

Chapter Three

Research Methodology

This chapter explains the research design, population and sample, instrument of the research, setting, data collection technique, data analysis technique. The researcher applied a method as reference to answer the research questions. The method is also to get the appropriate answer based on the purpose of research. This chapter also discusses how the data was gathered and analyzed.

Resign Design

In a research, the researcher needs to establish an appropriate method to reveal the problems. The method is a way to achieve the research purpose. The purpose of the research is to describe, reveal, summarize and solve the problems in a certain way. Regarding to the method, Edmonds and Kennedy (2010) state that method consists of several things. It consists of the object of the research, data sources, time, and the techniques that will be used to process the data when it is collected.

This research is about the strategies used by English Department Students to learn vocabulary. The aims of the research is to find out problems faced by EED students in learning vocabulary and what vocabulary learning strategies mostly used by PBI students. Therefore in this research, the researcher used quantitative method. According to Creswell (2003), quantitative method emphasizes on collecting and analyzing information in the form of numbers, scores that measure distinct attributes of individuals and organizations. So that, the researcher used quantitative design because it emphasizes the systematic measurement and quantification of variables and the data gained were numeric and were analyzed by using statistical computation.

Specifically, this research employed quantitative data analysis which is descriptive statistical analysis to analyze the data. Descriptive statistic is statistic that is used to analyze and describe the numeric data by given clear, concise, consistent summary about phenomenon, event, and circumstances (Muhson, 2013).

Population and Sample

The source of data is an important aspect when doing research. The researcher gained the data and information that can be used to answer the problems of the questions from the population or sample. According to Watt (2002), population is a collection of individual or objects that will be researched. It can be concluded that population is collection of an element which the element is the form of individual, school, grade, organization and the other. The result of the sample from the population can be the result to answer the research question.

This research was conducted in EED UMY on the odd semester in the academic year of 2014/2015. The researcher conducted this research on March 2015. In this research, the population was all EED UMY students from batch 2012 to 2014. In batch 2012, there are three classes and the total number of students' batch 2012 is 103. Besides, in batch 2013 there are five classes and the total number of students' batch 2013 is 150. The last was batch 2014, there are five classes and the total number of student's batch 2014 is 160. So, there are total 413 students of EED.

Besides, a part of population that is being researched is called as sample. According to Yount (2006), sample is a part of population that is investigated to get the information of the data. Based on the population, to determine the sample of the research with a 5% error, Isaac and Michael in Sugiyono (2012) was referred. So, the numbers of the students become the sample

were 183 students. The researcher used non-probability sampling which is convenience sampling because it is saving cost, time and effort. According to Trochim (2000), convenience sampling is sample that researcher chose from a population which the sample are easy to obtain. The samples were selected because they were accessible to the researcher and the sample were chosen because they were easy to recruit. To recruit the sample, firstly researcher looked the schedule of the day to know the schedule of each batch. Secondly, the researcher came to distribute the questionnaire to the respondents who were free in which they were available at around campus based on the scheduled day.

Instrument of the Research

Instruments determine the quality of data, and quality of data determines quality of the research. So, the instrument is important part in collecting the data. The instrument used in this research was questionnaire because it collected the actual information in order to classify people and their environments. According to Taylor (1998), questionnaire is a number of written questions that is used to obtain the information from the respondents about themselves or their knowledge. The purpose of distributing questionnaire is to get supporting data to strengthen the result of data analysis of the main data.

The data were taken by using survey technique by distributing questionnaires to 183 EED UMY students from each class and batch. Every batch was distributed 60 questionnaires. Questionnaire of this research was divided into two parts. Items number 1 to 20 are the problems when learning vocabulary and also items number 21 to 50 are the strategies used for students when learning vocabulary. The items of the questionnaire about problem faced by EED UMY students in learning vocabulary were set in a four-point value Likert scale which required

students to respond to each statement by indicating whether they never (1), sometimes (2), often (3) and/or always (4) face the problems related to vocabulary stated in the questionnaire. Then, the Likert scale of questionnaire items regarding to the vocabulary learning strategies mostly used by EED UMY students are never (1), seldom (2), sometimes (3), often (4) and always use the vocabulary learning strategy (5). The researcher used these four factors to determine their degree of problems faced by EED UMY students in learning vocabulary and five factors to determine the degree of vocabulary learning mostly used by EED UMY students.

Table 3.1: Scale of problems faced by EED UMY students in learning vocabulary

No	Scale	Score
1.	Always	4
2.	Often	3
3.	Sometimes	2
4.	Never	1

Table 3.2: Scale of vocabulary learning strategies mostly used by EED UMY students

No	Scale	Score
1.	Always use it	5
2.	Often use it	4
3.	Sometimes use it	3
4.	Seldom use it	2
5.	Never use it	1

The questionnaire referred to Montgomery (2007) theory to identify problems in learning vocabulary and also Schmitt (1997) theory to find out vocabulary learning strategy mostly used by students. The questionnaire used *Bahasa Indonesia* in to make the respondents easier in understanding the statements of the questionnaire.

The classification of the questionnaire about problems faced by EED UMY students in learning vocabulary including speaking vocabulary, reading vocabulary, writing vocabulary, and listening vocabulary. Besides, the classification of the questionnaire about vocabulary learning

strategies used by EED UMY consist of memory strategy, determination strategy, social strategy, cognitive strategy and metacognitive strategy.

