

Chapter Three

Research Methodology

The third chapter of this research is research methodology. This chapter presents the research design, research setting, research population and sample, data collecting method, research instruments and data analysis. In this chapter, some theories which support the research methodology are included.

Research Design

The purpose of the study was to find out the correlation between teachers' creativity and students' motivation. This study had three questions; the first question was about the teachers' creativity, the second students' motivation and the third the correlation between teachers' creativity and students' motivation.

The researcher used quantitative method because this study focused on collecting numerical data from population by using some instrument for collecting the data.

This is in line with Creswell (2011) who mentioned that the characteristics of quantitative research are describing a trends or giving the explanation from the relationship among variables, equipping the literature to give the role from the research problem and justifying the research problem, the numeric data will be collected for using the instrument, and analyze the relation variable.

This study adopted correlational design. Correlational design was appropriate to be used in this study because it was to investigate the correlation from two variables. Creswell (2012) mentioned that correlational design is to determine the tendency or pattern for two variables. Furthermore, this study had two variables. Those were, variable x which was teachers' creativity and variable

y which was students' motivation. Therefore, correlational research design was appropriate to be applied in this study.

Research Setting

This study was conducted at a private university in Yogyakarta. There were three reasons of choosing this university. First, based on the result of researchers' interview, some students had different motivation in the class. Second, this university had been A accredited, so that it was needed to investigate the qualities of teachers' creativity. Third, the researcher was a student in Yogyakarta. Therefore, it eased the researcher to collect the data at a private university in Yogyakarta. This study was conducted on March 2018 for two weeks with different classes.

Population and Sample

The population of this study were students of English Language Education department in batch 2015. The researcher chose this students because they met the criteria. The criteria was those who had taken teaching English foreign language which they had studied about theories of pedagogical knowledge. The researcher believed that the students who had taken this subject would have opinion about how to be creative teacher. Moreover, the respondents also have been studying around three years in private department, so they experienced studying with many teachers. According to Creswell (2012), "population is group of individuals who have the same characteristic" (p.142). In this research, the population was all active students at private university in Yogyakarta in batch 2015. Thus, the total populations of this research were 118. The researcher got the information about

the number of the population from the administration staff of private university in Yogyakarta. The researcher asked to one of the employees in administration staff office.

A sample was the part of the population. According to Cohen, Manion and Morrison (2011) the part of the population is sample. The researcher used random sampling because this research involved the homogenous groups with similar characteristic. Cohen et al. (2011) stated, the similar of characteristics to the population should be applied in the random sampling. Thus, this research used random sampling for determining the sample. The researcher adopted reference from Notoadmojo (2010) to determine the sample size and the formula is written below:

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

Means

n = Sample size

N = Population size

d = Level of confidence/accuracy desired (0.05)

To determine the sample size, the researcher used the formula and the result was explained below:

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

$$n = \frac{118}{(1 + 118 \cdot (0.05)^2)}$$

$$n = \frac{118}{(1 + 118 \cdot 0.0025)}$$

$$n = \frac{118}{(1 + 118 \cdot 0.0025)}$$

$$n = \frac{118}{(1 + 0.295)}$$

$$n = \frac{118}{1.295}$$

$$n = 91.11$$

$$n = 91$$

The minimal samples size of this research were 91 students of English Language Education Department in batch 2015. This research used 118 students for the respondents because the researcher needed 10 respondents for piloting. Therefore, the researcher decided to take all the population. The researcher took the sample from class A until class D randomly. The researcher gave number in corner of questionnaire for each classes. These processes were repeated continuously until the researcher met the required number of the respondents.

Research Method

This method used two instruments and used several procedures for gathering the data from the participants. These are the description of the instruments that were used in this research and the procedure of collecting the data.

Research Instruments

The purposes of this study were to find out the teachers' creativity, to find out the students' motivation, and to discover the correlation between teachers' creativity and students' motivation. Based on the purposes of this study, the

researcher used questionnaire as the instrument to collect the data. The researcher used questionnaire for answering the research questions. The details of the two questionnaires were explained as follow:

Questionnaire on creative teachers. The first questionnaire was addressed to answer the first research question which was about the teachers' creativity at a private university in Yogyakarta. The questionnaire items were development by itself. The researcher wrote the statements based on indicators that was taken from several theories. The questionnaire was taken from theories in journal Richard (2013) which assessed the characteristics of creative teachers, so it was appropriate to make the items in this questionnaire. This questionnaire had eight characteristics of creative teachers as follow:

No	Category	Number
1	Creative teachers are knowledgeable.	1,5,8,11
2	Creative teaching requires confidence	2,9,12
3	Creative teachers are committed to helping their learner succeed	3,6,14,4
4	Creative teachers are non-conformists	7,17,10
5	Creative teachers are familiar with a wide range of strategies and techniques	20,25,13,23,15
6	Creative teachers are risk-takers	21,16,26
7	Creative teachers seek to achieve learner-centered lesson	18,27,19,22,
8	Creative teachers are reflective	28,24

To support this questionnaire validity and reliability, the development of this questionnaire through the following stages namely expert judgment, revised

the items, and selecting the final items. This questionnaire use *Bahasa Indonesia* in order to ease respondents to understand when they filled the questionnaire because the questionnaire use their first language. The questionnaire contained 28 items of the statements. The response of this category used likert scales which the options were “1=Strongly Disagree”, “2=Disagree”, “3=Agree”, and “4=Strongly Agree”.

