CHAPTER III

RESEARCH METHODOLOGY

This chapter deals with the research methodology which is designed as procedures to collect and analyze the data. More specifically it covers research design, research subject which involves the population and sample, research instruments, data collection techniques, and data analysis technique.

A. Research Design

Research design is defined as the overall plan used to answer the research questions.[1] It deals with how the researcher employs strategy to collect and analyze the data.[2] According to the research questions, this study attempted to evaluate in what level student teachers' ability in facilitating pair and group work in their teaching practice and determine their pair and group work alignment to meet the lesson objectives. In that case, this study can use quantitative design. Creswell defines quantitative research as the systematic investigation of social phenomena by collecting numeric data typically on instruments, so it can be analyzed using statistical procedures.[3] It can be used to explain numeric description of trends, attitudes, or opinions of a population by studying a sample

[1] Phyllis Tharenou, et.al., *Management Research Methods* (New York: Cambridge University Press, 2007), 16
[2] Paul S. Gray, *The Research Imagination: an Introduction to Qualitative and Quantitative Methods* (New York: Cambridge University Press, 2007), 34
[3] John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Method Approaches* (Thousand Oaks, Calif.: Sage Publications, 2009), 23

of that population.[4] These definitions serve as base for the writer to use quantitative design regarding the scoring could ease the researcher to measure student teachers' ability in facilitating pair and group interaction and determine whether pair or group activity implemented by them is aligned to meet the lesson objectives or not.

In regard with data analysis, the researcher employed descriptive quantitative analysis. In descriptive quantitative, the researcher purposely organizes, summarize, and describe observations.[5] Descriptive statistic is used to analyze the data by describing what happened in that data without making conclusion in general. It describes the basic feature of the data and present quantitative description in manageable form. As discussed before, this study only attempted to investigate student teachers' ability. Having measuring and finding the level of student teachers' ability, the researcher then presented and described about the typical attitude of student teachers' ability in facilitating pair and group interaction that happen in PPL I. Considering this purpose, this study comes true to quantitative descriptive research.

B. Research Population and Sample

This study was conducted in natural setting of practice teaching (PPL I) class of English Teacher Education Department (ETED) of State Islamic

[4] John W. Creswell, *Research Design: Qualitative, Quantitative, and Mixed Method Approaches, ...* 29

[5] Donald. Ary et al., *Introduction to Research in Education* (Belmont, CA: Wadsworth, 2009), 101

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When we deal with subject of the study, it deals with sample and population of the study. Population is defined as all members of any well-defined class of people, events, or objects.[6] In research, population can be simply said as group that researcher wish to study. Ary states that sample is a portion of population. Sample is a small group of population focused to be studied.

1. Population

   The population of this study was all sixth semester students of English Teacher Education Department of UIN Sunan Ampel Surabaya academic year 2015 who enrolled practice teaching (PPL I). In this semester, they were divided into seven classes; A, B, C, D, E, F, and G class. Each class consist for about 6-12 students (student teachers) and the total was 83 people.

2. Sample

   For the sample, the researcher took several student teachers as the participant of this study. It is stated that for quantitative research the more samples are taken, the better the research will be. However, there is no exact rule about sample size, though many researchers have suggested how big sample size and provided formula to determine sample size.

[6] Donald Ary et.al., *Introduction to Research in Education* 148

One way to determine the sample size is by selecting a sufficient number of participants for the statistical procedures that the researcher plan to use.[7] Gay and Diehl assume sample size will depend on the design of the research. Gay presents an estimation of sample size for educational researcher. For descriptive research, the minimal sample size should be taken is 10% from population, and for small-scale population at least 20% participant from population should be taken as sample.[8] With the same perspective, Arikunto states that if the research population is less than 100, then the sample taken is all of them, if the research population is over 100, then the sample taken between 10-15% or 20-25% or more. However only if the researcher uses interview and observation in collecting data, the number of sample size can be reduced according to sampling technique and several factors to consider as access, funding, time available, and the researcher's ability.

Regarding discussion above, in this study the researcher took 25% sample from the population of student teachers. This because of three main reasons, the first is this study is categorized as descriptive study, the second is the sample here are exploratory sample, and the third reason is the population is small-scale population, which is less than 100, taking 25% sample was argued acceptable.

[7] Suharsimi Arikuntoro, *Prosedur Penelitian Suatu Pendekatan Praktik* (Jakarta: Rineka Cipta, 2007), 134

[8] Suharsimi Arikuntoro, *Prosedur Penelitian Suatu Pendekatan Praktik* 134

Based on the explanation above, the researcher finally determined the sample size, which is 25% (21 student teachers). This sample is expected to be adequate to get information about student teachers' ability in facilitating pair and group interaction and suitability of pair and group activities to meet the lesson objectives.

