Chapter Three

Methodology

This chapter provides the discussion about the methodology that is used in this study. The following methodology discusses the research design at the very early, subsequently; the discussion will be about research setting, population and sampling, data collection method, and the last is data analysis.

Design of the Research

This research aimed to find out the correlation between two variables. Reading habit on reading English book as the first variable that generally represents the habit, specifically, all of English book that students interested to read often. Whereas, the second was grammatical mastery as the second variable. Meanwhile, finding the correlation between reading and grammatical mastery of EED UMY was the priority of conducting this research. As a large number of data, which would be collected in EED of UMY batch 2015, the researcher needs to quantify the data from the population. By that means, the researcher used quantitative approach. The quantitative approach is commonly known using numerical than words to describe the data (Creswell, 2003). In quantitative approach, the researcher used correlational design. According to Creswell (2002), correlational design allows the researcher to describe the score and the association among the variables. The researcher use the correlational design in order to find the correlation between two variables.

Setting of the Research

This research was conducted in English Education Department of UMY. The researcher chose EED of UMY due to three reasons. The first reason, the researcher found that the students have the characteristic of what researcher need to observe. The second, they had learned grammar structures in the subject of the Capita Selecta on Grammar and they had learned reading in the subject of Reading and Writing for Career Development, but grammar and reading habit have not measured yet. The third, the researcher concerned that reading habit and grammar mastery at EED of UMY need to observe in an attempt to expose students' reading habit toward grammar mastery. Therefore, the researcher is interested to conduct the research in EED of UMY batch 2015.

The researcher had conducted this research between September and October 2016. In this research, the researcher has depth consideration over the population and sample that involved in this study. The researcher took one week to collect the data from 102 students by distributing the questionnaire and grammar test. The data were based on students' willingness and accessible to fill the questionnaire and test. Therefore, the researcher claimed that batch 2015 was available and might represent the entire population of the research.

Population and Sample of the Research

Population. The population is the total number of subject that involved entirely to generalize the result of the research. Sekaran (2003) defined that population as "the entire group of people, event, or thing of interest that the

researcher wishes to investigate," (p. 266). The entire populations were from EED of UMY batch 2015/2016 in the third semester. The total number of population in the university where the researcher took place were divided into four classes, then, the total number of populations were 145. According to Arikunto (2013), if the population less than 100, it is preferable to take the whole number populations and if the population is more than 100, then, the sample can be taken around 10%-15% or 20%-25% and more. Therefore, the researcher decided to take 70 % of 145, which means 102 samples. The researcher chose a new batch because the records about their reading habit and grammar are still unknown.

Sample. Regarding selecting samples, the researcher used a conveniencesampling technique to select respondent, which fit the need in this study. Convenience sampling is an act of choosing the sample based on populations' willingness to be observed (Creswell, 2009). The researcher uses this convenience sampling to produce reliable data. Reliable data comes from the population who is willing to answer the question based on their feeling without any force. To get a good result from piloting, the researcher draws the sample from one of four classes to measure which items are valid.

Data Collection Method

In the process of collecting the data, the researcher has two ways:

Questionnaire. First, the instrument of this research used the close-ended questionnaire and the questionnaire adapted from Iftanti (2012), in her research

entitled "Survey of the English reading habit of EFL student in Indonesia." In this research, the researcher collected the data for two days. The first day, the researcher provided questionnaire in accordance to the need of being measured and distributed to students batch 2015. These students were already divided into four classes by campus. Each class averagely consisted of 36 or 30. The total number of statements were 26. The researcher distributed questionnaire; the researcher gave some instruction as well as it needed.

The time allocation is given to students about 10 minutes to gain good result from 26 statement that written on the sheets, and it must be answered directly by students. The procedures of answering the questions, students just give a mark such as circling or crossing in the answer. After they answered, the researcher collected all questionnaire sheets. The questionnaire of this research used Likert scale. According to Ankur (2013), Likert scale is the scale that allows respondent identify their feeling intensity about agreement and disagreement from items. The response was addressed to the given items in the questionnaire. The researcher applied to range 1-4 scale in each response. The researcher considered that did not include neutral because the researcher wanted to get an exact answer from the population with no doubt.

