UMY as the setting of this research. The first reason is EED of UMY has applied some subject that needs dictionary while teaching and learning process. Most of the subject that related in English language learning

needs a dictionary, but a subject that the teacher ordered the students to bring the dictionary are Capita Selecta on Grammar 1, Capita Selecta on Grammar 2, Capita Selecta on Grammar 3, Capita Selecta on Grammar 4 and Translating. From some subjects above, in teaching and learning process the students should use English dictionary. The second reason was accessibility. As the researcher was studying at EED of UMY, it is easier and accessible for the researchers to get the data of this research.

The data collection was conducted between October - November 2016. It took around 5 weeks for researcher to entry the data. The researcher distributed questionnaire to 66 students of EED UMY batch 2013.

Research Participants

Population. The population is a whole subject in research (Margono, 2010). The population of this research was students of EED UMY batch 2013. The population number of students in batch 2013 was 194 students.

Sample. Sample is a part of the population which is investigated (Arikunto, 2006). To know the sample size, the researcher used Slovin Formula. The level of the accuracy level is 10%. The reason researcher used accuracy level of 10%, because the total population is less than 1000.

Slovin Formula (Kriyantono, 2008):

$$\text{n} = \frac{N}{1 + N\,e^2}$$

n : sample size

N: population

e : precision level (0,1)

Based on Slovin Formula computation, the sample size for this research was 66 students.

The sampling technique used in this research is convenience sampling. It is one of the main types of non-probability sampling. Cohen, Manion, and Morrison (2011) stated that convenience sampling also known as accidental or opportunity sampling. It means that convenience sampling method takes the sample from people who are easy to reach. The reason to used convenience sampling is the researcher can choose the respondents who are accessible and available at that time

Research Instruments

According to Arikunto (2006), research instrument is a tool or facility used by researchers to collect the data, so that it becomes easier and get the better result, it means that accurate, complete, systematic and easy to be processed. Collecting data is the most important step in conducting the research. The researcher carried out two instruments to collect the data containing questionnaire and vocabulary test.

Questionnaire. Questionnaire is a list of questions provided to others who are willing to respond (respondents) as requested by the researchers (Riduwan, 2009). According to Arikunto (2006), questionnaire is a number of written questions that are used to obtain information from respondents in terms of

personal information, of reports about the things they know. In this method, a questionnaire is sent to a respondent then they should answer and return the questionnaire. It is the questionnaire that presented in a form of the statement such that the respondents were asked to choose one answer that suits the characteristics of them by giving checklist (√) sign. The researcher used questionnaire to get the data about students using dictionary. The researcher designed the questionnaire by herself based on the expert research statements. The questionnaire consisted of 27 items of statements the use of dictionary and written in *Bahasa Indonesia*. There were 6 items related to the importance of using dictionary, 3 items related to information the learners got when using dictionary, 6 items related to benefits of using dictionary, 7 items related to the types of dictionary and 5 items related to purposes of using dictionary. The category items of questionnaire is illustrated below.

Table 3.1. The category of 27 items questionnaire

No.	Category	Number of items
1.	Importance of using dictionary	1, 3, 5, 7, 9,11
2.	Information that learners got when using dictionary	13, 15, 19
3.	Benefits of using dictionary	21, 24, 26, 17, 23, 14,
4.	Type of dictionary	2, 6, 10, 25, 22, 18, 20
5.	Purpose of using dictionary	4, 8, 12, 27, 16

The researcher used Likert scale in questionnaire. The definition of Likert Scale according to Sugiyono (2011) is the scale used to measure attitude, opinion, and perception of someone, group toward the social phenomenon. Furthermore, Vagias (2006) stated that to determine the level of agreement, the questionnaire were set in five points value Likert scale. The five points value of Likert scale level of agreement consisted of strongly agree (5), agree (4), neither agree nor disagree (3), disagree (2) and strongly disagree (1).

