

Chapter Three

Methodology

Chapter three presents the methodology of the research. This chapter consists of research method, research population and sample, and data collection method. Then, research instrument and data analysis technique are also discussed in this chapter.

Research Design

This study focuses on female and male students differences in reading attitude at English Education Department of UMY. This study aims to see if there are any significant differences between female and male students in their reading attitude. Therefore, this research used a quantitative method, especially in survey design.

Quantitative Research Design. The purpose of this research is to find female and male students reading attitude differences at ELED of PUY. Based on this purpose, the researcher used quantitative method in this research. Quantitative research method is explaining phenomena by collecting numerical data that are analysed using mathematically based methods. According to Borrego, Douglas and Ammelink (2009), quantitative method fits for deductive approaches which hypothesis justifies the variables of the narrowly defined research questions. The reason of using quantitative method is, according to Creswell in Sukamolson (2007), explaining phenomena by collecting numerical data and analyzed using mathematically method. Quantitative research design can be used in this research,

because the researcher wants to observe the sociology phenomena that female and male students' are different in their reading attitude. In addition, Cohen, Manion and Morrison (2011) stated that quantitative method is a social research that use empirical statement. In this research, empirical statement is important because it is defined as a descriptive statement about what "is" the case in the real world rather than what "ought" to be the case. In conclusion, quantitative is suitable to be used as a research design in this research because quantitative method generally focuses on measuring social reality. By using quantitative method, the findings resulted in precise number can be used to show the differences between female and male students' reading attitude.

Survey Design. The most appropriate design used in this research is survey design method. According to Creswell (2012), survey research designs are the procedures in quantitative research in which the investigators administer a survey to a sample and population of people to describe the attitudes, opinions, behaviors, or characteristic of the population. Survey design helps the researcher to identify important beliefs and attitude of the students about their reading activity. In this research, the researcher chooses a survey design to answer the research question number one "How is the reading attitude of female students at English Education Department batch 2016?" and research question number two "How is the reading attitude of male students at English Education Department batch 2016?". The researcher seeks to describe trends in reading attitude. The researcher also use cross-sectional survey design because cross-sectional study can examine current attitudes, beliefs, and opinion which ways in individuals think about issues, whereas practices are their actual behaviors (Creswell, 2012).

Research Population and Sample

Population. The population in this research were students of ELED of PUY batch 2016 that consist of 57 female students and 34 male students. The researcher chose the participants because the researchers assumed that students' of English Education Department were familiar to reading activity, especially ELED of PUY students' who are provided with some reading subjects namely; Basic Reading and Writing, Academic Reading and Writing, Reading and Writing for Career Development, and many others. In addition, the students' reading attitude at ELED of PUY is unpredictable. The researcher chose students from batch 2016 because they were still new as students in ELED of PUY, and it was supposed to know how actually students reading problem earlier in ELED of PUY batch 2016.

Sample. According to Sugiyono (2013), sample is a part of number and populations' characteristics and are taken using certain sampling techniques. Population of female and male in this research were different, so the researcher divided the sample into the sample of female students and male students. The research sampling techniques used in this reseach was technique from Yamane and Slovin (Ridwan & Kuncara, 2008) and define in following technique.

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

- n = number of sample
- N = number of population
- d = uncertainty precision is 5%

The researcher presented sample of female students consisted of 57 populations of female students at ELED of PUY batch 2016.

$$\begin{aligned}
 n &= \frac{57}{(57(0,05)^2+1)} \\
 &= \frac{57}{(57(0,0025) + 1)} \\
 &= \frac{57}{(0,1425+1)} \\
 &= \frac{57}{1,1425} \\
 &= 49,89 \text{ rounded to } 49
 \end{aligned}$$

Therefore, the sample of female students used in this research were 49 persons.

The Population of male students at ELED of PUY batch 2016 were 34 persons, so the sample of male students presented was counted using the technique bellow.

$$\begin{aligned}
 n &= \frac{34}{(34(0,05)^2+1)} \\
 &= \frac{34}{(34(0,0025) + 1)} \\
 &= \frac{34}{(0,085+1)} \\
 &= \frac{34}{1,085} \\
 &= 31,33 \text{ rounded to } 31
 \end{aligned}$$

Therefore, sample of male students in this research were 31 persons.

