Chapter Three

Methodology

In this chapter, the researcher presents the methodology used in this research. It included the research design, research setting, population and sample, data collection method, normality and linearity test, hypothesis testing, validity and reliability and data analysis. The researcher gives the explanation in each part of this chapter of research methodology in order to make clearer understanding.

Research Design

The researcher used quantitative design to do research about the correlation between students' reading habits and students' learning achievement at EED UMY. The reason of the researcher used quantitative was because the quantitative design could help the researcher to get information from respondents based on research question. Also, it was purposed to know the correlation between students' reading habits and students' learning achievement. Besides, that this study was a research about the relationship, quantitative approach was the appropriate research design to be used in this research. According to Cohen, Manion and Morrison (2011), "quantitative is a powerful research form, it is often associated with large-scale research, but can also serve smaller-scale research, with case studies, action research, correlational research and experiments"(p.604). Quantitative research was also known as numerical data.

Research Setting

This research was conducted at University Muhammadiyah Yogyakarta, specifically at English Education Department. The researcher have some reason to conduct this research in this place. The first reason was because the researcher studying English at English Education Department Universitas Muhammadiyah Yogyakarta. Second, the EED UMY have four skills in learning English i.e. Reading, writing, listening and speaking especially reading skill. Based on the researcher experience, the students at EED UMY more emphasis on reading. For example, students are asked to read the journal and assignment given more emphasis on students to read. So, reading is the important thing at EED UMY. This is why the EED UMY is appropriate setting in this research.

Population and Sample

Population. The population used in this research was students at English Education Department in University Muhammadiyah of Yogyakarta. "Population is the total subject of research" (Aritkunto, 2010, p.173). The population was focused on the students at batch 2012 at the EED UMY. The total number of the students at batch 2012 was 97 students. Students at batch 2012 were divided into three classes. Class A consisted of 32 students, class B consisted of 31 students and class C consisted of 34 students. The total of students at batch 2012 was obtained by the researcher using permission letter to administration office. These data were used for current research purposes.

The researcher thought that students at batch 2012 were appropriate with the research. The reason of the researcher chose students at batch 2012 as the

respondents was because these students is going to have *skripsi* project, so the students at batch 2012 were assumed to need more resources by reading. The other reason, the research focused on the students' reading habits during students learn at EED UMY. So, the researcher assumed that the students at batch 2012 had a lot of reading material throughout the learning period at EED UMY.

Sample. Sample was part of the population that had been presented from the overall of population. Sample was the smaller group or subset of the whole population (Cohen *et al*, 2011). According to Arikunto (2010), "Samples are partially or representative of the population studied". To determine the sample of the population, the researcher used a technique of *convenience sampling*. Cohen *et al* (2011) found that "convenience sampling involve choosing the nearest individuals to serve as respondents and continuing that process until the required sample size has been obtained or those who happen to be available and accessible at the time" (p.155). Convenience sampling was used in the study to obtain convenient accessibility by the researcher.

To determine sample size, the researcher used formula from Notoadmodjo (2010). Notoadmodjo's formula as follows:

$$n = \frac{N}{(1 + N.d^2)}$$

Where:

n= Large sample

N= Large population

d= Level of confidence / accuracy desired (0.1)

$$n = \frac{N}{(1 + N.d^2)}$$

$$n = \frac{97}{(1 + 97.(0.1)^2)}$$

$$n = \frac{97}{(1 + 97.0.01)}$$

$$n = \frac{97}{(1 + 0.97)}$$

$$n = \frac{97}{(1.97)}$$

$$n = 49$$

Based on Notoadmodjo's formula above, it was determined that the sample used in this research were 49 students. This number is the minimum number of sample that is used in this research, but the researcher got 53 students as the sample in this research.

Instrument

Instrument is a tool used by researcher to obtain information needed in research. “The instrument is a tool or facility used by researcher to collect data in order to make job easier and the results better, in the sense that a more thorough, complete and systematic so more easily processed” (Arikunto, 2010, p.203). In this instrument, the researcher used two instruments to gather data. The instruments were questionnaire and documentation.

