

Chapter Three

Methodology

In this chapter, the researcher will explain methodology that will be used in the research. It comprises design of the research, setting of the research, population and sampling, data collection method and instrument, validity and reliability, and the last is analysis technique.

The Design of the Research

Research design of this research was quantitative with correlation design. Quantitative research is a systematic, formal, objective process which uses numerical data to gain information. Creswell (2009) stated that quantitative research is conducted by testing objective theories deductively or examining the relationship among variables. These variables can be measured by instruments and analyzed by using statistical procedures. This research used correlational design approach. According to Creswell (2009) correlational design aims to know whether there is any relation between two or more variables. Furlong, E. Lovelace and K. Lovelace (2000) explained that correlational design is research measuring two variables (X and Y) which should have association or systematic relationship, such as value of X changes and value of Y changes in uniform and predictable pattern. In this research, the variables were namely students' adjustment ability variable (X) and students' speaking ability variable (Y).

Then, the variable identification included:

Independent Variables (IV) : Students' adjustment ability (X)

Dependent Variable (DV) : Students' speaking ability (Y)

Setting of the Research

The researcher conducted the research in February - May 2016 in the classroom at the English Education Department of UMY batch 2015. The researcher took this location because the researcher found out the presence of the problem at EED of UMY. The problem came from the difference of students' backgrounds that influenced their ability to adjust the learning environment and language proficiency. Moreover, it was closer and easier to get the data, as the researcher studied at EED UMY and had been familiar with the environment of EED UMY. Moreover, the result of the research would be beneficial for EED's lecturer of UMY in developing students' character along with senior students in encouraging students in order to be able to adjust their first college experience as soon as possible. As a result, it was expected that the students would achieve the English skills' performance better.

Population and Sampling

Population is defined as generalization area that comprises on subject that has quantity and specific characteristic determined by the researcher to be examined and then the researcher will draw the conclusion (Furlong, E. Lovelace & K. Lovelace, 2000). The population in the research was 165 students from five

classes' batch 2015 at English Education Department of UMY. Undergoing first year in the college, the freshmen students have to face a new learning environment that cause changing in their social, emotional, academic and commitment (Baker & Siryk, 1989). This statement is also supported by the previous study that revealed, a freshmen students' achievement in the period of first semester indicate the students' ability to face the challenges of adjustment (Sharma, 2012).

According to Furlong, E. Lovelace and K. Lovelace (2000) sample is representative part of population that the researcher will investigate and draw conclusion. Arikunto (2010) stated that if population number is less than 100, it is better to take whole number so that the research is a population research. While, if the population number is more than 100, then sample can be taken between 10 – 15% or 20 – 25%, 50%, or more. The researcher used number of sample 25% taken from number of the population, so that number of sample of the research was 41 respondents that consisted of 28 female students and 13 male students. Sample of 41 students is actually too small to be sample. This 41 number of sample is considered not adequate to be sample. Therefore, this research suggested to further research to use more number of sample to get better result.

Sampling technique used in the research was convenience sampling. According to Cohen, Manion and Morrison (2000), convenience sampling is conducted accidentally based on the opportunity, which means sample is chosen the nearest as respondents and conducting it until the required sample is obtained. The number of sample was suitable with the researcher's ability based on some

considerations, namely from aspects of time, cost, and the data availability possible to do the research with the sample of 41 students.

Data Collection Method and Instrument

To obtain the data of students' adjustment, the researcher used a questionnaire constructed from "Scale of Adjustment to College (SAC)" The questionnaire was developed by Baker & Siryk, 1984) and adapted by Ali in Al-khatib, Awamleh, & Samawi (2012). The questionnaire was self-administered multidimensional scale to measure students' adjustment to college. The questionnaire consisted of 29 items distributed on four domains: academic adjustment, social adjustment, emotional adjustment and commitment to achieve goals.