Moving forward, the researcher used random sampling to determine the required participants, which the number of population of batch 2016 was around 91 students consisting 57 female and 34 male students at English Education Department Universitas Muhammadiyah Yogyakarta. According to Sugiyono (2010), random sampling is the way to select the sample that the number of population can be selected randomly. The researcher choosed the students at ELED of PUY batch 2016. The researcher collected the data randomly because the population between female and male were different. The data collected was distributed to the students at their class. The total data collected in this research were 54 data of female students and 33 data of male students. Afterward, the researcher used the data in this research based on the required sample size obtained.

Research Instrument.

To investigate students' gender differencess in reading attitude at ELED of PUY and also to find out the students' reading attitude, the researcher collected the data using questionnaire. Kothari (2004) stated that questionnaire is a set of questions focused on spesific topics or specialized area. The questionnaire is used as an instrument to gather the data of female and male students' in reading attitude differences. In addition, the researcher took a questionnaire from previous studies were made by Artola, Sastre, Gratacós, and Barraca (2013) with the title "Differences in Boys and Girls attitude toward Reading". The researcher adapted this questionnaire because it was conducted by other researchers before that focused on finding differences between female and male toward reading attitude.

To avoid any misunderstanding, the questionnaire in this research was presented into Indonesian language. In this questionnaire, there are 26 item of questions that were divided into 3 sub sets depending on the sub topics of reading attitude by interest component, reading attitude by preference component, and reading attitude by frequency component. The components of the questionnaire were as follow.

Component	Questions number
Reading Attitude by Interest	1, 2 ,3 , 4 ,5 ,6 ,8 ,9 ,15 and 17
Reading Attitude by Preferences	7, 14, 16, 18, 19, 20, 21, and 22
Reading Attitude by Frequency	10, 11, 12, and 13

The first component in this questionnaire is reading attitude by interest. The component of reading attitude by interest is involved in questionnaire number 1, 2 ,3 , 4 ,5 ,6 ,8 ,9 ,15 and 17. Those questions explained about the genre of the books, such as story book, non-fiction book, adventure book, the book that have a lot of pictures, characters on the story book, and whether they like to talk about the book with their friend. The second component is reading attitude by preference. Reading attitude by preference components involved in question number 7, 14, 16, 18, 19, 20, 21, and 22. Those questions explained about preference to reading aloud, listening to someone who's reading aloud, reading together with another student, doing a homework and good understanding at the book that they read. The last component involved in question number 10, 11, 12, and 13 is reading attitude by reading frequency. The questions that involved reading frequency explained about the frequency to read a book in the spare time,

visit the library, doing exercise in reading and have a habit to read since their childhood.

Furthermore, the research used Likert scale in questionnaire. According to Sugiyono (2013), Likerts scale is the scale to measure attitude, opinion, and perception of someone or group toward the social phenomenon. The researcher decided to use 1-5 scale. The scale of questionnaire were as follow.

No	Scale	Score
1.	Sangat Tidak Setuju/ Strongly Disagree	1
2.	Tidak Setuju/ Disagree	2
3.	Ragu- Ragu/ Disappointed	3
4.	Setuju/ Agree	4
5.	Sangat Setuju/ Strongly Agree	5

Reliability of the Instrument. Reliability is the value that showed the consistency of the finding data and shows the truth of the instrument. According to Creswell (2012), reliability means that score from an instrument is stable and consistent. Therefore, the result of the score should be nearly the same when the researcher administrated the instrument repeatedly at the different times. The purpose of the reliability was to evaluate the stability of the instrument. It means that instrument can be administrated in several times by several respondents with the similarity results. The criterion of the reliability according to Winterstein and Kimberlin (2008), score from the measurement instrument is composed by the true score which is un-known and error in process of measuring.

The researcher used internal consistency reliability as a procedure to examine an instruments' reliability. In this research, the researcher also used Cronbach's alpha test. According to Heale and Twycross (2015), Cronbach's alpha is the most commonly used test to determine the internal consistency of instrument. They also stated that the Cronbach's alpha result is a number between 0 and 1, and acceptable score in reliabillity is $> 0,6$ and higher. In this research, the researcher conducted the Cronbach's alpha test using SPSS. To find the reliability of instrument in Cronbach's alpha test, the researcher input the score of questionnaire data first in variable view of SPSS. The total female respondents in this research were 55 students and male students were 34 with the total questions of 22 points. After the researcher input the data, the researcher analyzed to find reliability in scale option and then input all the variable to items box with alpha mode. After the data was inserted, the table 3.2 shows that the reliability of the instrument in this research was 0,807. It means that the questionnaire as the instrument in this research was reliable.