Questionnaire. Instrument of questionnaire was used to obtain information. According to Aritkunto (2010), “questionnaires are a number of written questions that are used to obtain information from respondents in terms of their personal report, or things they knew”. It was concluded that questionnaire as a tool to collecting the information from the respondent. Moreover, the questionnaire was used by the researcher as method to collect data. In this research, the questionnaire was a tool to measure the reading habits of students at batch 2012. The instrument used by researcher in this study was adapted from Strauss’ (2008). The instrument was adapted from Strauss’ (2008) who investigated the reading habits that were in accordance with the title in this study.

The total of instrument questions from Strauss’ were 82 items. In this research, the researcher only used twenty questionnaire items from Strauss by randomly choosing the items. Twenty questionnaires include question number 6, 10, 12, 18, 24, 29, 34, 40, 41, 44, 47, 50, 51, 59, 61, 76, 77, 78, 79 and 81. The researcher chose those twenty questionnaires from Strauss because the researcher only took the questions which were appropriate with the topic discussion of this

research. Moreover, the researcher also suggested that too many questions could influence respondents' answer. Arikunto (2010) stated that respondents were often less careful in answering questions and it caused a lot of answers were not filled. The researcher felt that the respondents would be bored to answer a lot of questions and it might cause invalid data from respondents' answer.

In this study, the researcher had changed the questions by translating from English into Bahasa. The reason of the researcher changing the question into Bahasa was to make easy for the respondents in answering these questions. On the other hand, the researcher also changed the question to suit with the respondent. In this research, the researcher used 20 questions that were appropriate with the current research topic. With the details, a question number 6, 10, 29, 34, 40, 41, 44 and 47 were question related to the effect of reading habits in learning achievement. Question number 12, 18, 24, 50 and 51 were questions related with internal factors of reading habits. Then, questionnaire number 59, 61, 76, 77, 78, 79 and 81 were questioning that relating with external factors of reading habits.

The researcher had consulted with two expert judgments to validate the questions that were distributed to the respondents in this research. The questions distributed to the respondents were the final outcome of expert judgment which consisted of 20 questions. The final outcome of the process in expert judgment was used by the researcher to obtain information about reading habits.

In this research, the researcher also had randomized the original question number with categorize the question based on topic discussion. The researcher

randomized the original question from Strauss' by categorizing the effect of reading habits and the influencing factor of reading habits which consisted of internal and external factors of reading habits. Classification of the randomized original questions number from Strauss' with the number of questions that were distributed by the researcher can be seen as follows:

Table 3.1

The original question	Numbers in the researcher's question
Effect of reading habits	
Q6: Reading books helps a person learn a language.	1. Membaca buku membantu seseorang belajar bahasa.
Q10: I read only when I need to find some information.	2. Saya hanya membaca ketika saya harus menemukan beberapa informasi.
Q29: Reading teaches me a lot about life.	3. Membaca banyak mengajarkan saya tentang kehidupan.
Q34: If you want to be well-educated, you must read books.	4. Jika anda ingin menjadi terdidik, anda harus membaca buku.
Q40: Reading English books will help me in my job.	5. Membaca buku bahasa Inggris akan membantu saya dalam pekerjaan.
Q41: I think reading English books will be helpful for me in my life.	6. Menurut saya membaca buku bahasa Inggris akan membantu saya dalam kehidupan saya.
Q44: Reading English books will help me understand English-speaking people.	7. Membaca buku bahasa Inggris akan membantu saya dalam memahami

