

Chapter Three

Methodology

This chapter presents research methodology. The research methodology consists of research design, research setting, population and sample, research instrument, data collection method and data analysis.

Research Design

The researcher was intended to find the correlation between the habit of reading journal article and vocabulary mastery, so this research used quantitative design as the research design in order to get correlation. It is supported by Burns and Grove (2005) who stated that quantitative research is as a formal, objective, systematic process to describe and test relationships and examine cause and effect interactions among variables. It is cause the researcher investigated two variables then quantitative research is suitable for this research.

Research Setting

The researcher chose EED of UMY as the researcher setting. The first reason is EED of UMY applied some reading subject like academic reading and writing, reading and writing for career development, interpretive reading and argumentative writing and issues in language teaching and learning. In that subject, students should read some journal articles, so it was easier for the researcher to do the research. The second reason the researcher is a student of EED of UMY, so it was easier for the researcher to get the data for this research. This research was conducted in June 2016.

Population and Sample

Population. The population of this research was EED of UMY students' batch 2013 who passed at least 4 semesters in EED of UMY and got some experiences to read a journal article in teaching and learning process. This is supported by Nunan and Bailey (2009) that population is representing entire or all subject research. Population is grand total of subject research which can be consisted of by the human being, object, animal, flora, and symptom, assess the test or event as data source owning certain characteristic in a research. Population numbers of this research were 194 students in batch 2013.

Sample. According to Arikunto (2006) "sample is a part of the population which is investigated" (p.131). The researcher used the method of population research, if the research subject less than 100 is better to take all of it. Thus, it is regarded as a population research. If the research subject more than 100, the researcher can takes 10-15% or 20-25% from the population (Arikunto, 2006). It is cause the population of this research were 194 students, so the researcher takes 25% of the total population which is 49 students.

The research sampling that was used is convenience sampling. Cohen, Manion, and Morrison (2011) stated that convenience sampling is known as accidental or opportunity sampling. Convenience sampling gives the opportunity to contain the nearest individual to serve as respondents. The researcher can choose the respondents who are accessible and available at that time. It facilitated the researcher in short duration time to get the data.

Research Instrument

In collecting the data needed, the researcher used two instruments namely questionnaire and vocabulary test to identify the purpose of the study.

Questionnaire. Kothari (2004) argued that questionnaire is a set of questions focused on specific topic or specialized area. This questionnaire can be divided into sub sets depending on the sub topics of specialized area. This method is generally adopted by research workers, private and public organizations, as well as government organizations also. However, questionnaire in this research was in form of statements about the habit of reading journal article to get information about how many journal articles that was read by them in learning activity. The questionnaire consisted of 16 items of statements and designed in Indonesian language to make respondents was easier in filling the questionnaire. The questionnaire items were divided into three classifications. The classifications items are as follow.

No.	Classifications	Items
1.	Benefit of reading	1, 2, 3, 4, 5
2.	Types of reading	6, 7, 8, 9,10, 11, 12, 13
3.	Frequency of reading	14, 15, 16

In addition, the questionnaire that consisted of 16 items has invalid items. There are five invalid items, so the invalid items were deleted. The questionnaire

only consisted of 11 items. The questionnaire items also divided into three classifications. The classifications items are as follow.

No.	Classifications	Items
1.	Benefit of reading	1, 2, 3, 4
2.	Types of reading	6, 7, 8, 11, 12, 13
3.	Frequency of reading	15

Furthermore, the research used Likert scale in questionnaire. The definition of Likert Scale according to Sugiyono (2009) is the scale used to measure attitude, opinion, and perception of someone or group toward the social phenomenon. In this scale, respondents stated their agreement and disagreement. The researcher decided to use 1- 4 scales namely strongly agree, agree, disagree, and strongly disagree. The criteria of questionnaire items are as follow.

Description	Scale
Strongly Disagree	4
Disagree	3
Agree	2
Strongly Agree	1
Source: Sugiyono (2009)	

Vocabulary Test. In this research the vocabulary test consisted of 35 numbers of words. It is cause the researcher find the size of vocabulary then vocabulary test is suitable for this research. In addition, the researcher adapted and modified vocabulary test from book of Meara (2010). The researcher modified vocabulary test by adding translation. If the respondents understood the word, they wrote the translation. It measured how many size of vocabulary that they acquired. In the vocabulary test, the respondents should write the each and provide the translation of word in Indonesian language. The researcher modified the vocabulary test to make test and get the data more reliable.

Validity of the Instrument. After the researcher got the data, the researcher analyzed the item validity of questionnaire in SPSS Program version 22. Before the researcher distributed the instruments to respondent, the instruments had been piloted to check whether the instrument could be used or not to measure by the supervisor. Then, the researcher piloted the instrument to 15 students to know whether the instrument could be used to measure the habit of reading journal article and vocabulary mastery. The data were analyzed to identify the r value and the researcher compared the r value and r table (0.514). The questionnaire items and vocabulary test were said to be valid if the r value is higher than r table (Arikunto, 2006). The criteria of items validity is shown in table 3.5 below.

Table 3.4
The criteria of item validity
r value > r table =valid
r value < r table = not valid
Source: Arikunto (2006)

After analyzed the criteria of item validity, the researcher found some invalid items. From 16 statements of questionnaire, there were five invalid items. The invalid items were deleted and the questionnaires only consisted of 11 statements. Furthermore, the vocabulary tests also used of item validity. From 100 words in the vocabulary test, more than a half of total of words in the vocabulary test not valid. The detailed number of validity is attached on the appendix. The table of valid items number of questionnaires and vocabulary test are as follow.

