

Chapter Three

Methodology

The issues addressed in this chapter include six parts which are research design, setting of the research, population and sample of the research, instrument of the research, data collection method and data analysis. First, the researcher discusses the design which is appropriated to be used in this research. Second, the researcher clarifies the setting of the research and the reason why the researcher selects it. Third, in the population and sample of the research, the researcher elaborates the population, the number of sample and the sampling techniques used in this research. Fourth, in the instruments of the research, the researcher mentions the instrument which is fit to be used in the research. Fifth, the researcher explores the way the data is gathered in data collection method. Sixth, the researcher explains the process in data analysis.

Research Design

The purpose of this research was to investigate the instructional media used by English Education Department of Universitas Muhammadiyah Yogyakarta students to teach English in the internship program. Based on the researcher purposes, quantitative research was presented as a methodology in this research. The quantitative research was appropriate to be applied in this research because the researcher wanted to know the trends of the types of instructional media most frequently used by EED of UMY students to teach English in the internship program, the benefits and the challenges of using instructional media in the internship program. Creswell (2012) explained that “quantitative research

identifies a research problem based on trends in the fields or on the need to explain why something occurs” (p.13). Thus, the quantitative research fits to the research.

In this research, the researcher used survey design as one of designs in the quantitative research. Survey design is used to describe the current attitudes, beliefs, opinion and characteristics of entire of population (Creswell, 2012). Moreover, Muijs (2004) stated that survey design is one of simple design in quantitative research that allows the researcher to collect data from the population very quickly. Afterwards, Kasunic (2005) also argued that survey design is a proper design that permits the researcher to generalize the beliefs and opinion of many people by studying of them. By using survey design, the researcher gathered and described the views of participants associated with the types of instructional media used by EED of UMY to teach English in the internship program, the significances and the challenges of using instructional media.

In the survey design, the researcher chose cross-sectional survey design type because the researcher collected the data at single point in time. It is supported by Creswell (2012) and Salkind (2010) who revealed that cross-sectional survey design type allows the researcher to conduct the research in a short time.

Setting of the Research

This research was conducted at English Education Department of Universitas Muhammadiyah Yogyakarta. The researcher had three reasons why the researcher chose the EED of UMY as the setting of the research. First, EED of

UMY provides a program named internship program for students to practice their knowledge that they got from university. The internship program began in the odd semester and even semester. In the odd semester, the students created the lesson plan and instructional media accompanied with mentor teachers from the school. While in the even semester, the students taught in the schools. Second, after the researcher checked the earlier research in digital repository of UMY, there was little research which discusses the instructional media using quantitative research at EED of UMY. Third, the location was accessible for the researcher to gather the data because the researcher is a student at EED of UMY. This is why EED of UMY becomes the setting of the research.

Population and Sample of the Research

Population includes all subjects being studied while samples are subjects from the population which are taken as the representative of the whole population. Moreover, the researcher has decided the research population and the sample to be used in this research.

Population of the Research. Population is a group of individuals which have criteria to be studied. Mcmillan (1996) revealed that population is all element included individuals, objects, and events which have standards to be research. The population of this research was the entire students of English Education Department of Universitas Muhammadiyah Yogyakarta. The total population is 601 active students from six batches. The researcher obtained the total number of students from the administration staff that is approved by the head

of EED of UMY. Then, the researcher selected the target population of this research and the target population was students of EED of UMY batch 2014.

The researcher had three reasons why EED of UMY batch 2014 becomes the target population of the research. First, EED of UMY students batch 2014 have experienced in using instructional media in every stages of teaching at three level of education which are Elementary School (SD), Junior High School (SMP), and Senior High School (SMA). By having informal conversation with some students of EED of UMY batch 2014, the students said that they have used the instructional media since they did the first internship program in the school. Second, students of EED of UMY batch 2014 were active participating in the last internship program. So, it gave easiness for the researcher to meet the participants and to accomplish the total sample until fulfilled. Besides, students of EED of UMY batch 2014 give more detail and comprehensive information related to teaching experience in using instructional media because they have just finished the teaching practicum at three levels of education. Therefore, students of EED of UMY batch 2014 were appropriated to be selected as the target population of this research.