Q47: I want to improve my own knowledge through reading English books.	penutur bahasa Inggris. 8. Saya ingin meningkatkan pengetahuan saya dengan membaca buku bahasa Inggris.
Internal factors of reading habits **Q12:** Reading books is OK if there are lots of pictures. **Q18:** Surfing the net is more interesting than reading a book. **Q24:** I like reading Bahasa, but not English. **Q50:** I have set myself a goal to improve my English. **Q51:** I do not want to improve my English language skills.	9. Membaca buku lebih mudah jika ada banyak gambar. 10. Berselancar di internet lebih menarik daripada membaca buku. 11. Saya suka membaca buku berbahasa Indonesia, tapi tidak untuk bahasa Inggris. 12. Saya telah tetapkan sebuah tujuan untuk meningkatkan kemampuan bahasa Inggris saya. 13. Saya tidak ingin meningkatkan kemampuan bahasa Inggris saya**.**
External factors of reading habits **Q59:** My parents encourage / have always encouraged me to read. **Q61:** My English classes at school were not interesting. **Q76**: The library at my school (s) was a	14. Orang tua saya mendorong / selalu menyemangati saya untuk membaca. 15. Kelas bahasa Inggris di sekolah saya tidak menarik. 16. Perpustakaan disekolah saya

quiet, comfortable, welcoming place. **Q77:** The library at my school (s) had many interesting books. **Q78:** Teachers at school allowed us to choose the books we wanted to read. **Q79:** At my language school, teachers often encourage us to read. **Q81:** At my language school, I have access to lots of interesting reading.	mempunyai tempat yang nyaman dan tenang. 17. Perpustakaan di sekolah saya memiliki banyak buku yang menarik. 18. Guru disekolah memungkinkan kita untuk memilih buku-buku yang ingin kita baca. 19. Di sekolah bahasa saya, guru sering mendorong kita untuk membaca. 20. Di sekolah bahasa saya, saya dapat mengakses banyak bacaan menarik.

Questionnaire used in this study was an enclosed and direct questionnaire. According to Arikunto (2010), closed questionnaire is “a questionnaire that has provided the answer, so that the the respondent only choose the answer” (p.195). “Direct questionnaire is respondent answer about themselves” (Aritkunto, 2010, p.195). It means that respondents only chose an answer that had been available based on them. The questionnaire in this research was designed based on likert scale model. Arikunto (2010) stated that “likert scale as a statement which followed by table which show the scale, for example begins from strongly agrees to strongly disagree” (p.195). Scoring on a Likert scale questionnaire models was as follows,

Table 3.2

Indicator score of reading habits

No.	Alternative answer	Score
1.	Strongly Agree	5
2.	Agree	4
3.	Neutral	3
4.	Disagree	2
5.	Strongly Disagree	1

Documentation. In this research, documentation was also used to collect data or information needed by researcher. The data document was obtained from the administrative office in faculty of language education. “Documentation is seeking data on things or variables such as notes, transcripts, books, newspapers, magazines, inscriptions, minutes of meetings, agenda, and so on” (Aritkunto, 2010, p.274). Document was used by researcher in this research as a tool to measure the learning achievement of student. Document used by the researcher was document of college score. The document consisted of a list of students’ names majoring in English Education Department of Universitas Muhammadiyah Yogyakarta batch 2012 academic year 2015/2015 and their grades of GPA. The researcher got the GPA of students at batch 2012 from administration staff at English Education Department in Universitas Muhammadiyah Yogyakarta.

Variables of the Study

"A variable is a condition, factor or quality that, as its name suggest, can vary from one case to another, it is the opposite of a constant, which does not vary between cases" (Cohen *et a*l, p.606). There is two variable of this research which include of independent variable (X) and dependent variable (Y).

Independent of variable (X). The independent variable of this research is reading habit of students. "An independent is that which causes, a stimulus that influence response, an antecedent or a factor which may be modified to affect an outcome" (Cohen *et al*, p.606). Reading habits of this research causes learning achievement of this research. The students which have reading habits can increase students' learning achievement.

Dependent of variable (Y). The dependent variable of this research is learning achievement. "Dependent variable is the affect, consequence of, or response to, an independent variable" (Cohen *et al*, p.606). Dependent variable of students' learning achievement can be influenced by students' reading habits.

Data Collection Method

Data collection method was the important part of methodology before the researcher analyzed the data. In this research which aimed to find out students' reading habit at EED UMY, the researcher used survey by distributing questionnaire to collect the data. The questionnaires were distributed to obtain information from the respondents. The questionnaires were distributed to 53 students at batch 2012. The researcher were distributed questionnaire into three classes consisting of class A, B and C.