The researcher involved two validators to check the items of questionnaire between the indicator and the statement whether related or not. Then, they rated the relevance of each item to each category by answering “not relevant”, “less relevant”, “relevant”, “very relevant”. They were also asked to give comment and recommendation to the items.

After being reviewed by validator, there were some items needed to revise. The validator suggested to choose and add some word in order to be appropriate to the statement. The final questionnaire, there were 28 statements which statements were valid. There was zero statement considered as not valid statement, 3 statements were considered as valid statement, and 25 statements were considered as high valid statement.

Questionnaire on motivation in learning. The second questionnaire was about students’ motivation in language learning. The items of questionnaire were adopted from Wilmomas (2013) that explained the students’ motivation, so this was suitable to conduct this research with this topic. This questionnaire consisted of 2 categories. The categories were explained as follows:

No.	Categories	Numbers
1.	Integrative orientation	2,4,6,8,9,11,13,15,17,19
2.	Instrumental orientation	1,3,5,7,10,12,14,16,18

To support this questionnaire validity and reliability, the development of this questionnaire through the following stages namely expert judgment, revised the items, and selecting the final items. This questionnaire use *Bahasa Indonesia* in order to ease respondents understand when they filled the questionnaire because the questionnaire use their first language. The questionnaire contained 20 items of the statements. The response of this category used likert scales which the options were “1=Strongly Disagree”, “2=Disagree”, “3=Agree”, and “4=Strongly Agree”.

The researcher involved two validators to check and review translation of the questionnaire items from English to *Bahasa Indonesia*. Then, they rated the relevance of each item to each category by answering “not relevant”, “less relevant”, “relevant”, “very relevant”. They were also asked to give comment and recommendation to the items.

After being reviewed by validator, there were some items needed to revise. The validator suggested to choose and add some word in order to be appropriate to the statement. The second result of validity was questionnaire motivation in learning. There was 1 statement considered as not valid because the validity score was 0.33 (>0.4), so the item was deleted. Therefore, the statement that was used for instrument just 19 statements considered as valid. The 2

statements were considered as valid statement, and the 17 statements were considered as high valid statements.

Validity and Reliability

Validity. This study would be effective if the researcher checked the validity of the instrument. Cohen et al. (2011) stated that the important key of the research is validity of the instrument. Therefore, it was important to check validity of the data instrument. Cohen et al. (2012) stated, validity is to measure what the researcher want to measure. The researcher tried to test the instrument validity, which was questionnaire, by using expert judgment. Thus, the researcher involved two expert judgment to assess the items of questionnaire from lecturers of English Language Education Department. Both of them suggested to choose the word in order to be appropriate in the statement. Then, they also suggested to add some word to ease the respondents understand the word.

Reliability. The researcher also needed to know the reliability of the instrument used in this study. The first step was by piloting to reliability which was used to show the consistency of a set of measurement. The reason why piloting is needed is to identify mistakes that occur in the instrument, so that it can be revised before the data collection. However, there was no some mistakes found in the instrument actually as result from piloting. Devon and Block (2007) stated that reliability is the important component of the validity of instrument. The researcher used Statistic Package for Social Science (SPSS) 2.2 to find Cronbach Alpha as the measure whether the instruments was consistent or not. To check the

reliability, the researcher used Cohen et al. (2011) as the reference. The category of reliability was presented below:

Score	Category
>0.90	Very Highly Reliable
0.80-0.90	Highly Reliable
0.70-0.79	Reliable
0.60-0.69	Minimally Reliable
>0.60	Unacceptably Low Reliable

According to Cohen et al. (2011), the reliability level was acceptable at 0.7 or above. Then, if the data were lower than 0.7, it means minimally reliable. Therefore, the data must be 0.7 or above.

In this research, there were 47 items questionnaire which the results of 47 statements were considered as reliable items. The result of those items was 0.917, and the table was shown below:

Cornbrash's Alpha	N of Items
.917	47

Data Collection Procedure

There were some procedures in conducting this study. The first procedure, the researcher created the questionnaires and asked some teachers to do expert

judgment. The second procedure, the researcher printed out the questionnaire. The third procedure, the researcher asked permission to the lecturer whose classes would be used to deliver questionnaire. Then, the researcher came to the class for approximately the last thirty minutes before the class ended.

