

Chapter Three

Methodology

This chapter presents the methodology of the study which consisted of research design underlying the study, population and sample, instrument of the study, data collection method, and data analysis.

Research Design

This study used quantitative research method. Quantitative research method is research method commonly used numerical data than pictures or words (Creswell, 2012). This study focused to find out the correlation between creative teaching method and students' interest. To conduct this study, the researcher used correlational research design. According to Creswell (2012, p. 338), "A correlation is statistical test to determine the tendency or pattern for two (or more) variable or two sets of data to vary consistently". Correlational research design investigates the relation between two variables. Therefore, this research design was suitable to be used in this study.

Research Setting

This study was conducted in March to July 2017 at English Education Department of Universitas Muhammadiyah Yogyakarta. There were some reasons of the researcher in choosing EED of UMY as the research setting. First, the problems were found in EED of UMY. Second, EED of UMY is an institution where the researcher currently studies. Therefore, the researcher would not have difficulties in managing the licensing concerning the study. Third, the researcher would be easier in collecting the data because the sample of this study was students of EED of UMY who were easy to meet.

Population and Sample

Population. According to Creswell (2012, p. 381), “Population is the group of individuals having one characteristic that distinguishes them from others group.” The population of the study was the students of English Education Department of Universitas Muhammadiyah batch 2014. The reason of choosing students batch 2014 was based on the researcher assumption that students batch 2014 had been attending many class and experiencing various teaching method used by the lecturer. The researcher did not choose batch 2013 because some of them had been graduated and difficult to meet. Furthermore, students batch 2015 and 2016 had fewer experience than students batch 2014. Thus, the researcher chose students batch 2014 as the respondents. The number of population of this study was 151 batch 2014 students. The researcher got that number from the administration office which had been approved by head of EED of UMY.

In this research, the researcher used simple random sampling. Simple random sampling is used in order to the population of the study have an equal opportunity to be selected (Creswell, 2012). Therefore, every student batch 2014 could be the sample or respondents of this study. The researcher chose the respondents which were accessible and willing to fill the questionnaire.

Sample. Sample is the participant of the study which is selected from the population. According to Arikunto (2010), a sample is some population. Based on the population above, researcher chose the number of the sample based on formula of Notoadmodjo (2010), as follows:

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

Explain:

n = Large sample

N = Large population

d = Level of confidence/accuracy deleted (0,1)

$$n = \frac{151}{(1 + 151 (0.1)^2)}$$

$$n = \frac{151}{2.5}$$

$$n = 60.4$$

$$n = 61$$

After calculating using formula above, the sample of this study was 61 EED students of UMY.

Instrument of the Study

This study used questionnaire as its instrument. Questionnaire is an instrument in collecting data which consists of series of questions and it's used for gathering the information from respondents (Abawi, 2013). The researcher created the questionnaires which consist of two parts. Each of the parts represented the variables of this study. There were two variables in this study, creative teaching method and students' interest in teaching and learning process. The researcher used questionnaire which asked the creative teaching method used in English Education Department of Universitas Muhammadiyah Yogyakarta and the EED students' interest in teaching and learning process. The questionnaire items used

Bahasa Indonesia in order to ease the respondents in understanding the questionnaire items, so they did not have difficulties in answering the questionnaires.

In creating the questionnaire, researcher used the theories of some expert related to the topic. From the theories, researcher made the questionnaire items. For example, Zeqiri (2013) stated that creative teaching mentions the efficacy of some creative techniques such as: learning from mistakes, brainstorming and role-playing. The researcher made 3 items questionnaires based on Zeqiri's theory. Others theories that the researcher used in making the questionnaire could be seen in the appendix 1. After made the questionnaire items, the researcher asked the experts to check the items.

The questionnaires used in this research had two parts. The first part of the questionnaires asked about the frequencies of creative teaching method used in Material Design Course. The first questionnaire consisted of ten items. The following table indicated the scale used in the first questionnaires. The second part of the questionnaires asked about the EED students' interest in class. The second questionnaire consisted of fifteen items. So, the total items in the questionnaire were 25 items.

Table 3.1

**Scale of Questionnaire of the Used of Creative Teaching Method Used in
Material Design Class**

Score	Scale
1	Never
2	Rarely
3	Sometimes
4	Always

Table 3.2

Scale of Questionnaire of Students' Interest in Material Design Class

Score	Scale
1	Strongly disagree
2	Disagree
3	Agree
4	Strongly Agree

In making the questionnaires, the researcher got help from two experts. Both of the experts had helped the researcher in making the appropriate statements in the questionnaires. Some statements in the original questionnaire changed because of the input of the experts, especially in the second questionnaire which had a lot of changes.

