Chapter Three

Methodology

This chapter discusses the method used by the researcher in measuring the correlation between teachers' discipline and students' motivation to learn English at SMA Muhammadiyah 7 Yogyakarta. This chapter consists of research design, research setting, population, sampling and sample, data collection instrument, data collection procedure and data analysis.

Research Design

In investigating the correlation between teachers' discipline and students' motivation in learning English at SMA Muhammadiyah 7 Yogyakarta, the researcher used quantitative method, especially survey design. The reason why the researcher used quantitative methodology was because this research is examining the correlation between two variables which were teachers' discipline and students' motivation at SMA Muhammadiyah 7 Yogyakarta. Creswell (2012) argues that quantitative design is a method for measuring certain theories by researching the correlation between two or more variables. Therefore, the researcher used descriptive correlation in this research. Simon and Goes (2011) also elaborates that "Correlational studies display the relationships among variables by such techniques as cross-tabulation and correlations." (p.1).

This research used survey design. Survey design is a series of questions or statements, called items, used in a questioners or interview to measure the self-report of the respondent. It is supported by Glasow (2005) who argues that verbal

surveys are often known as interviews and written surveys are questionnaires. So, the type of survey in this research was a written survey which used questionnaire. A survey is a good procedure to use. According to Creswell (2012), "survey designs are procedures in quantitative research in which you administer a survey or questionnaire to a small group of people (called the *sample*) to identify trends in attitudes, opinions, behaviors, or characteristics of a large group of people (called the *population*)" (p.25). According to Kraemer (1991) as cites in Glasow (2005) there are three characteristics of survey research. Firstly, survey research is used for quantitative research in describing specific aspects of population. These aspects often involve examining the relationships among variables. Secondly, the data requires for survey research are collected from people. Thirdly, survey research uses a selected portion of the population from which the findings can later be generalized back to the population (p.5). Based on one of the survey character, this research had two variables, namely teachers' discipline and students' motivation to learn English at SMA Muhammadiyah 7 Yogyakarta.

Research Setting

The researcher conducted this research at SMA Muhammadiyah 7 Yogyakarta. The researcher chose SMA Muhammadiyah 7 Yogyakarta as a research setting to conduct the data, because the researcher had experienced teaching at SMA Muhammadiyah 7 Yogyakarta for one semester in the practicum subject. During the practicum at SMA Muhammadiyah 7 Yogyakarta, the researcher knew the discipline of teachers in teaching and how the motivation of students in learning English. Another reason of choosing SMA Muhammadiyah 7

Yogyakarta as a research setting was because the accessibility as the researcher has emotional relations with the English teacher and students and had taught at SMA Muhammadiyah 7 Yogyakarta in the internship subject. This research started in November 2016. It was done to confirm whether or not there is correlation between teachers' discipline and students' motivation at SMA Muhammadiyah 7 Yogyakarta.

Research Population and Sample

Population and sample cannot be separated in quantitative method. They have very important role in every aspect of the research that uses quantitative method. It is supported by Creswell (2012) "Quantitative research is very important in selecting a sample from a population. In this way, the sample is representative of the population", (297).

Population. In this research, the researcher took the whole students of grade eleven of SMA Muhammadiyah 7 Yogyakarta batch 2015 as the population. The population of this research were 202 students of grade eleven from 7 classes of SMA Muhammadiyah 7 Yogyakarta batch 2015. The reason why the population of this research was taken from student of grade eleven of SMA Muhammadiyah 7 Yogyakarta batch 2015 was because they had enough understanding in the situation of their teachers' discipline and their own motivation in learning English and also they ready and available to be researched. The reason why the researcher did not take grade ten and twelve as the participant because the researcher did not have emotional relations with grade ten and for grade twelve. Moreover, the school did not allow the

researcher to conduct the research on grade XII because they were preparing the final examinations.

In delivering the questionnaire, it was easier for the researcher because the students of grade eleven of SMA Muhammadiyah 7 Yogyakarta batch 2015 still have class in that semester. According to Polit and Hungler (1999), population consists of the whole group of people that is the researcher interested and the result of the research can be generalized. Another definition comes from Creswell (2012) who notes that population is a group of individuals who have the same characteristics. The number of the selected population will be number of students ranging on 17-18 years old. The researcher took students of grade eleven as the population in this study, because they have enough knowledge and motivation which was indicated by their length of the study. Furthermore, the students on this batch also had a good understanding about their teacher's discipline.