Tabel 3.1 Blue Print of instrument tool of Student adjustment to college scale (Baker & Siryk, 1984)				
No.	Criteria	Item example	Statement	Total
1.	Academic adjustment	Obtaining good score is important thing for me	1 – 7	7
7	Social adjustment	I involve in extracurricular and organization of campus	14 – 23	10
3.	Personal-Emotional adjustment	I'm comfortable experiencing the college	24 – 29	6
4.	Commitment to achieve goals	I prefer to my major rather than other majors	8 – 13	6
			29	29

The researcher established the scale of the questionnaire by using Likert scale. Likert scale consists of questions concern with an attitude object (Margono, 2004). The respondents perceived the statement on the questionnaire with four

answer categories. The answers from each of the instrument had gradation of four scales from the highest (very positive) until the lowest (very negative), with four answer categories, namely “strongly agree” (SA), “Agree” (A), “Disagree” (DA), “Strongly Disagree” (SDA). The four scales was considered to prevent a central tendency or to prevent neutral response, that is felt concerning will not describe real condition of the respondents. Each alternative answer showed a suitability given with the condition experienced by the respondents.

After collecting the data from the questionnaire, to obtain the data of students’ speaking ability, the researcher used documentation method. The data of students’ speaking ability was collected from the score of subjects in Listening and Speaking for Formal setting batch 2015/2016. The subject represented the students’ ability in speaking for formal or academic situation suitable with their fundamental ability for the next level of speaking learning. The score was used because it becomes a proof of students’ learning process in speaking during the period of the first semester.

Validity and Reliability

Before conducting data analysis, the researcher must test validity and reliability tests toward the instrument of students’ adjustment to college scale. Construct validity was used to find out validity of the instrument. Creswell (2009) stated that construct validity is used to find out whether questionnaire items can measure hypothetical construct or concepts. The researcher conducted the piloting to the 18 students to find out whether the instrument were usable to

measure students' adjustment or not. The item can be valid if significant value (P) obtained by the Sig. (2-tailed) is less than 0.05. The following table is an initial questionnaire with 39 items that were distributed into four dimensions of adjustment.

Tabel 3.2
Blue Print of 39 items of instrument tool of Student adjustment to college scale
(Baker & Siryk, 1984)

No.	Criteria	Item example	Statement	Total
1.	Academic adjustment	Obtaining good score is important thing for me	1-9	9
2.	Social adjustment	I involve in extracurricular and organization of campus	17-31	15
3.	Personal-Emotional adjustment	I'm comfortable experiencing the college	32-39	8
4.	Commitment to achieve goals	I prefer to my major rather than other majors	10-16	7
			39	39

After the researcher conducted validity test by SPSS, then the researcher found out that from 39 items of questionnaire, 10 items were considered as invalid item. Then, the invalid items were deleted by the researcher because the items were also similar to other, as shown in the table:

Tabel 3.3
Valid Item Number of the Students' Adjustment Questionnaire

No.	Dimension	Valid	Invalid
1.	Academic adjustment	1,2,5,6,7,8,9	3, 4
2.	Social adjustment	17,18,19,20,21, 22,25,27,29,30	23,24,26,28,31
3.	Personal-Emotional adjustment	32,34,35,37,38,39	33,36
4.	Commitment to achieve goals	10-16	11
		29	10

Finally, there were 29 items distributed to the respondents. The piloting was conducted on February of 14th – 17th 2016. The validity after piloting was attached on the appendix.

Reliability value in the research was measured by using *Cronbach's alpha*. Kaplan and Sacuzzo (2005) explained that coefficient value of good reliability is in range 0.7 – 1.0 based on the piloting result. It was said that the college adjustment measurement tool was considered reliable or in another word the measurement tool is homogenous to measure college adjustment construct.

Cronbach Alpha	N of Items
.920	29

There were 29 items on questionnaire that were distributed to 41 students EED of Batch 2012. The reliability of the questionnaire was 0.920 which was in the interval 0.7 – 1.0, it means that the questionnaire was good to use.