There were many statements which changed after the researcher getting input from expert 1, for example was the statement of “Dosen saya menerapkan games dalam proses pembelajaran” changed into “*Games* digunakan dalam proses pembelajaran” in order to clarify the use of games. Expert 1 stated that one theory at least have three statements in questionnaire in order to make sure the validity of the theory. Therefore, in the second questionnaire, statement one to eight had changed. The researcher only used four theories for fifteen items where the original questionnaire had eight theories for eight items.

Expert 2 also gave input for the researcher in making the questionnaire. Expert 2 said to the researcher to give written instructions in the questionnaire for the respondents. Expert 2 also changed some statements, for example, the word of “dipresentasikan” in statement number four changed into “diterapkan/dilakukan”, and expert 2 said that statement “Rasa ingin tahu saya sering kali tergerak oleh pertanyaan yang dikemukakan dan situasi-situasi yang diberikan dosen” was a bit complicated and confusing so the researcher changed this statement into two different statements “Rasa ingin tahu saya sering kali tergerak oleh pertanyaan yang dikemukakan dosen” and “Rasa ingin tahu saya sering kali tergerak oleh situasi-situasi yang diberikan dosen”.

Besides those examples above, there were many changes in the questionnaire which researcher could not describe one by one. However, researcher had attached the original questionnaire and the spread questionnaire to know its changes.

Data Collection Method

In collecting the data, the researcher distributed the questionnaire directly to the respondents (see appendix 2). The researcher distributed 65 questionnaires to EED students' batch 2014 who were accessible and willing to become the respondent. The researcher came to EED of UMY and asked the students who are met whether they are students batch 2014 or not. After get the respondents, the researcher explained to the respondents about the procedure in filling the questionnaire so the respondents did not have difficulties in filling the questionnaires. After that, researcher wait or the respondents finish in filling the questionnaire and take the questionnaires from the respondents directly in the same time. These process are repeated continuously until the researcher met the required number of the respondents. In collecting the data, the searcher spent two days to get the data needed.

Data Analysis

To analyze the data, the researcher used software SPSS (Statistical Product and Solution Service) 16.0. The techniques of data analysis used descriptive and inferential statistic. Descriptive statistic was used to describe and present the numerical data. Descriptive statistic used in this study consists of frequency, measure of central tendency and standard deviations. The researcher used descriptive statistic in order to find out the answer of the first research question "how often the creative teaching method is used in EED of UMY?" and the second research question "how is the EED students' interest in teaching and learning process?". After that, to find the correlation between creative teaching

method and students' interest or to test the hypotheses, researcher used Pearson Product Moment Correlation.

To analyze the data that had been collected for this research, the researcher used the analysis as follows:

Validity. In order to avoid bias, the instrument should be valid first. According to Creswell (2012), “validity is the degree to which all of the evidence points to the intended interpretation of test scores for the proposed purpose” (p.159). In checking the instrument validity, the researcher used expert judgment from two lecturers who masters this substance. Moreover, researcher also checked the instrument validity by using Product Moment Analysis. An item can be called valid if the r-value is higher than r-table. The r-table was 0.254. Therefore, the r-value of each item should be higher than 0.254. All items in the questionnaire had been valid. The validity of each item could be seen at the table below.

Table 3.3 Item Validity

Statement	R-value	Validity
Statement 1.1	.503	Valid
Statement 1.2	.588	Valid
Statement 1.3	.597	Valid
Statement 1.4	.509	Valid
Statement 1.5	.507	Valid
Statement 1.6	.446	Valid
Statement 1.7	.658	Valid

Statement 1.8	.511	Valid
Statement 1.9	.347	Valid
Statement 1.10	.588	Valid
Statement 2.1	.442	Valid
Statement 2.2	.471	Valid
Statement 2.3	.742	Valid
Statement 2.4	.767	Valid
Statement 2.5	.594	Valid
Statement 2.6	.326	Valid
Statement 2.7	.488	Valid
Statement 2.8	.381	Valid
Statement 2.9	.396	Valid
Statement 2.10	.610	Valid
Statement 2.11	.651	Valid
Statement 2.12	.608	Valid
Statement 2.13	.584	Valid
Statement 2.14	.409	Valid
Statement 2.15	.421	Valid

Reliability. The researcher used item reliability test to check the reliability of the items questionnaire. In order to be acceptable, the Cronbach's Alpha (α) should be higher than 0.7. The items that would be checked should be valid first. The instruments of this study were acceptable and reliable if the Cronbach's Alpha in Reliability Statistic is more than 0.7.

