

CHAPTER III

RESEARCH METHODS

In this chapter, the researcher presents the methods of this study in achieving the objectives as presented in chapter one and extended in chapter two. This is covering the design of the study, population and sample, instrument of the study, the data collection technique, and data analysis technique. Each of the sub-chapter will be present below.

A. Design of the Study

This study applied a mixed method in form of sequential explanatory design. According to Creswell (2014), sequential explanatory is a method that combine one method with another method. The basis of this design is a participant selection model in which quantitative and qualitative data collected in two phases. Quantitative data in the first phase informs the selection of participants for the second qualitative phase. The second is qualitative phase helps to clarify and explain the results of first quantitative phase.

B. Quantative Phase

1. Population and sample of the study

a. Population of the study

The populations of this study are the eleventh grade students of Bombana senior high schools in the academic year 2016/2017. The total number of schools was 13 senior high schools and 1857 students.

b. Sample of the study

To determine the sample of this study the researcher used purposive

sampling system. According to Cohen et al (2007), purposive sampling is a technique for determine the sample with specific purpose that aim to obtain representative data. Due to the big number of senior high schools in Bombana district, the researcher decided to take 20-25 percent from the populations as the sample of this study. It based on Cohen et al (2007) who states if a piece of research involves 100 students, it should require between 80 percent and 100 percent of students to include in the sample, while a large 1,200 students should require a sample of 20-25 percent of students to achieve the representation.

The sample of this study was three schools (385 students) from 13 senior high schools (1857) in Bombana district that represented each region (peripheral, urban and remote area). Those schools are SMA Negeri 01 Bombana, SMA Negeri 02 Bombana and SMA Negeri 03 Bombana. The following table provided a description of the eleventh grade in Bombana senior high schools.

Table 1. Descriptions of Research Participants from SMA Negeri 01 Bombana, SMA Negeri 02 Bombana and SMA Negeri 03 Bombana

No	SMA Negeri 01 Bombana		SMA Negeri 02 Bombana		SMA Negeri 03 Bombana		
	Class	Number of Students	Class	Numbers of students	Class	Numbers of Students	
1	XI. IPA 1	27	XI. IPA 1	21	XI. IPA 1	22	
2	XI. IPA 2	27	XI. IPA 2	19	XI. IPA 2	21	
3	XI. IPA 3	27	XI. IPA 3	20	XI. IPA 3	20	
4	XI. IPS 1	19	XI. IPS 1	18	XI. IPS 1	20	
5	XI. IPS 2	20	XI. IPS 2	23	XI. IPS 2	21	
6	XI. IPS 3	20			XI. IPS 3	20	
7					XI. IPS 4	20	
TOTAL		140		101		144	
		385					

2. Data collection techniques

The data collection techniques in this phase, the researcher took about 15-20 minutes to gather all the eleventh grade students in school hall after the break time and give the PLSP questionnaire to students. Before the students filled out the questionnaire, the researcher explained that the PLSP questionnaire was aimed to find out their major English learning styles. Meanwhile, to ensure that there were no errors in these process the researcher explained how to fill it. It was intended to avoid the refraction of the data. Moreover, the researcher took the original of English achievement from the previous semester before the teacher add another aspect in giving a score. Here are the details of data collection process:

a. SMA Negeri 01 Bombana

The data collection process was carried out in 2 days, from April 25 to 26, 2017. On the first day, the researcher took about 15-20 minutes to gather all the eleventh grade students in school hall after the break time and give the PLSP questionnaire to students. Before the students filled out the questionnaire, the researcher explained that the PLSP questionnaire was aimed to find out students major English learning styles. On the second day, the researcher gathered the students who were not present on the first day to fill out the questionnaire. Moreover, 140 students are not based on school administration that amounts to 145 students. It was based on the students who had been filled out the questionnaire. Furthermore, the researcher took

the English achievement documentations only from the students who filled out the questionnaire.

b. SMA Negeri 02 Bombana

The data collection process was carried out in 2 days, from May 9 to May 10, 2017. On the first day, the researcher took about 15-20 minutes to gather all the eleventh grade students in school hall after the break time and give the PLSP questionnaire to students. Before the students filled out the questionnaire, the researcher explained that the PLSP questionnaire was aimed to find out their major English learning styles. On the second day, the researcher gathered the students who were not present on the first day to fill out the questionnaire. Moreover, 101 students are not based on school administration that amounts to 115 students. It was based on the students who had been filled out the questionnaire. Furthermore, the researcher took the English achievement documentations only from the students who filled out the questionnaire.