Data Analysis Technique

The data collected was analyzed by using statistical method. Statistical method is scientific method to collect, arrange, represent and analyze the research data comprising the numerical data to draw conclusion and logical decision (Hadi & Haryono, 2005).

As the purpose of the research was to measure the correlation between students' adjustment and their speaking ability, the researcher used statistics method. In this research, all the data were gained from the result of questionnaire

and the test result was in form of number. All the data were analyzed quantitatively. For the questionnaire of Adjustment to College, the researcher scored the items: Strongly Agree: 4; Agree: 3; Disagree: 2; and Strongly Disagree: 1. To determine the level of students' adjustment, the researcher conducted classification by using hypothetical mean and hypothetical deviation standard (Azwar, 2013), by formula:

$$\mu = \frac{1}{2}(i_{max} - i_{min}) \sum k$$

Where:

μ = Hypothetical mean

i_{max} = item maximum score

i_{min} = item minimum score

$\sum k$ = item number

The formula for hypothetical deviation standard:

$$\sigma = \frac{1}{6}(X_{max} - X_{min})$$

Where:

σ = hypothetical deviation standard

X_{max} = subject maximum score

X_{min} = subject minimum score

From the respondent distribution score, the research was computed, then the hypothetical mean and deviation standards become score limit estimation in line with the following norm:

Category	Value
High	≥ 87.00
Medium	58.00 – 87.00
Low	< 58.00

For the speaking score, the data from documentation were classified according to the score value presented in the Academic Guidelines of Muhammadiyah Yogyakarta University 2015/2016, as the following:

Alphabetical Score	Final Score Value	Interpretation
(A)	$> 3.5 - 4$	Very good
(B)	$> 2.5 - 3.5$	Good
(C)	1 – 2.5	Satisfying
(D)	> 1	Low

As the scoring system in EED UMY used A, A-, B+, B, B-, C+, C, C-, D, to facilitate the analysis process of the data, the researcher categorized the scores into four categories as recommended by UMY Academic Guideline in Table 3.5. The data then were interpreted by descriptive statistics. According to Furlong, E. Lovelace and K. Lovelace (2000), descriptive statistics shows percentage of frequency, which refers to how often something occurs. Descriptive statistics explains various data characteristics such as mean, median, mode, standard deviation, variance, range, minimum and maximum values, and etcetera.

As the research aimed to find out the correlation between students' adjustment ability and speaking ability, the researcher computed correlation coefficient between both variables. The students who had good adjustment ability

would probably speak fluently and confidently, because they were successful in facing the challenge to meet their needs. In contrast, students who had lack of ability in adjusting probably would speak English less fluently and did not have confidence in speaking English. Therefore, adjustment ability might have a correlation with the ability of students in English speaking.

To find out the correlation between X and Y, this research used Pearson Product Moment correlation using SPSS 20.0 version. According to Cohen, Manion and Morrison (2000), Pearson's Product Moment has coefficient of correlation (r) that is a statistical value ranging from -1.0 to $+1.0$. and articulates the relationship in quantitative form. Before the data was analyzed, the data should have normal distribution. In normality test, *Kolmogrov-Smirnov* was used to show significance (p) for Adjustment College and Speaking Ability that should be > 0.05 to meet the criteria of normal distribution.

To measure the correlation, the researcher used bivariate correlation analysis by using *Pearson product moment* in *SPSS 20.0*. Decision on the hypothesis proposed whether accepted or denied was determined by:

If the significant value is less than 5% then null hypothesis (H_0) is rejected. It means there is correlation between adjustment's ability and speaking ability.

If the significant value is high than 5% then null hypothesis (H_0) is accepted; it means there is no correlation between adjustment's ability and speaking ability (Cohen, Manion and Morrison, 2000).

Correlation coefficient also aims to know the strength of correlation between variables. Cohen (1988) stated that the strength of correlation is indicated based on criteria:

Coefficient interval	Correlation degree
-+ .10 to -+ .29	Small (weak)
-+ .30 to -+ .49	Medium (moderate)
-+ .50 to -+ 1.0	Large (strong)