There were some steps that the researcher did to collect the data before the researcher distributing the questionnaire. First, the researcher asked permission to distribute the questionnaire in the class. Second, the researcher explained to the respondent about the researcher's purpose for asking the respondents to fill out researcher's questionnaire. Moreover, information from the respondents was aimed to solve the problems faced by the researcher. Third, the researcher distributed questionnaires to respondents. Fourth, the researcher explained how to answers the table of questionnaires. The researcher explained the respondents that there were five alternative answers consisted of *strongly agree*, *agree*, *neutral*, *disagree* and *strongly disagree*. In this opportunity, the respondents needed 10-15 minutes to complete the questionnaires. After that, the researcher collected the data from the respondents and started to analyze the data. The researcher analyzed the data using SPSS 22.0 windows to help the researcher know how the correlation between reading habit and student's learning achievement at the EED of UMY.

The researcher used GPA (Grade-Point Average) to measure students' learning achievement from their reading habits. To obtain the data of learning achievement the researcher used the procedure through administration office from Faculty of Language Education.

Prerequisites Analysis Test

Normality test. Normality test was intended to determine whether the data of each variable were normal or not. Normality test in this study using the Kolmogorov-Smirnov formula, namely:

$$D = \text{maks } [S_{n1}(X) - S_{n2}(X)]$$

Explanation :

D = The highest absolute deviation

$S_{n1}(X)$ = Frequency of Hope

$S_{n2}(X)$ = Observation frequency

To determine whether the frequency distribution of each variable was normal or not was done by looking at the price indicated by the value p Asymp. Sig., if the price of p greater than 0.05 means the data were normally distributed, whereas if the price of p less than or equal to 0.05, the data distribution was not normal.

Linearity test. Linearity test was used to determine the relationship between independent variables and the dependent variable is linear or not. The relationship between the variables to be tested linearity was the relationship between Students' Reading Habits in English and Students' Learning Achievement at English Education Department in Universitas Muhammadiyah Yogyakarta. Linearity test was conducted to measure the level of linearity between the independent variables with the dependent variable that is by looking for F_{reg}. The formula:

$$F_{reg} = \frac{RK_{reg}}{RK_{res}}$$

Explanation:

F_{reg} = The price for the regression line

RK_{reg} = The mean squares regression

RK_{res} = The mean quadratic residues

Linearity testing was done by F test, which is by comparing F count to F table, if F count same as or smaller than F table at significance level of 5%, the relationship between the variables X and Y is linear. If the price F count was greater than the price F table, the relationship between the variables X and Y are not linear.

Hypothesis Testing

In this study, the hypothesis test used product moment correlation analysis. This analysis also aims to determine whether the research hypothesis that has been prepared can be accepted or not. Hypothesis testing was done by Product Moment correlation test. Correlation test was done by using product moment correlation formula with the following formula:

$$r_{xy} = \frac{n\Sigma XiYi - (\Sigma Xi)(\Sigma Yi)}{\sqrt{\left[n\Sigma Xi^2 - (\Sigma Xi)^2\right]\left[n\Sigma Yi^2 - (\Sigma Yi)^2\right]}}$$

Where:

rxy = Correlation between variable x and y

n = Total of sample

$\sum X$ = Total grain score

XY = Total score

$\sum XY$ = Total multiplication score of grains with a total score

$\sum X^2$ = Total squared score grain

$\sum Y^2$ = Number squared of total score

The correlation coefficient was used to find the relationship between the variables X and Y. If the correlation coefficient was positive then there is a positive relationship. Furthermore, a conclusion was to compare r count with r table, if r count is greater or equal to the r table with a significance level of 5%; then these variables had a significant relationship. In contrast, if r count was smaller than r table, then the variable is not had a significant relationship.