Sample of the research. Sample is a part of population that has been presented as the largest of population. Burges (2011) revealed that sample is the smaller group or sub-set of population. In this research, the researcher used random sampling to select total sampling of the research. To determine the sample, the researcher selected the entire students from target population namely of EED of UMY students batch 2014 from class A, B, C, and D. Therefore, the

total sampling of this research was 144 students who enrolled the internship program from EED of UMY batch 2014 academic year 2016/2017. The researcher chose a number of students entirely because survey design needs a bigger sample from sub-population. According to Cohen, Manion and Morrison (2011) and Kothari (2004), survey research requires a larger sample from subgroup and it should be optimum.

Instruments of the Research

In this research, the researcher used a questionnaire to gather the information from the participants. Questionnaire is one of the instruments in quantitative research that consists of a set of questions. Kumar (2011) stated that “a questionnaire is a written list of questions, the answers to which are recorded by respondents” (p.137). Furthermore, the researcher designed the questions based on the references that the researcher used in this study. The researcher developed the question from some references that the researcher took from journals and books in order to answer first and second research question in Part Two and Three. The list of questions was translated into Indonesian language in order to make the participants easy to interpret the meaning of questions and avoid the bias response. Furthermore, in order to answer the third research question in Part Four regarding the challenges most frequently encountered by EED of UMY students when using instructional media to teach English in the internship program, the researcher adapted the questionnaire from study of Ayoti and Poipoi (2013).

In this questionnaire, the researcher chose structured questionnaire type. A structured questionnaire consists of a set of questions with response categories

and it requires to be piloted, evaluated, and developed (Cohen, Manion & Morisson, 2011). Moreover, in the structured questionnaire, the researcher selected the closed question item to write all of statements. The researcher chose closed-question item because the closed-question item is often employed in quantitative research. Bird (2009) revealed that “closed questions are often used within quantitative research while open questions are used within qualitative research” (p.1310). Afterwards, the closed-question offers the easiness for participants to answer the possible response categories which describe the participant’s answer. As stated by Meadows (2003), closed-question requires less time of respondents to answer the questions by selecting the most appropriate response. Besides, Meadows (2003) also claimed that closed question is easily coded and analyzed and avoids irrelevant responses.

This questionnaire consisted of 30 statements used to find out the types of instructional media most frequently used by EED of UMY students to teach English in the internship program, the benefits and the challenges of using instructional media in the internship program. The researcher divided the questionnaire into four categories and wrote detailed of specification of the questionnaire item in the following table:

Table 1		
<i>Questionnaire items</i>		
Part	Categories	Number of items
One	Demographic information	Q1, Q2, and Q3.
Two	Types of instructional media	Q1, Q2, Q3, and Q4.

Three	Benefits of using instructional media	Q1, Q2, Q3, Q4, Q5, Q6, Q7 Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15 and Q16.
Four	Challenges of using instructional media	Q1, Q2, Q3, Q4, Q5, Q6 and Q7.

In this questionnaire, the researcher divided the questions into four parts. The first part was demographic information including student number, gender and frequencies of students joining the internship program. The participants wrote and gave the cross sign (X) the chosen answer in every statement. The second part was the types of instructional media and it is used to answer the first research questions about what types of instructional media most frequently used by EED of UMY students to teach English in the internship program. The researcher asked to the participants to give a tick box (√).

Furthermore, the third part was the benefits of using instructional media in the internship program and it was used to answer the second research questions about what the benefits perceived by EED of UMY student to be the most when using instructional media to teach English in the internship program. In this part, the researcher decided to choose the Likert-scale. The participants responded in every statement by choosing response categories ranging from “strongly agree” up to “strongly disagree” which was provided by the researcher in the questionnaire. Besides, the fourth part that consisted of the challenges of using instructional media used to answer the third research questions about what challenges most frequently encountered by EED of UMY students when using instructional media to teach English in the internship program. This part also used the Likert-scale and the participants responded every statement by selecting the item responses.

Bhattacharjee (2012) argued that “Likert-items are simply-worded statements to which respondents can indicate their extent of agreement or disagreement on a five or seven-point scale ranging from “strongly disagree” to “strongly agree” (p.47). However, the researcher did not include the “uncertain” or “undecided” scale in Likert-scale because the researcher wanted to get exact answer with uncertainty.