Sampling and Sample. To determine a sample is called sampling. It is supported by Fridah (2002) argues that "sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population" (p.1). Therefore, the method used to select the sample is *simple random sampling*.

In simple random sampling, each member of the population under the research has an equal chance of being selected and the probability of a member of the population being selected is

unaffected by the selection of other members of the population (Cohen et al. 2007).

Furthermore, Kothari (2004) stated that "Simple random sampling is also known as chance sampling or probability sampling where each and every item in the population has an equal chance of inclusion in the sample and each one of the possible samples, has the same probability of being selected." (p.15). Therefore, this method is very effective method because the population was already known and determined by the researcher, so that researcher can easily determine the sample without seeing the differences among the population. For example is the level of intelligence of students or skill of students, because every student has a chance to be chosen as a sample. Also this method views to be easier for researcher to meet with the population of students at Muhammadiyah 7 Yogyakarta, because the researcher had been taught there before.

The next one is sample. Sample is taken as the representative of the whole population to be treated in order to gather data in this research. A sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population (Creswell, 2012). Therefore, from that population of students of grade two at SMA Muhammadiyah 7 Yogyakarta batch 2015, the researcher took 132 students as the sample. The researcher determined the sample was based on Cohen, Manion, and Morrison's theory (2011) (see appendix 3), if the population is 202 with the confidence level 95% and confidence interval 5%, so the total number of the sample was 132

students. So, this research involved 132 students of grade two from six classes which were class XI IPS 1, 2, 4, XI IPA 1, 2, 3 at SMA Muhammadiyah 7 Yogyakarta as the sample.

Data Collection Instrument

To investigate the correlation between teachers' discipline and students' motivation in learning English at SMA Muhammadiyah 7 Yogyakarta, the researcher distributed the data using questionnaire through Google survey. Google survey is free survey which made by Google to make easy for researcher to collect the data. Closed-ended questionnaire were used in this research because this research needs the alternative answer. According to Acharya (2010), close ended questions have sufficient alternatives to select or to fit in the information given by the respondent. Another statement came from Margono (2010) who stated that close-ended questionnaire contains some questions which is followed by some alternative answers that is provided by the researcher. It means that close ended questionnaire were really suitable to get the alternative answer from the population. The questionnaire distributed to the population in order to identify teachers' discipline and students' motivation to learn English. It is supported by Kothari (2004) notes that the questionnaire is distributed to respondents who want to read and understand the question and answer the question directly in the time which have been determined by the researcher. The total questionnaires consisted of 42 items with arrange 17 items to measure teachers' discipline, the items and 25 items to measure students' motivation, the items are in the table below.

Teachers' discipline		Students' Motivation	
Table 3.1			
Category	Questionnaires No	Category	Questionnaires No
Attendance (Coming on time)	1, 2, 3	Achievement Needs	1, 2, 3,4, 5,6, 7, 8,9,10
Task and responsibility	4, 5, 6, 7, 8	Power needs	11,12,13,14,15,16,17,18,19
Assertiveness	9, 10, 11, 12	Affiliation Needs	20,21,22,23,24,25
Subject mastery	13,14,15, 16,17		

To avoid misinterpretation, the questionnaire was in Indonesian language which was the first language of the participants. The questionnaire of this research used Likert scale. According to Barua (2013), likert scale is generally involved in research based on survey questionnaires and allowed the respondent to classify their feeling whether agree or disagree with the contents of the questionnaires. So the participants responded the questionnaire using four likert scale points as in the table below for each variable:

Table 3.2

Scale of Questionnaire.

Item Scoring

Description	Scale
Sangat Setuju/ Strongly Agree	4
Setuju/ Agree	3
Tidak Setuju/ Disagree	2
Sangat Tidak Setuju/ Strongly Disagree	1

In this instrument, neutral opinion was not involved for the reason that it did not provide a distinct response as what the researcher expected. Validity and

reliability of the instrument of the research are also measured and presented in the form of tables in order to support the truth of the data.

