Chapter Three

Research Method

This chapter describes the methodology in the research and how it will be done from the beginning to the end. It consists of four parts: research design, population and sample, data collecting method and data analysis. The research design discusses the design and the reason for choosing this design. The population and sample explain about the subject of the research. The data collecting method explain the way the researcher collecting the data and in the data analysis will give an explanation about how to analyze the data.

Research Design

The research focussed on the relationship between students' learning English motivation and their vocabulary mastery. This research is correlational research. It determines the correlation of a variable with other variables (Sukmadinata, 2010, p.56). Creswell (2012) also said that "a correlation research design is a statistical test to determine the tendency or pattern for two (or more) variables or two sets of the data to vary consistently" (p.338).

Population and Sample

Population. In this research, the population is students at English Education Department of UMY batch 2013. According to Creswell (2012), a population is a group of people who have the same characteristic (p.142). Sugiono (2010) also said that population is a region of generalization which consists of

object or subject that has certain qualities and characteristics which are determined by the researcher (p.117). The total population of students in batch 2013 is 166 students.

Sample. The research sampling that be used is convenience sampling. Based on Cohen, Manion, and Morrison (2011), convenience sampling is accidental or opportunity sampling (p.155). Cohen et al. (2011) also said that convenience sampling chooses the nearest individuals to serve as respondents (p.155). This research took 97 students from 166 students in EED UMY batch 2013 as respondents.

Data Collection Method

Firstly, the research asked permission to the students to become the respondents of this research. Second, before the researcher asked the students to fill out the questionnaire and vocabulary test, the researcher explained the objectives of the test. The questionnaire consists of 30 items with likert scale.

The data collection methods that are used in this research are questionnaire and vocabulary test. The researcher gave the questionnaire and vocabulary test to students of English Education Department of Universitas Muhammadiyah Yogyakarta (EED UMY). The questionnaire was used to gather the data of English learning motivation while vocabulary test was used to determine the amount of vocabulary mastery of the students in EED UMY. The data collection is gained in May 2016. The researcher distributed questionnaire to the 100

students of sixth semester of EED UMY batch 2013 and only 97 questionnaire for retruned.

Table 3.1

The categories of the questionnaire are:

1	Strongly Agree
2	Agree
3	Disagree
4	Strongly Disagree

Vocabulary test consists of 60 English words which have translated by students in Indonesian. It is divided into four categories. The first category is from number 1-15 consisted of 15 familiar English words to indicate very low vocabulary mastery. The second category is from 16 -30 consisted of 15 familiar English words to indicate low vocabulary mastery. The third category is from number 31-45 consisted of 15 English words to indicate high vocabulary mastery. The last category is from number 46-60 comprising unfamiliar English words to indicate very high vocabulary mastery.

Instruments of the Study

The instruments of the data collection helped the researcher to find out the correlation between students learning English motivation and their vocabulary mastery. The instruments of the research are questionnaire and test of vocabulary. The instrument of the questionnaire is to measure motivation and test of vocabulary to measure vocabulary mastery.

The questionnaire consists of 30 statements used to find out students'
motivation. The vocabulary test is used to measure the students' vocabulary
mastery. The vocabulary test was adapted from Meara (1992) that consists of 60
vocabularies (p.98). The researcher taken some vocabulary test level 4 and then
the researcher classified some easy vocabulary, moderate vocabulary and difficult
vocabulary as the indicator to measure the students' vocabulary because Meara
(1992) said that level 1 and level 2 is the basic level that represented the core of
English vocabulary (p.4) while level 3 up to 6 represented advanced. The students'
of sixth semester at English Education department of Universitas Muhammadiyah
Yogyakarta batch 2013 should master advanced vocabulary that was why the
researcher taken level 4 to find out their vocabulary mastery.

Questionnaire

The questionnaire used 4 point scales to observe EED UMY students'
motivation namely strongly agree, agree, disagree and strongly disagree. The
scale used in this study will be presented in the following table.

Table 3.2

Scale of questionnaire

No.	Rating scale	Descriptive	Statement	
			Favorable	Unfavorable
1.	1	Strongly Disagree	4	1
2.	2	Disagree	3	2
3.	3	Agree	2	3
4.	4	Strongly Agree	1	4

Vocabulary

The vocabulary test adapted from Meara with kind of receptive vocabulary because the students can translate the meaning of a word or sentence. The vocabulary test consisted of 30 numbers of words. The test is divided into four categories, the first category is very low, the second is low, the third is high, and the last is very high The first category from number 1-15 is very low, the second category from 16 -30 is low, the third category from number 31-45 is high, and the last category from number 46-60 is very high. The categories of vocabulary mastery drawn in the table.

Table 3.3

Categories of vocabulary mastery

No	Number of Vocabulary	Category
1.	1- 15	Very low
2.	16- 30	Low
3.	31- 45	High
4.	46- 60	Very high

Validity and Reliability of the questionnaire

Validity. Validity is an essential aspect of effective research (Cohen et al., 2011,p.179). Instrument validity shows that result of measurement illustrates the aspect of variables which are measured (Sukmadinata, 2010, p.228). Validity test in this research is content validity, which examined the relevance of scale items with the aim of measuring scale. The data validity test was conducted by using *bivariate* Pearson and corrected item-total correlation. The aim of validity test was

to find *r* value of each question. The question was valid if *r* value is higher than *r* table and the question was not valid if *r* value is lower than *r* table. The *r* value was obtained from the number of question (n=30). Therefore *r* table of this number is 0.361. The criteria items validity is presented in the table below.

Table 3.4

The criteria of validity

Valid	r value > r table
Not valid	r value< r table

The data analysis result of the validity test of the questionnaire is presented in the following table.