Subsequently, the researcher distributed the questionnaire to the respondents face to face while giving brief fill the questionnaire the researcher explained the title of the study, the purpose of the study, and how to fill out this questionnaire. Then, the researcher waited inside the classroom in case the respondents would ask question. After that, the researcher collected the questionnaire and thanked to the respondents.

Normality Test

Normality test was the test for measuring whether the data was normal or not to be used in this research. Normality test was used to determine if a sample or any groups of data fits a standard normal distribution. Moreover, Cohen et al. (2011) described that standard normal distribution is the data distribution is not tight to the right or to the left. The researcher used the SPSS 2.2 and also used Kolmogorov-Smirnov formula. The researcher used the Kolmogorov-Smirnov because this test was good to measure between the correlation and the corresponding normal score. To use Kolmogorov-Smirnov formula, the respondents were must be more than 50 people. Thus, this formula was appropriate to be implemented in this study because the respondents in this study were 108. The data was considered as normal if the significance was more than 0.05.

Data Analysis

The data analysis used in this study were descriptive statistic and inferential statistic. The descriptive statistic was used to answer the first and the second questions. According to Cohen et al. (2011), “descriptive statistic is used to describe and present the data” (p. 606). The second data analysis in this research was inferential statistic which was used to answer the third research question. The reason of using inferential was because to know the correlation of the data, so this research needed to be analyzed with inferential statistic to know the conclusion of this research. According to Cohen et al. (2011), inferential is to know the conclusion based on data gathered. Those, the researcher was simply report what has been found in a variety of ways. Therefore, the researcher analyzed this study using descriptive and inferential statistic.

In addition, the researcher also used SPSS 2.2 for windows and Microsoft Excel to ease the researcher in analyzing the data. In order to find out the first and the second research question, the researcher inputted the data to SPSS and analyzed the data.

To answer the first research question which was about the level of teachers’ creativity, the researcher used a formula from Azwar (1999). The formula was presented as follows:

Decide the “Range/Category”

$$\text{Interval} = \frac{\text{Maximum value} - \text{Minimum value}}{\text{n Category}}$$

Maximum value = Maximum score of variable

Minimum value = Minimum score of variable

n category = Number of category

$$\text{Interval} = \frac{4 - 1}{3}$$

$$\text{Interval} = 1.00$$

The interval was 1.00. Then, the researcher made category for the level of teachers' creativity. The categories were explained below:

Mean	Category	Interpretation
1.00 – 2.00	Low	Low level of teachers' creativity means that the teachers have few characteristics of creative teachers.
2.01 – 3.00	Moderate	Moderate level of teachers' creativity means that the teachers have some characteristics of creative teachers.
3.01 – 4.00	High	High level of teachers' creativity means that the teachers have many characteristics of creative teachers.

To find out the answer of the second research question, the research used the same formula from Azwar (1999). The formula is presented below:

$$\text{Interval} = \frac{\text{Maximum value} - \text{Minimum value}}{n \text{ Category}}$$

Maximum value = Maximum score of variable
 Minimum value = Minimum score of variable
 n category = Number of category

$$\text{Interval} = \frac{4 - 1}{3}$$

$$\text{Interval} = 1.00$$

The interval was 1.00. The researcher made categories which were explained as follows:

Mean	Category	Interpretation
1.00 – 2.00	Low	Low level of students' motivation means the students are less motivated in language learning.
2.01 – 3.00	Moderate	Moderate level of students' motivation means the students are somewhat motivated in language learning.
3.01 – 4.00	High	High level of students' motivation means the students are highly motivated in language learning.

The first and the second research questions have had the categories and data analysis used was descriptive statistic. To find out the answer of the third research question which was about the correlation between the level of teachers' creativity and the level of students' motivation, the researcher used inferential statistic. Inferential statistic was appropriate because it helped the researcher to conclude the data from the first and the second research question. Cohen et al. (2011), inferential statistic is used to make the prediction from sample to population based on data gathered. To answer the third question, the researcher used inferential statistic because this study had hypothesis and pre-assumption which there was a correlation between level of teachers' creativity and students' motivation. Moreover, to analyze the result of the data, the researcher needed to consider the result of Product Moment in the SPSS 2.2. Two variables would have a correlation if the value of significance (r- value) was more than the level of significance (r-table). The hypothesis would be rejected if sig (r- value) more than

0.05, hypothesis would be accepted if sig (r- value) lower than 0.05. If hypothesis was accepted, then it would know the interpretation the correlation coefficient by Cohen et al. (2011) who mentioned that low and near zero value indicate weak correlation, while nearer to >1 suggest strong correlation. The coefficient of correlation was interpreted as follows:

Standard $r_{x,y}$	Interpretation
0.00-0.20	Weak Correlation
0.21-0.50	Modest Correlation
0.51-1.00	Moderate Correlation
>1.00	Strong Correlation