Validity of the instrument. To measure the questionnaire's validity, the researcher used only two ways which were experts' judgement and items validity test through SPSS program. According to Joppe (2000) as cites in Golafshani (2003), validity determines whether the research truly measures that which it is intended to measure or how truthful the research results are"(p.3). Then, this research used construct validity. Construct validity emerges from the detail of literature that becomes the indicator as a test to measure (Murphy and Davidshofer, 1998).

In the validity test of the questionnaire, the researcher used the expert judgement. Expert judgement means the researcher asked to the expert about the questionnaire that would be distributed. The experts were two lecturers of EED of UMY. The first expert judgment said there was no item from 17 statements of variable X that should be deleted because these questions already related to the teachers' discipline. So the total statements for variable X were 17 items. In addition, the expert one also said that for variable Y there were no items that should be deleted because all of the statements of variable Y were valid. So the total statements for variable Y were 25 statements. The second expert said that 17 items for variable X and 25 items for variable Y were valid but the researcher should use the polite terms, such as "dia" in Indonesian language become "beliau".

After that the researcher did the piloting at PBI UMY batch 2014, then

when the researcher got the data, then the researcher analysed the item validity of
questionnaire in SPSS program. The data were analysed through dimension
reduction factor to identify every statement whether the statement were valid or
not valid. The questionnaire items were said to be valid if the value of each
statement more than 0.05 or >0.05. The result of every statements from variable X
was presented in the table below:

Table 3.3 Component Matrix[a] X

Teachers' discipline	Component 1
Q1	,607
Q2	,652
Q3	,543
Q4	,662
Q5	,562
Q6	,752
Q7	,686
Q8	,740
Q9	,768
Q10	,686
Q11	,526
Q12	-,038
Q13	,721
Q14	,455
Q15	,470
Q16	,639
Q17	,721

Extraction Method: Principal
Component Analysis. a. 1components
extracted.

By seing the table above revealed that all of the item were more than 0.05
or >0.05 except statement 12. Because of that all of the items from variable X

were valid except statement 12 because the value of statment 12 was less of 0.05 or <0.05.

Table 3.4 Component Matrix[a] [Y]

Students' motivation	Component 1
Q1	,511
Q2	,615
Q3	,560
Q4	,652
Q5	,579
Q6	,733
Q7	,619
Q8	,702
Q9	,761
Q10	,681
Q11	,489
Q12	,645
Q13	,693
Q14	,479
Q15	,434
Q16	,611
Q17	,734
Q18	,577
Q19	,679
Q20	,325
Q21	,734
Q22	,648
Q23	,603
Q24	,559
Q25	,617

Extraction Method: Principal Component Analysis. a. 1 components extracted.

Then in the table above showed the component matrix of students'

motivation or variable Y. All of the statement of variable Y were valid because the value of component matrix were more than 0.05 or >0.05.

After the researcher did the piloting, there was one item from variable X that should be deleted which was statement 12. Statement 12 "my teacher give me a punishment if I did not obey the rules of the class" should be deleted because the value which was available component matrix's table was under 0.05 or <0.05. It means statement 12 was not valid and could not be distributed to the participants.

Reliability of the instrument. In the research, reliability is value to reveal the instrument used whether can be trust or not. According to Creswell (2012), reliability means the score of instrument are stable and consistence. Some criteria use based on the grade of the score performed by Cronbach's Alpha technique in SPSS 22 which capable in windows 10. So in this research, the researcher analyzed the reliability of the instrument. To prove the reliability of the questionnaire, all of the items were tested. Field (2009) said that the instrument can be reliable if the Cronbach's Alpha or reliability coefficient is higher than 0.70 or > 0.70. This research shows on the below the criteria of the value in three grades according to Sekaran (2000).

Table 3.5
Category of instrument' reliability

Cronbach's alpha	Internal Consistency
1. 0,8 - 1,0	Good
2. 0,6 – 0,799	Moderate
3. < 0,6	Not good

From the data that have been calculated through SPSS program, the

researcher found that the Cronbach Alpha of 17 (X) and 25 (Y) items are 0.727
and 0.744. These instruments were reliable because the Cronbach Alpha or
reliability coefficient is higher than 0.70 or >0.070. The reliability statistics were
explained in the table below.