First questionnaire was about the use of creative teaching method. The Cronbach's Alpha of the questionnaire is 0.816. It means that the data were reliable. Each items of the questionnaire also had been proven realible. Each items in the first questionnaire had Cronbach's Alpha more than 0.7. Further information, look at the table below.

Table 3.4

Reliability Statistics of Creative Teaching Method

Cronbach's Alpha	N of Items
.816	10

Table 3.5 Item-Total Statistics of Creative Teaching Method

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Reliability
S 1.1	29.85	16.474	.588	.791	Reliable
S 1.2	29.92	14.744	.596	.788	Reliable
S 1.3	29.92	16.410	.613	.788	Reliable
S 1.4	30.15	19.474	.019	.844	Reliable
S 1.5	30.00	14.333	.674	.777	Reliable
S 1.6	30.15	16.308	.590	.790	Reliable
S 1.7	29.92	15.577	.643	.782	Reliable

S 1.8	29.77	16.192	.647	.785	Reliable
S 1.9	30.23	17.526	.397	.809	Reliable
S 1.10	29.85	18.808	.219	.822	Reliable

The second questionnaire which was about students' interest was also proven reliable. The Cronbach's Alpha of the questionnaire was 0.809 which was more than 0.7. Each items in the second questionnaire were also reliable because they all had Cronbach's Alpha more than 0.7. Look at the table below for the reliability questionnaire items.

Table 3.6

Reliability Statistics of Students' Interest

Cronbach's Alpha	N of Items
.809	15

Table 3.7 Item-Total Statistics of Students' Interest

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted	Reliability
S 2.1	44.20	23.451	.374	.802	Reliable
S 2.2	44.53	23.168	.370	.802	Reliable

S 2.3	44.22	21.935	.684	.782	Reliable
S 2.4	44.08	21.501	.708	.779	Reliable
S 2.5	44.28	22.308	.500	.793	Reliable
S 2.6	44.32	24.356	.226	.810	Reliable
S 2.7	44.50	22.627	.367	.803	Reliable
S 2.8	44.52	23.712	.269	.809	Reliable
S 2.9	44.60	23.634	.288	.807	Reliable
S 2.10	44.67	22.734	.545	.792	Reliable
S 2.11	45.00	20.814	.530	.790	Reliable
S 2.12	44.55	21.167	.471	.796	Reliable
S 2.13	44.15	22.774	.499	.794	Reliable
S 2.14	44.18	23.712	.300	.806	Reliable
S 2.15	44.37	23.456	.290	.808	Reliable

Descriptive statistic. To know the used of creative teaching method and students' interest in Material Design class, the researcher input the data (questionnaire result) into SPSS 16.0. After that, the researcher used the mean value from the result of the data.

To know the value of the used of creative teaching method at EED of UMY, the researcher divided categories of the use of creative teaching method into four categories.

Table 3.8

Categories of the Use of Creative Teaching Method

Value	Category
More than 3	High
2.4 – 3	Moderate
1.7 – 2.3	Fair
1 – 1.6	Low

The values above were obtained by dividing the range score of the questionnaire scale into four. The researcher used 4 point scale to observe the used of creative teaching method. Each scale had different score (see table.1).

The researcher divided the level of students' interest into four categories in order to know the EED students' interest in Material Design class. In determining the students' interest level, the researcher used the same way like determining the categories of creative teaching method above.

Table 3.9

Level of Students' Interest in Teaching Learning Process

Value	Category
More than 3	High
2.4 – 3	Moderate

1.7 – 2.3	Fair
1 – 1.6	Low

Normality. Normality test is used to know whether the data is normal or not. Normality data can be seen by the skewness score in descriptive statistic. The data is normal if the range of the skewness score is between -1 until +1.

Hypotheses testing. Hypotheses testing were used to prove whether there was a correlation between creative teaching method and students' interest or not. To know the correlation between creative teaching method and students' interest in teaching and learning process, the researcher used SPSS 16.0 and Pearson Product Moment Correlation (r). First, the researcher analyzed the level of significance. Two variables will have a correlation if the value of significance (r-value) is more than the level of significance (r-table). The H_a will be rejected if sig (r-value) ≥ 0.05 . And H_a will be accepted if sig (r-value) < 0.05 .

To measure the degree of association, the researcher analyzed the value of Pearson Correlation in the SPSS result. That value determined the strength of association. This following table showed the degree of association of the correlation based on Cohen and Manion (1994);

Table 3.10**Degree of Association of the Correlation**

Coefficient of Correlation (r)	Degree
<i>0.86 and above</i>	Very strong
0.66 – 0.85	Strong
0.36 – 0.65	Moderate
0.20 – 0.35	Low