Chapter Three

Methodology

This section explains the research methodology that employed in this study. This chapter begins with the exploration of the research design the researcher used, and in the research design, the researcher explores the reasons for deciding the design. Then, the next part explains the research setting, specifically the place and time allocation to collect the data. Next, the researcher explains the population and sample. The researcher explains the population and the amount of the sample and the sampling techniques which used in this research. After that, the researcher explains the data collection instrument. The researcher explores the way the data is collected. In the end, the data analysis portion describes the procedures in investigating the data.

Research Design

In this research, the researcher wanted to know about the correlation between effective English teachers and students' achievement. The research design was quantitative approach with correlational method. The researcher used quantitative approach because the data of this research had been shown in the form of numbers and statistical analysis. According toCreswell (2012), in quantitative approach an investigator commonly used numerical data on statistical analysis (mathematic analysis) of the data than words or pictures. Thus, the researcher used the quantitative research because this study aimed to measure the association between two variables, so the quantitative method was an appropriate research method.

Furthermore, this study used correlational design, because this research aimed to know the correlation between two variables, effective English teachers and students' academic achievement. According to Creswell (2012), "correlational designs measured the degree of association (or relation) between two or more variables using the statistical

procedure of correlational analysis".The best research design for this research was correlational design. The researcher used explanatory research as the type of correlational design. The explanatory design was a correlation design where the researcher focused on finding the correlation between the variables. According toCreswell (2012), explanatory designused when the researcher is interested in identifying two or more variables where the changes in one variable are reflected in changes in the other. It was related to this research that the researcher investigated the correlation about two variables about the correlation between effective English teacher and students'academic achievement. Therefore, theresearcherwanted to identify whether there is a relation between effective English teacher and students' achievements or not.Thus, the quantitative research method of this study was explanatory correlation design.

Research setting

The researcher determined the setting of the research by determining the place and the time for conducting this research.

Setting of Place.The researcher was conducted this research at one private junior high school in Yogyakarta. There were three reasons why the researcher used this place as the research setting. First, this particular private junior high school has the English teacher who has some elements or characteristics as an effective English teacher in teaching, and then it would be easier to collect the data because the researcher wanted to investigate the level of teachers' effectiveness there. Second, there was no research that has been conducted to find out the correlation, so the third, the researcher wants to find out the correlation between effective English teacher and students' academic achievement.

Setting of Time. This research was collected in March 2018. This time was appropriate because the researcher focused on first semester in ninth grades academic year 2017-2018 of

a private junior high school in Yogyakarta. This research started on March, 2018 and finished on April, 2018.

Research Population and Sample

The research determined the population of the research by determining the population and takes the sample from the population of this research.

Population. In this research, the population was students at a private junior high school in Yogyakartain the academic year 2017-2018. According to Creswell (2012), a population is a group of people who have the same characteristic. Then in this research, the researcher used all of the respondents who attended in ninth grades at a private junior high school in Yogyakartain the academic year 2017-2018.The population of the research consists of 172 students which are divided into 5 parallel *i.e.* classes, 9.A class, 9.B class, 9.C class, 9.D class, and 9.E class. The researcher used the ninth grades because they have same characteristics as they are in the same grade.

Sample. According to Cohen, Monion, and Morison (2011), sampling is process from the target population become a sample. According to Arikunto (2010), "Samples are partially or representative of the population studied". The sample will select the students randomly and does not need any specific regulation. According to Cohen et al., (2011), every member of the population has a chance of being selected into the study. It means that there were no subjective considerations from the researcher such as age, gender, initial achievement, or economic status. Then, this research used total sampling technique. It meant that this research used the whole people in the population which there were 172 students as the sample of the research. The researcher selected them because the researcher had access to them and it was possible to gather the data from all people in the population. In this research, the researcher selected 132 students of the population as the sample of the research. This decision was based on six tables confidence levels and confidence intentions random sampling method by Cohen

et al., (2011) which showed that if the population size of the research is 172, and the confidence interval is 5 %, the researcher would need 132 students for the sample of the research. However, from the data population which involved 172 students, this research had been collected the data more than 132 which was 143 students. Then, there were 29 students who did not come to the class when the data was administered. Thus, there were 143 students as the sample of the research.

Research Instrument and Data Collection Method

There were two instruments for data collecting method such as questionnaire and score documentation. Besides, the forms of instruments were questionnaires sheet and list of score English in thefirst semester. The purpose of data gathering was to get the information needed to achieve the research objectives. In this study, the researcher used questionnaires and score of English from report value in the first semester to get data in order to answer the research questions. Thus, the researcher's used of the questionnaire and score of Englishwas appropriate to this study because the researcher needed numerical data to investigate the correlation between effective English teacher and students' academic achievement.