c. SMA Negeri 03 Bombana

The data collection process was carried out in 2 days, from May 23 to May 24, 2017. On the first day, the researcher took about 15-20 minutes to gather all the eleventh grade students in school hall after the break time and give the PLSP questionnaire to students. Before the students filled out the questionnaire, the researcher explained that the PLSP questionnaire was aimed to find out their major English learning styles. On the second day, the researcher gathered the students who were not present on the first day to fill

out the questionnaire. Moreover, 144 students are not based on school administration that amounts to 155 students. It was based on the students who had been filled out the questionnaire. Furthermore, the researcher took the English achievement documentations only from the students who filled out the questionnaire.

3. Instruments of the Study

In the quantitative phase, the researcher used two instruments in data collection techniques. First is adapted questionnaire from Reid (1987) namely PLSP questionnaire. Second is English achievement documentation.

a. Questionnaire

The questionnaire evaluated the English learning styles based on how students learn best with their own perceptions. This questionnaire consists of 30 items self-assessment which is divided into Visual style (5 items), Audio style (5 items), Kinesthetic (5 items), Tactile (5 Items), Group (5 items) and Individual (5 items). Moreover, the questionnaire used a four-point likert-like to measure how the students agree with each item. Those points are (4) strongly agree, (3) agree, (2) disagree, and (1) strongly disagree.

Furthermore, Reid (1987) also provided how to classify the learning styles in major, minor learning style preference, and negligible. Those classifications are; (30-40) major learning style preference, (19-29) minor learning style preference, and (0-18) negligible.

b. English achievement documentation

Documentation is a variable in the form of transcripts, books, newspapers, magazines, and inscriptions. In this study, the researcher needs to find the required documents and available in schools as supporting data in this study. The researcher took the original score from final examination before the teacher add another aspect in giving a score (English score from the previous semester) and compared with the students learning styles to uncover the contribution of the students learning styles contribute in English achievement.

4. Data analysis techniques

The completed procedures of quantitative data analysis techniques can be seen as follows:

- a. The researcher analyzed the reliability of the instrument using alpha Cronbach.
- b. The researcher calculated self-assessments score from the questionnaires.

The scoring system based on Reid (1987) as follows:

Visual	Tactile
6 = ...	11 = ...
10 = ...	14 = ...
12 = ...	16 = ...
24 = ...	22 = ...
29 = ...	25 = ...
Total ... x 2= (Score)	Total ... x 2= (Score)
Auditory	Group
1 = ...	3 = ...
7 = ...	4 = ...
9 = ...	5 = ...
17 = ...	21 = ...

20 =...	23 = ...
Total ... x 2= (Score)	Total ... x 2= (Score)
Kinesthetic	Individual
2 = ...	13 = ...
8 = ...	18 = ...
15 = ...	27 = ...
19 = ...	28 = ...
26 =...	30 = ...
Total ... x 2= (Score)	Total ... x 2= (Score)
(30-40) major learning style preference	
(19-29) minor learning style preference	
(0-18) negligible.	

- c. The researcher analyzed the result of questionnaire using descriptive statistic analysis to know the English learning styles of the eleventh grade students in SMA Negeri 01, SMA Negeri 02, SMA Negeri 03 Bombana.
- d. The researcher analyzed the frequency of each learning style types of the eleventh grade students in SMA Negeri 01, SMA Negeri 02, SMA Negeri 03 Bombana using descriptive statistic analysis.
- e. The researcher analyzed the result of questionnaire using descriptive statistic analysis from all three sample schools (SMA Negeri 01, SMA Negeri 02, SMA Negeri 03 Bombana) to find out the English learning styles of the eleventh grade students in Bombana senior high schools.
- f. The researcher analyzed the frequency of each learning style types from all three sample schools (SMA Negeri 01, SMA Negeri 02, SMA Negeri 03 Bombana) using descriptive statistic analysis.
- g. The researcher analyzed the result of questionnaire and English achievement documentation to uncover contribution the students learning styles contribute in English achievement using simple linear regression.