Table 3.2. Scale of Questionnaire

No.	Scale	Score
1.	Strongly Agree	5
2.	Agree	4
3.	Neither agree nor disagree	3
4.	Disagree	2
5.	Strongly Disagree	1

Source: Vagias (2006)

Through the piloting, not all 27 items of questionnaire were not valid. There were five invalid items, then the invalid items were deleted. The five items are from 2 categories, the importance of using dictionary and type of dictionary.

Table 3.3. Invalid questionnaire from 2 categories

No.	Category	Number of items
1.	The importance of using dictionary	3
2.	Type of dictionary	2, 10, 22, 25

Vocabulary Test. According to Riduwan (2009) test is a series of questions or exercises that are used to measure the skills of knowledge, intelligence, ability or aptitude of the individual or group. In this study, the researcher adapted and modified vocabulary test for foreign language learners from Meara (2010). The modified vocabulary test only adding translation and did not change the words. The respondent wrote the translation in Bahasa in the column provided beside the word. In Meara (2010) there are 60 words, but in this research the vocabulary test consisted of 30 numbers of words, because the researcher found the size of vocabulary did not suitable for this research.

Sometimes, English word can be translated more than one meaning in Bahasa. For the scoring of vocabulary test, first the researcher found the possible meaning of the word in the dictionary. If the students answer same with the possible meaning in dictionary, so that is the correct answer.

The validity of the instrument. According to Arikunto (2006), validity is a measurement that indicates the levels of validity or validity of the certain instrument. After the researcher got the data, the researcher analyzed the item

validity of questionnaire in SPSS Program. The researcher used construct validity and instrument piloting to check whether the instrument could be used to measure the use of a dictionary and vocabulary mastery. The researcher piloted the instrument to 36 students. Then, the researcher distributed the instruments to the respondents. Sugiyono (2013) stated that criteria of used to know the valid or not valid statements are if $r_{xy} \geq 0,30$ is valid and $r_{xy} < 0,30$ is not valid. The criteria of items validity are shown in the table below.

Table 3.4. Criteria of item validity

The criteria of item validity
$r_{xy} \geq 0.30$ = valid
$r_{xy} < 0.30$ = not valid

Source: Sugiyono (2013)

After the researcher analyzed the criteria of item validty, it found that from 27 statements of questionnaire there were five invalid items. In the vocabulary test, there were 30 invalid items from 60 items. It means that in vocabulary the invalid items were a half from the total items. The table of valid and invalid items of instrument shown in the table below.

Table 3.5. The valid and invalid items of instruments

No.	Instruments	Valid	Not valid
1.	Questionnaire		
	1) Importance of using dictionary	1, 3, 5, 7, 9,11	3
	2) Information that learners got when using dictionary	13, 15, 19	
	3) Benefits of using dictionary	21, 24, 26, 17, 23, 14,	
	4) Type of dictionary	2, 6, 10, 25, 22, 18, 20	2, 10, 22, 25
	5) Purpose of using dictionary	4, 8, 12, 27, 16	
2.	Vocabulary Test	1, 2, 3, 4, 5, 9, 17, 19, 20, 21, 23, 28, 29, 30, 32, 34, 36, 37, 38, 40, 41, 42, 43, 45, 51, 52, 53, 55, 58, 59	6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 18, 22, 24, 25, 26, 27, 31, 33, 35, 39, 44, 46, 47, 48, 49, 50, 54, 56, 57, 60

Reliability of the instrument. According to Seale (2004) reliability

concern the consistency which research procedures deliver the result. To sum up,

reliability will show the similar result of research overtimes. In this study, the

reliability performed used Cronbach's Alpha Formula techniques SPSS 2.2 for Windows. Pankhania & Modi (2013) divided the categories of Cronbach's Alpha into six.