Table 3.5			
Valid Item Number			
No.	Categories	Valid	Not valid
1.	Benefit of reading	1, 2, 3, 4	5
2.	Types of reading	6, 7, 8, 11, 12, 13	9,10
3.	Frequency of reading	15	14, 16
4.	Vocabulary test	6, 12, 14, 15, 16, 20, 23, 26, 27, 28, 29, 40, 41, 42, 43, 44, 49, 50, 51, 54, 57, 60, 68, 75,	1, 2, 3,4, 5, 9, 10, 11, 13, 17, 18, 19, 21, 22, 24, 25, 30, 31, 32, 33, 34, 35,

		77, 79, 80, 84, 85, 90, 94, 95, 97, 98, 99.	36, 37, 38, 39, 45, 46, 47, 48, 52, 53, 55, 56, 58, 59, 61, 62, 63, 64, 65, 66, 67, 69, 70, 71, 72, 73, 74, 76, 78, 81, 82, 83, 86, 87, 88, 89, 91, 92, 93, 96, 100.
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Reliability of the instrument. Reliability showed the finding consistency of the research. Based on Cohen, Manion, and Morrison (2011) reliability refers to the dependability, consistency and reliability of a research. Additionally, in this research used Cronbach's Alpha to check the reliability of the data. Sekaran (2000) divided the reliability indicator into three levels:

1.	0.8 – 1.0	Good
2.	0.6 – 0.799	Moderate
3.	< 0.6	Not Good

There were 11 items on questionnaire which was distributed to 49 students EED of Batch 2013. The reliability of the questionnaire is 0.650. It means that the

reliability in moderate criteria and suitable to use in this research. The reliability of 11 items is reported the table below.

Table 3.7

Reliability Statistics

Cronbach's Alpha	N of Items
.650	11

Data Collection Method

This research used questionnaire and vocabulary test to collect the data correlation. It is cause the researcher wants to get information about how many journal articles that was read by the students and find the size of vocabulary then that instruments are suitable for this research. The researcher gave questionnaire and vocabulary test to the 49 students of EED of UMY batch 2013. Then, asked permission to the lecturer first before coming to the class and to the students to become respondents in this research. The researcher explained how to answer and fill the questionnaire and vocabulary test. After getting the data from the distributed questionnaire and vocabulary test, the researcher analyzed the data using Statistical Package for Social Sciences (SPSS) version 22.

Data Analysis

The research used a computer program called Statistical Package for Social Sciences (SPSS) version 22 and it was used as a tool. Then, according to scale of measure type of data in SPSS are divide into four. There are nominal, ordinal, interval and ratio. The Pearson product-moment correlation requires interval data

for analysis. Automatically, in SPSS the research using Pearson's Product-Moment Correlation. The Pearson product-moment correlation coefficient (Pearson's correlation, for short) is a measure of the strength and direction of association that exists between two variables measured on at least an interval scale. Thus, in this research have two variables. There are the habit of reading journal article and vocabulary mastery. The first variable is the habit of reading journal article and the score took from test like reading habit questionnaire. The second variable is vocabulary mastery and the score took from test like vocabulary mastery test.

After get the score from both of them, the score was input in SPSS to get statistical analyses and to calculate descriptive statistics. Descriptive statistics usually helps the researcher for explain to the other people what is happening in the data. Then, it could be done by using SPSS program which consist of frequency, testing reliability, validity, includes several mathematic calculations like mean. Moreover, prerequisites test in Pearson product-moment correlation are normality and linearity test. It was conducted before analyzing the data. Normality test was done to determine whether the data variable of research was normal or not. Therefore, linearity test was to determine the linear relationship between independent variables and the dependent variables. The data was correlated in SPSS to get the correlation coefficient. The correlation coefficient is a number between -1 and $+1$ that determines whether two paired sets of data are related. The number of coefficient shows -1 was indicated the correlation is strong negative linear correlation. It be concluded that when the variable x increase, the

variable y also increase. Then, the number of coefficient shows +1 was indicated the correlation is strong positive linear correlation. It be concluded that when the variable x increase, the variable y not increase. If a value near zero means that there is no correlation between the two variables. Thus, the data can interpret by the result in SPSS.

In addition, to know the students' habit of reading journal article the researcher divided the mean value into five categories. The first category is very high which was ranged from 4.01-5.00. The second category is high which was ranged from 3.01-4.00. The third category is average which was ranged from 2.01-3.00. The fourth category is low which was ranged from 1.01-2.00. The last category is very low which was ranged from 0.01-1.00. The categories of students' habit of reading journal article of this research were presented in the following table.

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

Moreover, the categories of the vocabulary mastery were divided into five, because the number word is 35 so that the range is 7. The first category is excellent which was ranged 29-35. The second category is good which was ranged from 22-28. The third category is fair which ranged from 15-21. The fourth category is low which was ranged from 8-14. The last category is very low which was ranged from 1-7 point. The categories of vocabularies mastery were in the table below.

No	Number of vocabulary	Category
1.	29-35	Excellent
2.	22-28	Good
3.	15-21	Fair
4.	8-14	Low
5.	1-7	Very low

Then, the researcher analyzed the data using SPSS program version 22 to reveal the correlation between those two variables. Thus, the researcher used Pearson Product moment correlation. Sugiyono (2011) divided the category of correlation into five namely very low, low, moderate, strong and very strong category. The categories of correlation were presented in the following table.

Table 3.10		
The correlation category		
Source: Sugiyono (2011)		
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