C. Qualitative Phase

1. Data collection techniques

The qualitative phase helps to clarify and explain the results of first quantitative phase. Data collection for this qualitative phase consists of 18 interview students who were determined by random sampling based on the results of quantitative phase. It means that the students who are used group learning as their major English learning style preference and students who are used visual learning as their minor English learning style preference have the same opportunity to be a participant in this qualitative phase. Those 18 interview participants were representing 18 classes of the eleventh grade students in Bombana senior high schools. These interviews were aimed to exploring the reason why students are preferred the group learning style and why they are not preferred the visual learning style.

Moreover, the data collection for this qualitative phase also consists of 31 meetings at 18 classrooms observation. The observations are based on the results of quantitative phase. It has been known that the majority of the students used group leaning as their major English learning style preference. Therefore, the researcher provide eight main activities based on group learning activities to be observed in each class. It is aimed to find out the relevance of activities in the classroom with the major English learning style preference of the students. Here are the details of data collection process:

a. SMA Negeri 01 Bombana

Data collection process of interviews was carried out in 2 days, from

April 28 and April 29, 2017. There were 6 students who had been selected by the researcher based on the results of quantitative phase to represent their class. The researcher conducted in-depth interview (5 guideline questions) in face to face with students around 15-30 minutes to exploring their reason why they are preferred the group learning style and why they are not preferred the visual learning style. Meanwhile, the data collection process of observations was carried out in 10 meetings at 6 classes on May 2 - May 6, 2017 to find out the relevance of activities in the classroom with the major English learning style preference of the students in this school.

b. SMA Negeri 02 Bombana

Data collection process of interviews was carried out in 2 days, from May 12 and May 13, 2017. There were 5 students who had been selected by the researcher based on the results of quantitative phase to represent their class. The researcher conducted in-depth interview (5 guideline questions) in face to face with students around 15-30 minutes to exploring their reason why they are preferred the group learning style and why they are not preferred the visual learning style. Meanwhile, the data collection process of observations was carried out in 10 meetings at 5 classes on May 15 - May 19, 2017 to find out the relevance of activities in the classroom with the major English learning style preference of the students in this school.

c. SMA Negeri 03 Bombana

Data collection process of interviews was carried out in 2 days, from May 26 and May 27, 2017. There were 7 students who had been selected by

the researcher based on the results of quantitative phase to represent their class. The researcher conducted in-depth interview (5 guideline questions) in face to face with students around 15-30 minutes to exploring their reason why they are preferred the group learning style and why they are not preferred the visual learning style. Meanwhile, the data collection process of observations was carried out in 11 meetings at 7 classes on May 29 - June 3, 2017 to find out the relevance of activities in the classroom with the major English learning style preference of the students in this school.

2. Instruments of the study

In the quantitative phase, the researcher used two instruments in data collection techniques namely interview and classroom observation checklist.

a. Interview

The interview is a conversation that has a specific purpose, carried out by two parties. The interviewer as the one who asks questions and the interviewee as the one who gives an answer to the question with the intention of constructing people, events, feelings, motivations, concerns, and others. Cohen et al (2007) mention that the interview is a flexible tool for data collection enabling multi-sensory channels to be used: verbal, non-verbal, spoken and heard. The order of interview may be controlled while still giving space spontaneity, and the interviewer can press not only for complete answers but also for responses about complex and deep issues.

b. Observation

Observation method is a data collection technique where the researcher required going to the field for observing things related to space, place, actors, activities, objects, time, and feelings that related to the research objectives. Johnson and Christensen (2014) defined observation is a technique to collect the data by watching behavioral event of people to get some information in their natural setting. A classroom observation checklist used during the observation process and was designed to account for all the necessary and related aspects of the present study.

3. Data analysis techniques

Data analysis techniques in this phase are based on Miles, et al (2014) namely data condensation data, data display, and conclusion drawing or verification. Here are the complete data analysis techniques from Miles, et al:

a. Data condensation

According to Miles, et al (2014) this step consists in selecting, focusing, simplifying, abstracting, and transforming the raw data that appears in the field notes, interview transcripts, and documents. In this study, the data was reduced from the interviews with 18 students of the eleventh grade. The data also reduced from the observations during the teaching and learning processes in classroom.

b. Data display

Miles, et al (2014) states that the data display is organized and compressed assembly of information that allows conclusion drawing. The

data displays in this study are interview transcriptions and classroom observation checklists.