Research Instrument.

This part discussed the research instruments that used by the researcher in conducting the data which were used the questionnaire and score of English from report card value.

Questionnaire. The researcher used the questionnaire that was adapted from an English journal in the international journal of foreign language teaching & research volume 2, issues 4, 2009, titled "Characteristics of an effective English language teacher as perceived by Iranian teachers and learners of English" by Homa Babai Shishavan and Karim Sadeghi. This journal provided the characteristics of effective English teacher questionnaires, such as pedagogical knowledge, socio-affective-skills, and subject-matter knowledge.

The questionnaire was consisted of 46 items, which fulfilled the purpose of the research. The researcher distributed the questionnaire in *Bahasa Indonesia* to make the students easier in answering the questionnaire because the students at one private junior high school in Yogyakarta still have low level in English language and this is done to help avoid any misunderstanding and misinterpretation from the students that may render the data invalid or bias because it would be easier for students to get deep understanding about the statement in the questionnaire. Additionally, the researcher planned to use a structure questionnaire, where the respondents can choose the answers provided by researcher. According to Cohen et al., (2011), highly structured, closed questionnaires are useful in that they can generate frequencies of response. In structured questionnaire, the respondents can only choose one answer, because the questionnaire is closed-ended and the answer was limited. In the closed-ended questions all respondents have answered the question using the response options provided. In addition, the researcher used questionnaire as the instrument that a Likert scales as way for respondents to responsedescribed below:

The score criteria of questionnaire items are as follow :

Table 3.1	
Scoring of Likert scale	
Scale	Score
N (Never) Statement does not describe teacher at all	1
S (Sometimes) Statement describes teacher very little	2
O (Often) Statement describes teacher pretty well	3

A (Always)	4
Statement describes teacher exactly	

Score Documentation. Students' academic achievement could be measured by using a test. In order to answer the second research question about students' academic achievement level, the researcherused the students' academic achievement represented as the score of English from report card value. The researcher has been given permission to use the data by the academic information system of said private school.

Data Gathering Procedure

This section provided the procedure, stages, and steps on how the researcher collected the data. After the researcher created the questionnaires, the next step was administering them. In this research, the researcher used the self-administration method to administer the questionnaires. However, before administering the questionnaires, the researcher asked permission from the English teacher and the students to become the respondents of this research. Then, before the researcher asked the students to fill out the questionnaire, the researcher has explained the correct way to fill out the questionnaire for clarity. Then, in the administering of questionnaire, the researcher was also with present when administering the questionnaires directly to ensure that all statements in the questionnaire were filled out and completely done. According to Cohen et al., (2011), the presence of researcher was helpful in gathering the data for the questionnaire. In this occasion to anticipate if there were respondents who feel confused with the statement in the questionnaire. Therefore, the researcher can give more explanations about the statement in questionnaire and also the researcher can check the answer from the respondents.

Validity and Reliability of Data. This section explained validity and reliability of the items in the questionnaire. According to Creswell (2012), "Validity is the degree to which all of the evidence points to the intended interpretation of test scores for proposed purpose" (p.

159).In the analysis process, the validity was an important part for effective research. The degree of instrument validity was determined by the results in validity of the study. According to Cohen et al., (2011), the instrument is valid if the instrument can measure what should be measured. This research was adapted from an English journal in the international journal of foreign language teaching & research volume 2, issues 4, 2009, titled "Characteristics of an effective English language teacher as perceived by Iranian teachers and learners of English" by Homa Babai Shishavan and Karim Sadeghi.

The researcher believed that the journal had been validated by some experts above, and the researcher also asked to the supervisor to assess the validity of questionnaires items. Then, the questionnaire also has translated into Indonesian language by Language Training Centre of private university in Yogyakarta who has certified. Meanwhile, this questionnaire has checked by piloting to the ten respondentsto make sure and improve the questionnaire before the researcher gives the questionnaire to the respondents. The respondents that used in the piloting were students in ninth grades. The researcher selected two students from each class to participate in piloting. Then, the results of the piloting showed two statements (number 10 and 15) that needed to improve, and all respondents have understood for each item in the questionnaire

Reliability. Reliability is the instrument's score that could be trusted, in order for the instruments of the research to be acceptable. This research measured the reliability after the validity of all items has been determined. The instruments of the research were considered acceptable and reliable if the Cronbach's Alpha in Reliability Statistics is more than 0.7. The criteria Cronbach's Alpha (Cohen, Manion, & Morrison, 2011)isin the following:

Table 3.2

Criteria of Cronbach's Alpha	
Cronbach's Alpha	Criteria
>0.90	Very high reliable
0.80-0.89	Highly reliable
0.70-79	Reliable
0.61-0.69	Low reliable
<0.60	Unacceptably reliable

This research measured the reliability after the validity of all items has been determined. In this reserach, there were 46 items of questionnaire that were distributed to 143 respondents. Furthermore, after the researcher conducted the reliability test using SPSS, it obtained the value 0.896. The reliability of items was in high reliable criteria. The table result of reliability would be shown as the following

Table 3.3

Reliability Statistics

Cronbach's Alpha	N of Items
0.896	46

Data Analysis

There were two types of data analysis for quantitative research design. The first was descriptive statistics, and the second was inferential statistics. This research used descriptive statistics and inferential statistics as the method to analyze the data. According to Cohen et

al., (2011), descriptive statistics used to describe and collect the data. In the descriptive statistics, it was described the frequencies of data, central tendency such as mean, mode, and median, and dispersal (standard deviation and range). The second was inferential statistics, which is used to measure the hypothesis whether the hypothesis is accepted or rejected (Creswell, 2012). The researcher planned on using the inferential statistics to show the correlation between effective English teacher as an independent variable and students' achievement (score of daily examination cumulative average) as a dependent variable. Therefore, the researcher operatedthe Statical Package for the Social Science (SPSS) version 22 for windows and Microsoft Excel 2010 in order to analyze the data in this research.

Characteristics of Effective English Teacher. The first research question about characteristics of effective English teacher has been analyzed using descriptive statistics. The researcher used descriptive statistic to describe the data of central tendency (mean, mode, and median). Then, the researcher made categorize the effective English teacher using interval formulation from Supranto (2000). The formula is presented below:

Table3.4.*Supranto's* (2000) *Formula*

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

C = The range prediction

K = The number of class that researcher wants

Xn = The maximum score of variable

X1 = The minimum score of variable

To know the value of effective English teacher at a private junior high school in Yogyakarta, the researcher divided into four categories. The values below were obtained by

dividing the range score of the questionnaire scale into five categories. The categories are as follows:

Categories of Effective English Teacher

Table 3.5

Category of Effective English Teacher

161.5 – 173	Very High
149.9 – 161.4	High
138.3 – 149.8	Moderate
126.7 – 138.2	Low
115 – 126.6	Very Low

Based on the category above, the items that gained the mean score 161.4 - 173 were identified as very high level of effective English teacher. Then, the items that gained the mean score 149.8 – 161.4 were clarified as high level of effective English teacher. Next, the items that gained the mean score 138.2 – 149.8 were determined as moderate level of effective English teacher. Besides, the items that gained the mean score 126.6 – 138.2 were stated as low level of effective English teacher. Last, 115- 126.6 were stated as very low level.

Students' Academic Achievement. Then, in order to answer the second research question about students' achievement level, the researcher also used descriptive statistics to analyze the data of students' achievement. Then, the researcher categorized the score of students' achievement into five categories based on the classification score from the private junior high school in Yogyakarta that researcher used as research setting. Student's score calculation and the classification is summarized below:

Table 3.6

Category of Students' Academic Achievement	
91 – 100	Very Good
81 – 90	Good
71 – 80	Moderate
61 – 70	Poor
0 – 60	Very Poor

The Correlation between Effective English Teacher and Students' Academic Achievement. Additionally, the last research question about correlation effective English teacher and students' achievement was answered and analyzed using inferential statistics. In the previous mentioned, this research used the explanatory correlation design, and the researcher used the Pearson Product Moment (r) to investigate those variables. According to Cohen et al., (2011)Pearson product-moment correlation coefficient (r) ranges statistically from -1.0 to + 1.0. The correlation coefficient of -1.0 means that there is a perfect negative correlation between two variables, whereas the correlation coefficient of + 1.0 means indicates a perfect positive correlation between two variables.

However, before answering and analyzing the last research question about correlation between effective English teacher and students' academic achievement, the researcher tested the normality of the data. Normality test used to determine whether the data distribution is normal or not (Cohen et al., 2011).The data was normal if the significance was higher than 0.05. Then, in order to determine whether the correlation is strong or not, the researcher categorizes the correlation into five criteria. The criteria determined by Cohen et al (2011) are very low, low, moderate, high, and very high correlations. The detail of the criteria is as follows:

Table 3.7

The Correlation Criteria

rxy Range	Categories
0.86 – 100	Very High Correlation
0.66 – 0.85	High Correlation
0.36 – 0.65	Moderate Correlation
0.21 – 0.35	Low Correlation
0.00 – 0.20	Very low Correlation