Table 3.3 <i>Reliability Statistic Table</i>		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,807	0,813	22

Validity of the Instrument. There were two steeps to ensure the validity of the questionnaire rediability in this research. First steep was to use expert's judgement before gathering the data. In this research, the researcher adapted the questionnaire from previous studies and translated the questionnaire into Indonesian language. Expert's judgement in this research was used to measure the

validity of the questionnaire which translated into Indonesian language. The questionnaire in this research was presented in Indonesian language to avoid misunderstanding. In this research, the expert's judgement use two examiner to measure that the questions is rediable. The researcher usied scale from 4 – 1 as a score to measure readiability of the questionnaire, and this scale is based from very relevant, relevant, irrelevant and verry irrelevant. After the researcher conducted the expert's judgement, the researcher analyzed the score to find the validity of the instrument using technique from Aiken (Retnawati, 2016). If the validity score index is between 0,4 to 0,8, it means that the validity level is moderate. In addition, if the score is bellow 0,4, it means that the validity level is low and if the score is more than 0,8, the validity level is high. To find the validity score index, the researcher used technique from Aiken below.

$$V = \frac{\sum S}{n (c - 1)}$$

V = indeks rater of validity

s = score of rater – low score of category

n = number of rater

c = number of category

To find out the validity of instrument, the researcher verified the instrument of this research through expert judgment. This instrument was consulted to expert as the lecturers at ELED of PUY. The result of validity of instrument according the experts judgment was presented in table below.

NO	R1	R2	S1	S2	S	V	Validity
1	4	4	3	3	6	1	Valid
2	3	1	2	0	2	0,333333	Not valid
3	4	4	3	3	6	0,5	Valid
4	3	2	2	1	3	0,5	Valid
5	3	4	2	3	5	0,833333	Valid
6	3	4	2	3	5	0,833333	Valid
7	3	4	2	3	5	0,833333	Valid
8	4	4	3	3	6	1	Valid
9	4	4	3	3	6	1	Valid
10	4	4	3	3	6	1	Valid
11	4	4	3	3	6	1	Valid
12	3	4	2	3	5	0,833333	Valid
13	3	3	2	2	4	0,666667	Valid
14	3	1	2	0	2	0,333333	Not valid
15	4	3	3	2	5	0,833333	Valid
16	2	4	1	3	4	0,666667	Valid
17	2	4	1	3	4	0,666667	Valid
18	3	1	2	0	2	0,333333	Not valid
19	3	3	2	2	4	0,666667	Valid
20	4	3	3	2	5	0,833333	Valid
21	4	2	3	1	4	0,666667	Valid
22	3	4	2	3	5	0,833333	Valid
23	3	2	2	1	3	0,5	Valid
24	3	1	2	0	2	0,333333	Not valid
25	4	3	3	2	5	0,833333	Valid
26	3	2	2	1	3	0,5	Valid

From the results above, the researcher found some questions of instruments that had low score of validity. There were question number 2, 14, 18

and 24 that scored $> 0,04$. Therefore, the researcher decided to cut those four questions are not valid, including question number 2, 14, 18, and 24.

The second step to find the validity of the instrument in this research, the researcher conducted the pilot study. Before the researcher distributed the questionnaire, it is useful to conduct a pilot study to determine the items of the questionnaire. A pilot study can be used as a trial run in preparation for major study (Polit, Beck & Hunger, 2001). Baker in Simon (2011) stated that pilot study is often used to pre-test or try out a research instrument. To study the piloting of data collection or questionnaire is important, especially when the patient has to self-complete the form or when the several different assessors will be collecting data (Lancaster, Dodd & Williamson; 2004). This is to ensure that the questionnaire is appropriate, well defined, and clearly understood. According to Streiner and Norman in Lancaster, et al (2004), a pilot study which tests out the administration of questionnaire is different from validating of the instrument or showing it to be reliable.

In a pilot study, it is possible to test a small group of respondents, but pilot study could well conducted because it can inform the researcher on the research process. In this research, the researcher conducted the pilot study in a small group of the respondents use the questionnaire of this research. There were 8 respondents of pilot study in this research. The respondents answer the questionnaire with the assistance by the researcher, and then the researcher checked and verified in every items of questionnaire to make sure that the respondent understand the questions. After the data of pilot study were gathered, the researcher also analyzed using technique from Aiken. The result of pilot study is presents in the table below.