c. Conclusion drawing or verification

The last step in analyzing the data qualitative according to Miles, et al (2014) was drawing conclusions or verifications. It means that the researcher draws meaning and conclusion from the data displayed. The all steps in the data analysis techniques can be summarized as follow:

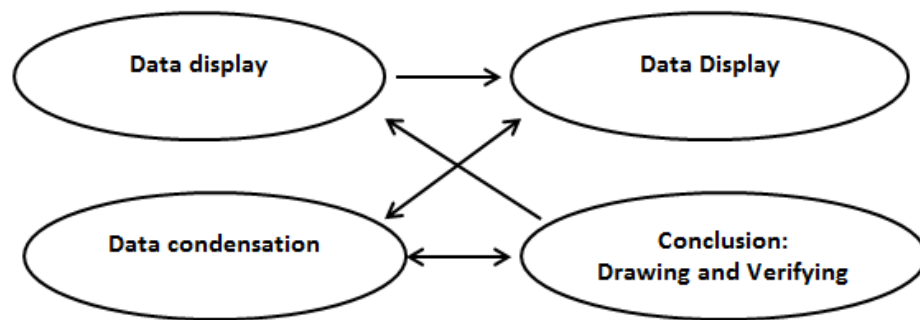


Figure 2. Components of Data Analysis

4. Validity and reliability of the Instrument

a. Validity of the instrument

Instrument validity in quantitative phase are based on content validity. According to Cohen et al (2007), to ensure the construct validity, an instrument should be consulted from two experts on the related field. What they mean by the expert is that a person holding a doctoral degree in the related field. Therefore, the researcher consulted the instrument to the supervisor and to one of the lecturers in the English Department of Yogyakarta State University. The letter of validation approval can be seen in letter appendix.

In this study, the instrument in quantitative phase are adapted questionnaire from Reid (1987) namely PLSP questionnaire. The step procedure of validity instrument (questionnaire) through the following steps:

- 1) Developed a draft of table specification based on the original literature (PLSPQ from Reid, 1987)
- 2) Consulted the draft of table specification into the supervisor and an expert in the English Department of Yogyakarta State University (expert judgement).
- 3) Translated the original questionnaire into Indonesian
- 4) Consulted the translations into the supervisor and expert judgement.
- 5) Revise the translations based on the supervisor and expert judgement suggestions.
- 6) The researcher, supervisor, and expert judgement deal to change six items to a negative statement. It is aimed to maintain the consistency of students in filling out the questionnaire.
- 7) The letter of validation approval can be seen in letter appendix.

b. Reliability of the instrument

According to Cohen et al (2007) reliability means the instrument can be applied anytime and anywhere (consistency) to give the constant result of the research. Before giving the instrument to the subject, the instrument should be piloted to students that still had categorized at the same level as the subject. According to Sullivan (2011) who states if the original

instrument has been modified, it will affect instrument reliability. It means that the adapted questionnaire from Reid (1987) should be piloted to measure the reliability.

In this study, piloting the instrument was conducted on April 21st, 2017 and involved 124 students of the eleventh grade in SMA Negeri 12 Bombana and calculated the score using alpha Cronbach to measure the reliability of the instrument. The conclusion in the reliability analysis can be determined if the Cronbach alpha value is bigger than r table coefficient correlation, it means the items in the questionnaire used are reliable or consistent, otherwise if the Cronbach alpha value is smaller than r table coefficient correlation it means the items in the questionnaire used are not reliable or inconsistent. The results of the analysis can be seen in the table below:

**Table 2. Instrument Reliability Analysis
Reliability Statistics**

Cronbach's Alpha	N of Items
.542	30

As can be seen in table 2, the result of the Cronbach alpha value was 0.542. In the other hand, the r table coefficient correlation with significance 5% $df = N-2$ value was 0.148. After consulting to the r table coefficient correlation with significance 5%, the Cronbach alpha was higher than r table coefficient correlation. It means the items in the questionnaire used were reliable or consistent.

In addition, the researcher used methodological triangulation for the instruments in qualitative phase. According to Cohen et al (2007) methodological triangulation defined as the used of two or more methods of data collection on the same object of study. It means the researcher used different data collection techniques to get data from the same source. Moreover, the data obtained from several techniques include interviews and observation.