Table 3.6

Reliability Statistics X

Cronbach's Alpha	N of Items
.727	17

Table 3.7

Reliability Statistics Y

Cronbach's Alpha	N of Items
.744	25

Data Collection Procedure

In this research, there were various steps of the procedure to collect the
data. For the first one was the researcher chose the participants of the research.
The second one was the researcher asked an agreement to the teacher to distribute
the questionnaire to the class that had been determined by the researcher. After
selecting the date and time to distribute the questionnaire, the researcher came to
the class for about 20 minutes before the class ended.

In administering the questionnaires, the researcher used self-
administered questionnaires in the presence of the researcher. It is supported by
Cohen et al. (2007) argued that by presenting of the researcher in administering
the questionnaires is really helpful for the participants in answering the
questionnaires if they find questions that they do not understand. Cohen et al.

(2007) also said that by presenting the researcher in administering the questionnaires encourages students who do not want to answer the questionnaires to answer the questionnaires in that time. Before the researcher distributed the questionnaire to the students, the researcher already requested a help from the English teacher to ask the students to bring their own gadget and also the researcher already provided three gadgets to anticipate if there was some students who did not bring the gadget in that moment. Then, the researcher distributed the questionnaires to the participants through their WhatsApp and lines group. After that the students should opened the link of questionnaire that the researcher had been sent to their WhatsApp and line group by using their own gadget and to access the internet, the students used the researcher's tethering Wi-Fi, while explaining how to fill out the questionnaire. Afterward, the researcher gave an allocation time to the participant for fulfilling the questionnaire for about ten to fifteen minutes. Finally, the researcher checked out the questionnaires that had been fulfilled by the participants in the Google survey, and the researcher said thanks to the participants for helping him in collecting the data.

Data Analysis

The data collection in this research was used to investigate how teachers' discipline, students' motivation, and the correlation between teachers' discipline and students' motivation at SMA Muhammadiyah 7 Yogyakarta. To answer the first and second research question, the researcher used descriptive statistic.

In this research, the descriptive statistic measurement showed in the form of table. Cohen et al. (2011) states that descriptive statistic is usually used to describe and present data for the researcher to further analyses and interpret what the description means. Descriptive statistic uses in this study consists of frequencies, measure of central tendency (mean, mode, median), standard deviations, and cross tabulations. Based on the mean value, the researcher makes the same range score between teachers' discipline and students' motivation. The interval formulation is from Supratno (2000). The formulation is in the table below:

$$C = \frac{X_n - X_1}{k}$$

Note: C: The range prediction (class width, class size, class length)

k: The number of class that research wants

X_n: The maximum score of variable

X_1: The minimum score of variable (Supratno, 2000)

Table 3.8

The Range Score for Teachers' Discipline

Value	Category
0, 75 – 1, 75	Poor
1, 76 – 2, 51	Sufficient
2, 52– 3,27	Good
3,28 – 4	Very good

The table above is the range score for teachers' discipline. The score is

divided into four categories which are the score 0, 75 to 1, 75 is poor category, the

score 1, 76 to 2, 51 is sufficient category and the score 2, 52 to 3, 27 is good

category and the last 3, 28 to 4 is very good category.

Table 3.9

The Range Score of Students' Motivation

Value	Category
0, 75 – 1, 75	Low
1, 76 – 2, 51	Fair
2, 52– 3,27	Moderate
3,28 – 4	High

In this table above is for students' motivation. The score is divided into

four categories which are the score 0, 75 to 1, 75 is poor category, the score 1, 76

to 2, 51 is sufficient category and the score 2, 52 to 3, 27 is good category and the

last 3, 28 to 4 is very good category.

The correlation test used to find out the correlation between two

quantitative variables which is answered the third research questions. So, to find

out the correlation between two variables in this research, the researcher used

Pearson product-moment coefficient *(r)*. In analyzing the data of the research, the

researcher used bivariate analysis correlation to determine the correlation between

two variables. According to Cohen, L., Manion, L., & Morrison, K. (1998) there

are three criteria of correlation. Those are on the table below:

Table 3.10	
The correlation criteria value	
Interval of coefficient	**The Level of Correlation**
.1- .3	Weak
.3- .5	Moderate
>.5	Strong
Cohen, Manion & Morrison (1998)	

In the table above presents the range score of correlation coefficient. The range score is divided into three categories. .1 to .3 is weak categories, the score .3 to .5 is in the moderate category, the score, the score >.5 is for strong category.