Table 3.6. The categories of Cronbach's Alpha

No	Cronbach's Alpha	Internal Reliability
1	≥ 0.90	Excellent
2	≥ 0.80	Good
3	≥ 0.70	Acceptable
4	≥ 0.60	Questionable
5	≥ 0.50	Poor
6	≤ 0.50	Unacceptable

Source: Pankhania & Modi (2013)

The result confirmed that the reliability value of the instrument of questionnaire was 0.898 based on standarized items. It means that the instrument of questionnaire had good reliability to mesure. The table of Cronbach's Alpha are shown in the table below.

Table 3.7. Reliability Statistics

Cronbach's Alpha	N of Items
.898	22

Data Collection Method

This research used questionnaire about the use of English dictionary and vocabulary test for the data collection method. The researcher set up the questionnaire and vocabulary test with 66 sheets because the sample in this research was 66 students. Before came to the class, the researcher asked permission to the lecturer that his or her students become respondents in this research. Then, the researcher came to the class and distributed the questionnaire and vocabulary test to the students. The researcher explained how to answer the questionnaire and vocabulary test. After getting the data from the distributed questionnaire and vocabulary test, the researchers analyzed the data using Microsoft Excel and Statistical Package for Social Sciences (SPSS) 2.2.

Data Analysis

This research has two variables, independent and dependent variable. The independent variable is the use of English dictionary and the dependent variable is vocabulary mastery. To get the data for independent variable, the researcher used questionnaire. Besides, to get data for dependent variable, the researcher used vocabulary test. After the data was collected, the researcher analyzed the questionnaire by using a tool called Statistical Package for Social Sciences (SPSS) 2.2 for Windows and Microsoft Excel to ease analyzing the data. Data was analyzed by using descriptive correlation method. Descriptive correlation method is used to describe the relationship between two variables.

Then, sixty-six copies of the questionnaire were administrated. All were properly completed, returned and analyzed by the researcher. The mean score of each item of the questionnaire was calculated by dividing the sum of the score of that item by 66. A mean of $4.01 - 5.00$ was interpreted by very high, $3.01 - 4.00$ as high, $2.01 - 3.00$ as average, $1.01 - 2.00$ as low and $0.00 - 1.00$ as very low (Alimi, 2013). The categories were presented in the following table below.

Table 3.8. The categories of mean value questionnaire

No.	Value	Category
1.	$4.01 - 5.00$	Very High
2.	$3.01 - 4.00$	High
3.	$2.01 - 3.00$	Average
4.	$1.01 - 2.00$	Low
5.	$0.00 - 1.00$	Very Low

Source: Alimi (2013)

For vocabulary test, there were 30 items of the word that the researcher adapted and modified from Maera (2010). The respondents just filled the translation in the column beside the word. The categories of the vocabulary test were divided into five, the number of words is 30 so the range is 6. First is excellent which was range from 25-30 point. Then, ranged from 19-24 was good. Category of a fair was ranged from 13-18. Category of low was range 7-12. The last category is very low which was range 1-6. The categories of the vocabulary

drawn in the table below. The scale of vocabulary tests presented in the following table below.

Table 3.9. Scale of vocabulary test

No	Score	Level
1.	25 - 30	Excellent
2.	19 - 24	Good
3.	13 - 18	Fair
4.	7 - 12	Low
5.	1 - 6	Very low

Source: Meara (2010)

In addition, to know the correlation between two variables, this research used Pearson Product moment correlation. Sugiyono (2013) divided the category of correlation into five namely very low, low, moderate, strong and very strong category. The categories presented in the following table below.

Table 3.10. The correlation category

No	Coefficient interval	Correlation category
1.	0.80-1.000	Very strong
2.	0.50-0.799	Strong

3.	0.40-0.599	Moderate
4.	0.20-0.399	Low
5.	0.00-0.199	Very low

Source: Sugiyono (2013)

Furthermore, to know the significant correlation in the SPSS, Sarwono (2009) divided the category into two: <0.05 there is a significant correlation and >0.05 there is no significant correlation. The categories presented in the following table below.

Table 3.11. The significant correlation category

<0.05	There is a significant correlation
>0.05	There is no significant correlation

Source: Sarwono (2009)