Table 2	
<i>Item scoring (Likert-scale)</i>	
Scale	Score
Strongly Agree	4
Agree	3
Disagree	2
Strongly Disagree	1

Data Collection Method

In distributing the questionnaire, the researcher self-administered the questionnaire. A self-administering the questionnaire means that the researcher distributed the questionnaire by herself. In the self-administered questionnaire, the researcher chose the mode of self-administered questionnaire without the presence of the researcher. A self-administered questionnaire without the presence of the researcher offers advantages for the researcher to give much time in completing the questionnaire and to keep a private of participants (Cohen, Manion & Morrison, 2011). Furthermore, the researcher made the survey in the Google Forms in order to gather the information from the participants. The researcher contacted to 40 students of EED of UMY batch 2014 and did some personal chats

with students through social media and the researcher gave the students link to fulfill the questionnaire. Then, the researcher distributed the questionnaire to students of EED of UMY batch 2014 starting from July 18th until July 26th. Here was the link <https://goo.gl/yPp3da>.

Validity and Reliability

This part consisted of two main points including validity and reliability. First, in order to obtain questionnaires' validity, the researcher involved three expert judgments from EED of UMY lecturers. Then, the researcher gave the validator form to the expert judgments. The researcher asked the expert judgment to fulfill the rating score in the validator form. The number of rating score was ranging from 1-not relevant, 2-almost relevant, 3-relevant, and 4- very relevant. After the expert judgments was done to fulfill the validator form, the researcher calculated all of the results from three expert judgments. Then, the validity was acceptable if the index agreement was more than 0.4. Furthermore, in order to measure index agreement from three expert judgments, the researcher used the Aiken formula suggested Aiken (1980, as cited in Retnawati, 2016) below.

$$V = \frac{\Sigma s}{n(c - 1)}$$

Where:

V = validity score

s = score from each expert/rater minus the lowest score which is given in the category

c = numbers of categories

n = numbers of rater

After the questionnaire was given to the three expert judgments to get their judgment on the content of the questionnaire, the researcher directly revised the feedback into what were suggested starting from Part Two up to Part Four. All detailed feedback and suggestion were presented in Appendix C.

After revising the feedback was done, the researcher calculated the rating scale given by expert judgment into table of Aiken index to calculate V of each item using the Aiken formula and categorised the V scores to the categories of V's Aiken score. The table of V's Aiken was showed in the following Table 3 below.

Table 3									
<i>Result of Aiken Index</i>									
Part Two									
Items	Rater 1	Rater 2	Rater 3	s1	s2	s3	$\sum s$	V	Validity
1	4	4	4	3	3	3	9	1.00	High Validity
2	3	2	4	2	1	3	6	0.67	Average Validity
3	3	4	4	2	3	3	8	0.89	High Validity
4	3	2	4	2	1	3	6	0.67	Average Validity
Part Three									
1	4	4	3	3	3	2	8	0.89	High Validity
2	3	4	4	2	3	3	8	0.89	High Validity
3	4	4	4	3	3	3	9	1.00	High Validity
4	4	4	4	3	3	3	9	1.00	High Validity
5	3	4	4	2	3	3	8	0.89	High Validity
6	3	4	4	2	3	3	8	0.89	High Validity
7	1	4	4	0	3	3	6	0.67	Average Validity
8	3	4	4	2	3	3	8	0.89	High Validity
9	4	4	4	3	3	3	9	1.00	High Validity

10	3	4	4	2	3	3	8	0.89	High Validity
11	4	4	4	3	3	3	9	1.00	High Validity
12	1	4	3	0	3	2	5	0.56	Average Validity
13	3	4	4	2	3	3	8	0.89	High Validity
14	3	4	4	2	3	3	8	0.89	High Validity
15	3	2	4	2	1	3	6	0.67	Average Validity
16	4	4	4	3	3	3	9	1.00	High Validity
Part Four									
1	4	4	4	3	3	3	9	1.00	High Validity
2	4	4	4	3	3	3	9	1.00	High Validity
3	4	4	4	3	3	3	9	1.00	High Validity
4	4	4	4	3	3	3	9	1.00	High Validity
5	1	4	4	0	3	3	6	0.67	Average Validity
6	4	4	4	3	3	3	9	1.00	High Validity
7	2	4	4	1	3	3	7	0.78	Average Validity

Based on the results of Aiken test of validity, the V scores were included to high validity. It means that the V score is more than 0.8. However, items number 12 in the Part Three with an average score 0.56 included in average validity. Whereas items number 2 and 4 in the Part Two, items number 7 and 15 in the Part Three and item number 5 in Part Four had average validity with means score 0.67. Moreover, items number 7 in the Part Four with means score 0.78 belonged to the average validity. Thus, each item of the questionnaire in this research was valid.