3. Sampling technique

Having determining sample size, the researcher needed to choose sampling technique to take from which class samples would be taken. The researcher used purposive sampling because it operates on the principle that the researcher can get the best information through focusing on a relatively small number of participants purposely selected on the basis of their known attributes, as in the basis of its relevance to the issue being investigated.[9]

From that theory, the main criteria of this study was limited on investigating student teachers' ability in facilitating pair and group interaction and the alignment of their pair and group activities to meet the lesson objectives. Therefore, the participant chosen were only student teachers who implemented pair or group activities in their teaching practice (PPL I). Hence, the sample of study was 21 student teachers. To make it representative, they were taken from all practice teaching classes; A, B, C, D, E, F, and G classes, and each class comprised 3 students who

[9] Martin Denscombe, *The Good Research Guide; For Small-scale Research Project* (New York: McGraw Hill Open University Press, 2010), 35

implemented pair and group activities. Therefore, in selecting the sample, the researcher came to practice teaching class beforehand and questioned student teachers who would do practice teaching using pair or group work. After that, the researcher selected three student teachers who would use pair or group work and then observed their teaching practice.

C. Data and Source of the Data

1. Type of the data

The primary data of this study were the data of student teachers' ability in facilitating pair and group interaction and the alignment of pair and group activities to meet the lesson objectives scores. Then, it was also completed with video recording as proof of student teachers' ability in facilitating pair and group interaction and the alignment of pair and group activities to meet the lesson objectives.

The secondary data was the forms of supporting data gotten from some sources, as document. The secondary data were student teachers' lesson plan that used to check whether pair and group activities suit with the lesson objectives stated in lesson plan.

2. Source of the data

The main source of both primary and secondary data were student teachers of ETED from all PPL I classes (A – G) which comprised 21 people. They were student teachers who implemented pair or group activity

in their teaching practice within PPL I. Additionally, the source of secondary data were the copies of student teachers' lesson plan.

D. Data Collection Technique

To gain the data for this research, the researcher employed two kinds of data collection technique, observation and documentation. Concisely, the process of collecting data is specified in the table below:

Table 3.1
Techniques for collecting data

Techniques / **Research questions**	**Classroom observation**	**Documentation**
RQ 1: What is student teachers' ability in facilitating pair and group interaction within Practice Teaching (PPL I)?	√	√
RQ 2: Do pair and group activities implemented by student teachers in Practice Teaching (PPL I) align with the lesson objectives?	√	√

1. Observation

Observation includes a systematically note taking or recording about observed events, subjects' behaviours, and every object needed to support the

research being conducted in its natural setting.[10] Through observation, the researcher watches and observes the subject or situation physically.

According to Arikunto, for using observation method, the effective way is by completing it with the format or observation form as the instrument. The format is arranged contains of items of the event or behaviour of the subject.[11] To answer both research questions, observation rating scale rubric were used to obtain information about the level of student teachers' ability in facilitating pair and group interaction and the suitability of pair and group work to meet the lesson objectives. Rating scale presents several statements about behaviour, an activity, or a phenomenon with an accompanying scale of categories.[12] The rating scale used here was based on Likert scales, as to measure someone's perception about some phenomena, in this case was the researcher as observer.

2. Documentation

The documentation refers to a wide range of written, physical, and visual materials, including what other authors may term artefacts.[13] The term of document used here were student teachers' lesson plan and video recording. Student teachers' lesson plans were collected to look the lesson

[10] Jonathan Sarwono, *Metode Penelitian Kuantitatif dan Kualitatif* (Yogyakarta: Graha Ilmu, 2006), 224
[11] Sumiyati, Undergraduate Thesis: "*An Analysis of Students' Oral Performance of Speaking Ability in MAN Sidoarjo"* (Surabaya: IAIN Sunan Ampel, 2012), 47
[12] Donald Ary, et. al., *Introduction to Research in Education* 213
[13] Donald Ary, et. al., *Introduction to Research in Education* 215

objectives and the planning sequences of pair or group activities. It was used to answer the second research question that was to know whether pair or group activities implemented align with the lesson objectives. The next types of document used were video recording. Video recorder was used to record student teachers when they applied pair or group activity in their teaching practice.

E. Research Instruments

This study employed rating scale rubric, lesson plan, and video recording as the instruments to collect the data.