Validity, Expert judgment and Reliability

Validity. "Validity is an important key to effective research" (Cohen *et al*, 2011, p.179). Validity was important to be used in the research to know that the instrument was valid or invalid. A test or measuring instrument could be said that it had high validity if the tool performed the function of measuring. The values of validity were checked with r table. Sugiono (2012) stated that the value of r table is 0,3, these value of r table was obtained regardless the number of cases. If the values of r count were greater than or equal to the values of r table, the items were declared valid. If the correlation coefficient is low or less than r table, the items in question was said to be void or invalid. Items that fall or invalid items were eliminated and it cannot be used for further research. The calculation of validity test was using SPSS 13.0.

Expert judgment. The researcher used two experts judgment to analyze the instruments of questionnaire. The process of expert judgment was analyzing the instruments whether they were valid or not. Then, the valid instruments were used for research. The process during expert judgment to analyze the instrument was as follow:

The first expert judgment discussed an incomplete questionnaire in accordance to the contents of the discussion. In this condition, the expert judgment suggested that the researcher should add the questionnaire relating to all contents in the study. The expert judgment explained that this research discussed about the effect of reading habits and influencing factor of reading habits which consisted of internal (motivating and interest) and external factor (home and school environment). The problem was that this research only had the instrument that related to the effect of reading habit, internal factors of interest and external factors of home environment. The expert judgment added that the questionnaire should have the items to measure internal factors of motivation and external factors of school environment such as facilities. In addition, the expert judgment had amended the translation of the instrument from English to Bahasa.

The second expert judgment argued that there were two questionnaires which were not in accordance to the contents of the study. Besides, the expert judgment also corrected the translation of the questionnaire.

Reliability. Cohen *et al* (2011) found “reliability is essentially a synonym for dependability, consistency and replicability over time, over instruments and over groups of respondents” (p.199). Reliability was used for the researcher to

indicate the extent to which the instrument reliable. Reliability did show the consistency of instrument to measure the same situation in the research.

Reliability was a tool to measure the extent of instruments were reliable or credible to be used in research. An instrument was said to have a high reliability if the tests had consistent results. To find out the reliability, the data were analyzed using Cronbach Alpha statistical techniques. According to Sekaran (2006), the three levels of reliability indicators were as follow:

Table 3.3

The criteria of Reliability

Category	**Score**
0,8 - 1,0	Good
0,6 - 0,799	Reliability is received
<0,6	Not Good

Data Analysis

In the data analysis, the researcher described about how to analyze the data after the process of collecting the data. Software SPSS (Statistic Packet for Social Studies) for windows version 22 was used by the researcher in the data analysis technique. There were two kinds of analysis technique used to analyze in this research. They were descriptive analysis and inferential analysis.

Descriptive analysis was used to describe reading habits and learning achievement of students at EED UMY. The data analysis answered the research question from the researcher about “how is reading habits at EED UMY?” and

"how is the learning achievement of English Education Department UMY students?". Additionally, descriptive statistical analysis was used in this study. Creswell (2012) argued that "descriptive statistic indicate general tendencies in the data (mean, minimum, maximum), the spread of scores (variance, and range)" (p.182).

The indicators of reading habits consisted of the categories. The classifications are:

Table 3.4

Categories of reading habits

Good	: $X \geq M + SD$
Average	: $M - SD \leq X < M + SD$
Poor	: $X \leq M - SD$

Moreover, the categories of achieved performance based on the academic guideline book of Universitas Muhammadiyah Yogyakarta about Education and Teaching consisted of three levels. The classifications are

Table 3.5

Categories of learning achievement

Category	**Score**
Excellent/ Cumlaude	3.51 – above
Good	2.76 - 3.50
Satisfying	2.00 - 2.75

Inferential analysis was used by the researcher to find out that there was significant correlation between two variables in this research. Variables that were seen from inferential data analysis were the correlation between students' reading habits and students' learning achievement at EED UMY. To find out the correlation between two variables from this research, the researcher used correlation product moment. An SSPS 22.0 window was used by the researcher to analyze the data about this research; to know the influence of students' reading habits and students' learning achievement.

Table 3.6 Interval coefficient and level of relationship

Interval coefficient	Level of relationship
0,00 – 0,199	Very Low
0,20 – 0,399	Low
0,40 – 0,599	Average
0,60 – 0,799	Strong
0,80 – 1,000	Very Strong