Second, after the test validity of items done, the researcher wanted to obtain the reliability of items. The reliability test is used to measure whether the items is consistent or dependable (Cohen, Manion & Morrison, 2011). Then, the

researcher used the SPSS version 20 to check the reliability of items. The reliability of items was examined by identifying the results of Cronbach's Alpha and the reliability was minimally acceptable starting from 0.60. Cohen, Manion and Morrison (2011) divided the reliability categories into five levels. It is presented below.

Table 4 <i>The reliability categories (Alpha Coefficient)</i>	
Alpha Coefficient	Internal Reliability
>0.90	Very highly reliable
0.80-0.90	Highly reliable
0.70-0.79	Reliable
0.60-0.69	Marginally/minimally reliable
<0.60	Unacceptably low reliability

Then, to measure the reliability of items, the collected data were input into SPSS program version 20 and it analyzed item statistically. The result was displayed that Cronbach Alpha of all of items (N=23) was .713 and it includes in 'reliable' category.

Table 5 <i>Reliability Statistics</i>	
Cronbach's Alpha	N of Items
.713	23

From the Table 6 below, it can be seen from the Cronbach's Alpha if Item Deleted that there was nine of this items in Part Three which includes in 'reliable' category and six items belongs to 'minimally reliable' category. Moreover, the Cronbach's Alpha if Item Deleted showed that six items in Part Four includes in

'reliable' category and there is only one item belongs to 'minimally reliable' category. This means that the items in the questionnaire were reliable even though some of these items in Part Three were categorized in 'minimally reliable' category. Overall, each item of the questionnaire belongs to 'reliable' category.

Table 6		
<i>Results of reliability of each item</i>		
Items	Cronbach's Alpha if Item Deleted	Reliable
Part Three		
1	.708	Reliable
2	.695	Minimally reliable
3	.696	Minimally reliable
4	.702	Reliable
5	.711	Reliable
6	.703	Reliable
7	.690	Minimally reliable
8	.697	Minimally reliable
9	.689	Minimally reliable
10	.695	Minimally reliable
11	.699	Minimally reliable
12	.707	Reliable
13	.705	Reliable
14	.701	Reliable
15	.701	Reliable
16	.704	Reliable
Part Four		
1	.701	Reliable
2	.713	Reliable

3	.718	Reliable
4	.715	Reliable
5	.734	Reliable
6	.694	Minimally reliable
7	.711	Reliable

Data Analysis

In this research, the researcher used descriptive statistics to answer the first, second and third research questions. Descriptive statistics is used to present all of the information including frequencies, measure of dispersal (standard deviation), measures of central tendency (means, modes, and medians), standard deviations, cross tabulations, and standardized score (Cohen, Manion & Morrison, 2011; Kothari, 2004). Firstly, in the Part One including frequency on joining internship program was measured by frequency and percentage and reported statistically. The data was presented in the form of pie chart. Secondly, in order to answer the first research question related to the types of instructional most frequently used by EED of UMY students in the internship program, the researcher was looked at to the frequency and median to obtain the results. The data was presented in the form of pie chart.

Thirdly, in order to answer the second research question in Part Three was also analyzed using descriptive statistics and it was measured by means, standard deviation, and reported statistically. The researcher was looked at to the mean score of each item and the total mean score based on the results of research question. To know the mean score belongs to, the researcher made the range

prediction of categories the results of mean score. The researcher used formula from Supranto (2000) in the following.

$$c = \frac{X_n - X_1}{K}$$

c = the range prediction (class width, class size, class length)

K = the number of class

X_n = the maximum score of variable

X_1 = the minimum score of variable

Table 7 below was presented the range of benefits mean score and it categorized into three parts which are low, moderate, and high. The Table 7 below shows that the score between 1.00 up to 2.00 indicates a low category. The range score between 2.01 to 3.00 includes in moderate categories and the range score 3.01-4.00 belongs to high category.

Table 7 <i>Range of benefits of using instructional media means</i>	
Interval	Categories
3.01-4.00	High
2.01-3.00	Moderate
1.00-2.00	Low

Fourthly, in order to research question numbers three in Part Four was also analyzed using descriptive statistics and the researcher was looked at to the mean, standard deviation and reported statistically. The data was presented in the table with the mean score and standard deviation of each item. To know the mean score of each item includes in, the researcher provided the range prediction of categories

of mean score. The range of categories was divided into three parts namely 'rarely' (1.00-2.00), 'often' (2.01-3.00) and 'always' (3.01-4.00). It was presented in the following Table 8 below.

Table 8 <i>Range of challenges of using instructional media means</i>	
Interval	Categories
3.01-4.00	Always
2.01-3.00	Often
1.00-2.00	Rarely