Table 3. Table of score criteria

Strongly disagree	1

Disagree	2
Agree	3
Strongly Agree	4

Also, the questionnaire of this research is constructed as follow:

Table 4. The list items of questionnaire

No	Indicator	Item	Total
1	(A) The amount of reading practice	1,7,8,15,	4
2	(B)The length of time of having reading habit	6,2,12,13,14	5
3	(C) The types of text read	5,3,9	3
4	(D) The number of books read	10,11	2
5	(E) The respondents' claim on their reading habit	4,16	2
6	(F) The purpose of reading English text	17,20,26	3

7	(G) The motivation of students to read	18,19,22,24	4
	English		
8	(H) The beliefs of students about reading	21,23,25	3
	English text		

The questionnaire above used to disclose students' reading habit. The researcher adjusted by adding some statements on the questionnaire, which is number 6. "I have read English book since I was in elementary," number 7. "I have read English book soon when I have free time," and 21. "I believe reading can improve my grammar." Those items were added as it relevant to the current research and its population.

Grammar Test. Grammatical mastery is the second variable, which is considered as a dependent variable. The dependent variable is a determinant of this research to identify the relationship between the variables in this research. In this research, the grammar measurement was accomplished by a test. The test consisted of multiple choice. The researcher used the tests that have given the expert judgment by the competent lecture who has good understanding in grammar. The test measured the grammar comprehension by considering the complexity and the clarity of materials and components which accordance to fresh batch 2015 of EED at UMY. The total of the questions in the test is 25. To answer the questions, the researcher gave instruction as follow: the students should write their name, class and batch in the space that have been provided. The researcher ordered students to read the question carefully, then give the answer by giving a mark (x) or ($\sqrt{}$). The time given was 15 minutes for answering the question. Then, submit the answer sheets if all questions have been answered. Each component presented the items, namely modal auxiliary, verb tense, adverb, and adjective.

No	Grammar components	Amount
1	(A) Modal auxiliary	1,8,9,15,24
2	(B) Verb tense	2,5,12,18,21
3	(C) Adverb and adjective	3,4,6,7,10,11,13,14,
		16,17,19,20,22,23,25

 Table 5. Grammar test

Validity of Instrument

The validity of the questionnaire. The validity contains the amount of accuracy of how are instruments answering the question and making a proper inference of the study (Sullivan, 2011). The instrument is measured for the interpretation to denote whether the instrument can reveal the validity of the statements. The researcher verified the instrument by doing piloting to check whether the instrument can be assessed as valid or not valid to measure the reading habit of the population. Sugiyono (2013) stated that there are some criteria to inspect the

instrument as valid or not valid, which is if $r_xy > 0$, 30 is valid and $r_xy < 0$, 30 is not valid. The table below shows the result of piloting as follow.

No	R count	r table	Information
1	0.327	0.3	Valid
2	0.135	0.3	Not valid
3	0.301	0.3	Valid
4	0.301	0.3	Valid
5	0.270	0.3	Not valid
6	0.412	0.3	Valid
7	0.310	0.3	Valid
8	0.210	0.3	Not valid
9	0.366	0.3	Valid
10	0.034	0.3	Not valid
11	0.058	0.3	Not valid
12	0.206	0.3	Not valid

Table 6. The validity of questionnaire

13	0.183	0.3	Not valid
14	0.312	0.3	Valid
15	0.218	0.3	Not valid
16	0.357	0.3	Valid
17	0.173	0.3	Not valid
18	0.368	0.3	Valid
19	0.425	0.3	Valid
20	0.392	0.3	Valid
21	0.443	0.3	Valid
22	0.399	0.3	Valid
23	0.065	0.3	Not valid
24	0.453	0.3	Valid
25	0.103	0.3	Not valid
26	0.236	0.3	Not valid

The table above displays the result of piloting to find the validity of the instrument. There are 14 as valid of 26 items. So, there are 12 items which are not valid. The total valid items in the questionnaire that were used were 14 questions.

The validity of grammar test. In this test, the researcher used expert judgments to reanalyze the test regarding grammar section test. Two experts were involved in this process. The experts analyzed the construct validity of this test. The grammar test questions overall had been consulted to them, and they considered that the test had met the construct validity so that they allowed to distribute the test with several considerations such as test construction, complexity, and question structures.