NO	R1	R2	R3	R4	R5	R6	R7	R8	S	V
1	4	4	4	5	4	5	4	4	25	0,78125
2	4	4	4	5	4	4	4	4	25	0,78125
3	4	5	5	4	4	4	3	4	25	0,78125
4	5	4	5	4	4	4	3	4	24	0,75
5	4	4	4	4	4	4	3	4	22	0,6875
6	4	4	5	3	3	4	3	4	22	0,6875
7	3	4	4	4	3	3	4	4	23	0,71875
8	3	4	4	4	4	3	4	4	23	0,71875
9	4	4	4	3	3	4	4	4	23	0,71875
10	3	3	4	4	4	3	4	4	22	0,6875
11	4	4	4	3	3	4	3	4	21	0,65625
12	5	4	3	3	4	3	3	3	19	0,59375
13	3	4	4	3	4	3	4	3	20	0,625
14	4	5	4	3	3	3	2	4	20	0,625
15	4	2	2	4	4	2	2	4	16	0,5
16	2	4	2	3	3	4	3	3	15	0,5
17	1	4	3	4	4	3	4	3	18	0,5625
18	2	4	4	3	5	4	4	2	17	0,53125
19	2	3	3	4	4	4	3	4	18	0,5625
20	3	4	4	3	4	3	3	2	16	0,5
21	3	3	3	3	3	4	4	3	18	0,5625
22	3	3	2	3	3	4	3	2	13	0,4547

The result table above showed that the respondents of the pilot study clearly understood the questions of the questionnaire. After conducting the expert's judgement and pilot study, the researcher got the readability of instrument. The research questionare would valid and readable if the respondents of this research was clearly understand in every item of questionnaire, so the instrument of this research can conducted at ELED of PUY.

Data Analysis

After the data were gathered, the researcher analyzed the data to find the average score of the data from questionnaire using SPSS (Statistic Packet for Social

Studies). The data is tabulated in form of tables to show inferential statistical measurements. In this research, the researcher used descriptive statistics analyses to answer the research questions number one and two. In research question number one, the researcher wants to investigate female students' reading attitude), and in the research question number two, the researcher wants to investigate male students' reading attitude. Mean value at the descriptive statistics was used in this research. In this research, the researcher divided the data from population into female and male group, and researcher also entry the data collected according to the gender. After entering the data, the researcher did analysis by finding the mean of data. The researcher found the data mean between female and male in general to answer research questions number one and two.

To analyze the data after the researcher found the mean of the data from female and male students, the researcher made different standards to measure the level of students' reading attitude scores. The researcher adopted the norm-reference standard to determine the range. The range was obtained by subtracting the highest score into the lowest score of reading attitude data. To find the range, the researcher found the interval class first using the formula by Supranto (2008), and defined in the following technique.

$$c = \frac{Xn - X1}{k}$$

c = class size

k = number of category

Xn = highest number of observation

$X1$ = lowest number of observation

$$c = \frac{5-1}{3} = 1,3$$

The number of class size is 1,3

After finding the range, the researcher divided the range into three to determine the categories of students' reading attitude level. The categories included low, fair, and high. This category would be used after finding the result of questionnaire score by counting the mean, and then finding the average of the score. This category was used to measure students' reading attitude level. If the average score from questionnaire is between 1 and 2,3, it means that reading attitude of the student is low. On the other hand, if the average score is between 2,4 until 3,7 the students have fair level in reading attitude. Reading attitude of the students' will be categorized as high if the average score is 3,8 until . Table 3.4 indicates the categories of students' reading attitude level.

No	Interval	Category
1	1 - 2,3	Low
2	2,4- 3,7	Fair
3	3,8 – 5	High

Whereas inferential statistic was used to answer the research question number three which is to find out the significant differences between female and male students toward reading attitude. The inferential statistics used in this research to find significant differences. The inferential statistics enabled researchers to make inferences about the wider population (Cohen, Manion, & Morrison, 2011).

Data collected in this research was analyzed using t-test after conducting interval class. According to Ghozali (2011), t-test is used to test the effect of variabel independent that use in this research individually and to explain depending variabel in parsial. In this research, t-test was used to compare mean of data collected from female and male toward reading attitude. Before the researcher conducted t-test, the analyzed normality test. Normality test is used to find that distribution of data collected is normal. Normality test is used to find that population in this research have normal distribution. To conduct the normality test, the researcher used technique from Kolmogorov Smirnov and to analyzed the normality the researcher used SPSS. If the probabilities asymp.sig $> 0,05$ the data is normal distribution, and if the probabilities asymp.sig $< 0,05$ the data is not normal distribution (Ghozali, 2011).