1. Observation Rubric

Rubric is a scoring tool used to assess a set list of criteria and indicators. The researcher used two kinds of rubrics as explained below.

a) Observation rubric for assessing ability in facilitating pair and group interaction

This rubric was used to measure and find student teachers' ability in facilitating pair or group interaction. This rubric was adapted from scoring guide for candidates in facilitating small group interactions developed by National Board for Professional Teaching Standard Pearson. This rubric also divided into two kinds, the first was for assessing ability in facilitating pair interaction and the second was for facilitating group interaction *(see app.1 and 2).* The rubrics comprise the

aspects of facilitating pair and group interaction as the criteria, and each aspect comprises several indicators. In observation process, student teachers' ability was assessed based on how they could implement the indicators in the rubric. This rubric employed rating scale. Rating scale was used to categorize their ability level based on the score they got. There are five categorization level; very good, good, moderate, bad, and very bad.

b) Observation rubric for assessing the alignment of pair and group activities to meet the lesson objectives

This rubric was used to check the alignment of pair and group activities to meet the lesson objectives. This rubric was adapted from John Biggs theories about teaching alignment system. To determine the alignment, the researcher employed score observation instead of "yes" or "no" checklist because it made easier in observing and determining the alignment of pair and group activities to meet the lesson objectives. In the process of gaining the data, initially the researcher looked the objectives stated in lesson plan and then observed the implementation by filling score checklist. This rubric also employed rating scale. Rating scale was used to categorize the alignment based on the score they got. There are 3 categorization level; aligned, less aligned, and unaligned *(see app. 3).*

2. Lesson Plan

Lesson plan was used as instrument to look the lesson objectives and the activities sequences of student teachers' teaching. By looking the stated lesson objectives in the lesson plan, the researcher could know whether pair or group activities implemented by student teachers were aligned to meet the lesson objectives or not.

3. Video Recording

Video recording here contains of student teacher's activity in implementing pair or group activity in their teaching practice. This video was used as aids to observe their ability in facilitating pair or group work and their pair and group activities alignment with the lesson objectives. By using video recording hopefully the researcher could re-observe and analyze, as it could be seen after direct observation in class, where the researcher might miss something in her observation.

F. Data Analysis Technique

In quantitative research, the researcher analysis the data by mathematical procedures, called statistics. The researcher analyzed the data based on the result of observation using rubric.

The first analysis was to know the ability of student teachers in facilitating pair and group interaction was in the level of very good, good, moderate, bad, or very bad. The analysis consists of breaking down the data

into part to answer the research question. After the data were collected, the researcher analyzed student teachers' ability based on the rubric. This rubric used to evaluate their ability in facilitating pair and group interaction consists of seven aspects which were elaborated previously in chapter two as the criteria. Their ability was reflected on how they could do these aspects. To find the ability, initially the researcher calculated the score from all aspects and then classified their ability based on the scale of ability level. In calculating and classifying student teachers' ability, the researcher used Likert scale formula, which involves several procedures as follows:

1. Calculating each student teacher's score through this formula:

$$\text{Individual score} = \frac{\text{total score of each item}}{\text{number of items}}$$

2. Calculating the interval score for determining the scale of ability, in this case there were five scales; very good, good, moderate, bad, or very bad. It is used the formula below.

$$\text{Interval score} = \frac{\text{Range}}{\text{Categories}} = \frac{\text{highest score} - \text{lowest score}}{5}$$

3. Determining student teacher's ability by classifying their score into the interval score and ability scale.

After finding student teachers' ability, the researcher calculated the frequency of their ability level and made it into percentages. It was used to

show the actual and overall abilities of 21 student teachers in facilitating pair and group interaction in their teaching practice. It used this formula:

$$\text{Percentage} = \frac{\text{frequency of student teachers in each ability scale}}{\sum \text{number of student teachers}} \; x\; 100\%$$

Then, to find the general ability in facilitating pair and group interaction of all 21 student teachers, the researcher could calculate the average ability and percentages using these formulas:

$$\text{Average ability} = \frac{\text{total score}}{\sum \text{number of student teachers}}$$

$$\text{Result (\%)} = \frac{\text{total score}}{\text{ideal score}} \; x\; 100\%$$

Finally, the researcher found the overall attitude of 21 student teachers in facilitating pair and group interaction when they implement pair of group activity in practice teaching (PPL I). The result of this analysis would be the finding of the first research question of this study.

The second analysis was to answer the second research question. It analyzed the alignment of pair and group activities implemented by student teachers were aligned to meet the lesson objectives or not. In analyzing it, it used the same procedures as the analysis for the first research question. It only differs on the problem analyzed and the scale. It had three scales, aligned, less aligned, and unaligned. Finally, the researcher found the alignment of pair and group work

implemented by student teachers in their teaching practice. The result of the analysis would be the finding of the second research question.