The experts analyzed the entire questions and stated that this needs was in an appropriate construct, yet it required several changes. Firstly, this test was multiple choice, so the right answer should be there to avoid students' confusion. The test should be clear in the questions and the answers. Secondly, the expert gave feedback about the writing. Some of the words were misspelled. Therefore the researcher fixed several words. The expert said that words should be correctly written so the students can easily comprehend the questions in order to answer them precisely. Lastly, the researcher puts inconsistence options in several questions, A - E and A – D. The expert suggested that multiple choices should be consistence in providing the answer options, the researcher decided to choose options of A – D (four options) instead of A – E (five options). The students should choose one of them to give the right answer. All the change of this test as follow:

Most of people ____ being disturbed while they _____

- a. Don't like/are working
- b. Would like/ worked
- c. Like/ worked

d. Don't like/ didn't like

e. Will like/ were working

In this question, the researcher marked the wrong answer, so the researcher changed this answer and from A - E became A - D as follow:

Most of people ____ being disturbed while they _____

a. Don't like/are working

- b. Would like/ worked
- c. Like/ worked
- d. Will like/ were working

The researcher revised the test thoroughly according to the experts' feedback. Upon the above revisions, this test was considered to be constructively valid and could be distributed.

Reliability of Instrument

Reliability of questionnaire. In the research, reliability is a value to reveal whether the instruments used to gather research data can be trusted or not. The reliability value was shown based on the grade of the score obtained from analysis of Cronbach's Alpha technique using SPSS 22.

Cronbach's Alpa	N of Items
,679	15

Table 7. The reliability of the instrument

This research shows the criteria of the value in three grade according to Sekaran (2000) showed in the table below:

Table 8.	The	criteria	of	relia	bility
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1.0.8 - 1.0	Good
2. 0.6 - 0.799	Moderate
3. < 0.6	Not good

Based on the table above, the result of the reliability that is in moderate level (0,679).

Reliability of grammar test. The reliability of grammar test needs to be measured to make sure that the questions were good enough and qualified to be distributed. The table below indicates the value of the grammar test. The researcher used the same tool SPSS 22 to perform Cronbach's Alpha technique.

Cronbach's Alpa N of Items .657 25

Table 9. Reliability Statistics

Based on the table of reliability result above, the score was 0.657 indicating that the reliability was at a moderate level.

Analysis of the Research

In analyzing both reading habit and grammar mastery, the researcher used descriptive statistics and inferential statistics to analyze the data. Descriptive statistics displayed the score of reading habits and grammar mastery. The descriptive statistics deals the mean as the central tendency of group values, median as the score from the lower to highest values, and mode as the highest frequency of the values. Then, after gaining all the values from the descriptive statistics analysis, the research used inferential statistic to display the correlation between reading habit and grammar mastery. The researcher utilized Statistical Package for the Social Science (SPSS) version 22 and Microsoft Excel in order to ease analyzing the data.

In the process of measuring the reading habit, the researcher adopted the questionnaire from Iftanti, (2012) in her research title, "Survey of the English reading habit of EFL student in Indonesia". The indicators of reading habit can be seen in Table 2. In the questionnaire, the researcher used 4 scaled that based on likert scale.

The researcher did not include neutral as the researcher wanted to gain exact answer with uncertainty. Overall, the result of the questionnaire will be categorized. Based on interval formula (Supratno, 2000), the category of reading habit can be seen in the table below.

≤28.3	Low
28.4 - 36.6	Moderate
≥ 36.7	High

Table 10. The categories of reading habit

In the process of measuring grammar mastery, the researcher distributed the grammar test in the form of multiple choice. The test was adopted from the website, which was recommended by the experts. Table 10 below is the standard categories to measure the level of students' grammar mastery:

Ta	hle	11.	The	categori	ies of	grammar	mastery	V
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\leq 27 – 38.3	Low
34 - 49.9	Middle
50-61	High

Afterward, the researcher processed the data to further analyzing to disclose the correlation between reading habit and grammar mastery. According to Leedy and Ormrod (2001) said that it is very important to observe in what extent the researcher finds the correlations between two variables according to the degree of how good the data of each had been calculated. Therefore, the researcher used Pearson Product Moment correlation via SPSS version 22 to know the correlation between reading English book as independent variable and students grammatical mastery as the dependent variable. There are standard values to measure the strength of correlation between two variables. According to Sugiyono (2003), there are five criteria, which show the strength of the correlation between variables.

Interval of coefficient	The level of correlation
0.00 - 0.199	Very low
0.20 – 0.399	Low
0.40 – 0.599	Moderate
0.60 - 0.799	Strong
0.80 - 1.000	Very strong

 Table 12. The criteria of correlation