Table 3.5

Validity of Pearson product moment

No.	Items	r value	r table	Description
1.	Items 1	0.344	0.361	Not valid
2.	Items 2	0.283	0.361	Not valid
3.	Items 3	0.148	0.361	Not valid
4.	Items 4	0.295	0.361	Not valid
5.	Items 5	0.309	0.361	Not valid
6.	Items 6	0.352	0.361	Not valid
7.	Items 7	0.437	0.361	Valid
8.	Items 8	0.305	0.361	Not valid
9.	Items 9	0.189	0.361	Not valid
10.	Items 10	0.375	0.361	Valid
11.	Items 11	0.536	0.361	Valid

12.	Items 12	0.433	0.361	Valid
13.	Items 13	0.379	0.361	Valid
.14.	Items 14	0.614	0.361	Valid
15.	Items 15	0.424	0.361	Valid
16.	Items 16	0.296	0.361	Not valid
17.	Items 17	0.499	0.361	Valid
18.	Items 18	0.349	0.361	Not valid
19.	Items 19	0.533	0.361	Valid
20.	Items 20	0.524	0.361	Valid
21.	Items 21	0.526	0.361	Valid
22.	Items 22	0.092	0.361	Not valid
23.	Items 23	0.437	0.361	Valid
24.	Items 24	0.347	0.361	Not valid
25.	Items 25	0.586	0.361	Valid
26.	Items 26	0.534	0.361	Valid
27.	Items 27	0.577	0.361	Valid
28.	Items 28	0.455	0.361	Valid
29.	Items 29	0.456	0.361	Valid
30.	Items 30	0.494	0.361	Valid

The questionnaire of this research consisted of 30 items. Moreover based on the criteria of validity test the item that valid are 18 items. There are items number 7, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 23, 25, 26, 27, 28, 29 and 30. The items that not valid are 12 items; there are items number 1, 2, 3, 4, 5, 6, 8, 9, 16, 18, 22 and 24

Reliability. Creswell (2012) stated that reliability means that score from an instrument is stable and consistent (p.159). The calculation of reliability coefficient in this study uses a single approach trial administration with alpha (α)

coefficient formula. The calculation of reliability coefficient uses Cronbach's

Alpha formula which uses data obtained from the result of the scale of a group of

respondents. The reliability coefficient ($r_{xx'}$) are in the range of number from 0 to

1,00 (Azwar, 2013, p.112). The measurement instrument is reliable if the

reliability coefficient approaches 1,00. Based on the result of a reliability test

using Cronbach's Alpha, after the reliability test of 18 items that are valid, all of

the items were defined reliable. The reliability of 18 items was reported in the

table below.

Table 3.6

Reliability statistics

Cronbach's Alpha	N of items
0,828	18

The reliability of the questionnaire was 0,828. The items that were reliable

displayed in Table 3.8.

Table 3.7

Reliable items

No.	Items	Cronbach's Alpha if the item Deleted	Description
1.	Item 7	0,825	Reliable
2.	Item 10	0,828	Reliable
3.	Item 11	0,817	Reliable
4.	Item 12	0,821	Reliable
5.	Item 13	0,821	Reliable

6.	Item 14	0,814	Reliable
7.	Item 15	0,823	Reliable
8.	Item 17	0,816	Reliable
9.	Item 19	0,817	Reliable
10.	Item 20	0,821	Reliable
11.	Item 21	0,821	Reliable
12.	Item 23	0,824	Reliable
13.	Item 25	0,817	Reliable
14.	Item 26	0,817	Reliable
15.	Item 27	0,812	Reliable
16.	Item 28	0,822	Reliable
17.	Item 29	0,820	Reliable
18.	Item 30	0,820	Reliable

Analysis of Data

In this research, the data were collected from questionnaire and vocabulary test to find out the relationship between students learning English motivation and vocabulary mastery. The researcher used descriptive and inferential statistic to analyze the data. According to Sugiyono (2010), descriptive statistics is a statistical analysis which is used to analyze the data by making a real description about the data that has been collected by the researcher (p.207). Also, Sugiyono (2010) said that inferential statistic is a statistical technique that is used to analyze the data of sample and the result is applied to the population (p209).

To analyze the data, the researcher used the mean value and standard deviation. The category of motivation and vocabulary are drawn in the following table.

Table 3.8

Category of the motivation score

No.	Interval	Category
1.	1- 30	Very low
2.	31- 60	Low
3.	61- 90	High
4.	91- 120	Very high

The table above shows the categories of students' motivation level. The score between 1 to 30 indicated a very low category. The score 31 to 60 indicated a low category. The score 61 to 90 indicated a high category, and the score between 91 to 120 indicates a very high category.

Table 3.9

Category of vocabulary mastery score

No.	Interval	Category
1.	1- 15	Very low
2.	16- 30	Low
3.	31- 45	High
4.	46- 60	Very high

The table shows the categories of students' vocabulary mastery. The score between 1 to 15 indicated very low category, the score 16 to 30 indicated low category, the score 31- 45 indicated high category, and the score between 46- 60 indicated very high category,

The analysis technique in this research used Pearson Product Moment correlation technique to find the correlation between students' learning English

motivation and vocabulary mastery. According to Tuhuleley (2015), the data of product moment analysis should be interval or ratio and it should be normal distributed data (p.67). The data will be analyzed using SPSS version 22.0. The correlation criteria value is divided into five categories namely very low, low, moderate, strong and very strong (Sugiyono , 2013. p.231) in the following the table.

Table 3.10

Coefficient correlation interpretation

Coefficient (r)	Relationship
0,00- 0,199	Very low
0,20- 0,399	Low
0,40- 0,599	Moderate
0,60- 0,799	Strong
O,80- 1,00	Very strong