Table 3.3: Categories of problems faced by EED UMY in learning vocabulary

No	Problems of learning vocabulary	Item number	Total number of items
1	Speaking vocabulary	Q4, Q9, Q12, Q15, Q20	5 items
2	Reading vocabulary	Q7, Q10, Q13, Q14, Q17	5 items
3	Writing vocabulary	Q3, Q8, Q11, Q16, Q19	5 items
4	Listening vocabulary	Q1, Q2, Q5, Q6, Q18	5 items

Table 3.4: Categories of vocabulary learning strategies

No	Vocabulary learning strategies	Item number	Total number of items
1	Memory strategy	Q6, Q9, Q12, Q17, Q25, Q29	6 items
2	Determination strategy	Q4, Q11, Q13, Q15, Q18, Q27	5 items
3	Social strategy	Q3, Q14, Q23	3 items
4	Cognitive strategy	Q5, Q7, Q8, Q19, Q20, Q22, Q30	7 items
5	Metacognitive strategy	Q1, Q2, Q10, Q16, Q21, Q24, Q26, Q 28	8 items

The researcher got the data after consulting with the expert of reliability test and validity test.

The data of the questionnaire about the problems faced by EED UMY in learning vocabulary and vocabulary learning strategy mostly used by EED UMY have construct based on these table below:

Table 3.5: The reliability of problems faced by EED UMY in learning vocabulary

No	Problems of learning vocabulary	Alpha Cronbach
1	Speaking vocabulary	0,696
2	Reading vocabulary	0,464
3	Writing vocabulary	0,711
4	Listening vocabulary	0,518

Table 3.6: The reliability of vocabulary learning strategies

No	Vocabulary learning strategies	Alpha Cronbach
1	Memory strategy	0,594
2	Determination strategy	0,673

3	Social strategy	0,522
4	Cognitive strategy	0,744
5	Metacognitive strategy	0,660

Table 3.7: The validity of problems faced by EED UMY students in learning vocabulary

No	Problems of learning vocabulary	Item number	<i>r</i> value	<i>r</i> table	validity
1	Speaking vocabulary	Q4	0,556	0,148	Valid
		Q9	0,565	0,148	Valid
		Q12	0,600	0,148	Valid
		Q15	0,579	0,148	Valid
		Q20	0,558	0,148	Valid
2	Reading vocabulary	Q7	0,270	0,148	Valid
		Q10	0,521	0,148	Valid
		Q13	0,408	0,148	Valid
		Q14	0,621	0,148	Valid
		Q17	0,436	0,148	Valid
3	Writing vocabulary	Q3	0,490	0,148	Valid
		Q8	0,593	0,148	Valid
		Q11	0,629	0,148	Valid
		Q16	0,615	0,148	Valid
		Q19	0,586	0,148	Valid
4	Listening vocabulary	Q1	0,517	0,148	Valid
		Q2	0,442	0,148	Valid
		Q5	0,521	0,148	Valid
		Q6	0,401	0,148	Valid
		Q18	0,512	0,148	Valid

Table 3.8: The validity of vocabulary learning strategies

No	Vocabulary learning strategies	Item number	<i>r</i> value	<i>r</i> table	Validity
1	Memory strategy	Q6	0,495	0,148	Valid
		Q9	0,478	0,148	Valid
		Q12	0,512	0,148	Valid
		Q17	0,349	0,148	Valid
		Q25	0,482	0,148	Valid
		Q29	0,667	0,148	Valid
2	Determination strategy	Q4	0,425	0,148	Valid
		Q11	0,420	0,148	Valid

		Q13	0,436	0,148	Valid
		Q15	0,563	0,148	Valid
		Q18	0,492	0,148	Valid
		Q27	0,465	0,148	Valid
3	Social strategy	Q3	0,544	0,148	Valid
		Q14	0,516	0,148	Valid
		Q23	0,504	0,148	Valid
4	Cognitive strategy	Q5	0,479	0,148	Valid
		Q7	0,450	0,148	Valid
		Q8	0,486	0,148	Valid
		Q19	0,547	0,148	Valid
		Q20	0,489	0,148	Valid
		Q22	0,641	0,148	Valid
		Q30	0,523	0,148	Valid
5	Metacognitive strategy	Q1	0,429	0,148	Valid
		Q2	0,496	0,148	Valid
		Q10	0,330	0,148	Valid
		Q16	0,568	0,148	Valid
		Q21	0,578	0,148	Valid
		Q24	0,567	0,148	Valid
		Q26	0,348	0,148	Valid
		Q28	0,469	0,148	Valid

Based on the table above, all of factors in the questionnaire are valid including problems faced by EED UMY students in learning vocabulary and vocabulary learning strategies used by EED UMY students. But, not all factors have good reliability. There are two factors in problems faced by EED UMY students which has not good reliability such as reading vocabulary and speaking vocabulary. While, memory strategy and social strategy has not good reliability in vocabulary learning strategies used by EED UMY students. This research can still be done even though there are factors which has not good reliability nothing that these shortages become the weakness of this study. It is expected that the next researchers can address these issues.

Data Collection Procedure

The researcher undertook some procedures or steps to get the data. First, the researcher made questionnaires. Once the questionnaire was finished, the researcher did a piloting to check the reliability and validity of the questionnaire. The researcher did a piloting to 55 students from batch 2012 to 2014 which were randomly selected. The researcher met the respondents to distribute a questionnaire to the students who become the sample of the research. To distribute the questionnaire, the researcher came to UMY appropriate with the schedule of the day. The researcher also asked the permission from lecturers to use the class. The researcher asked the respondents to fill the questionnaire. Then, the researcher waited outside the class until the respondents finished filling all the items. The last, researcher collected the questionnaire and analyzed the answer. The researcher deleted some of the items in the questionnaire based on the results of the validity and reliability. After the questionnaire was established, the researcher conducted the study by doing the same steps mentioned above. Finally, after all the data gathered, the researcher analyzed the result of questionnaire statistically in order to know the problems and the strategy that are mostly used by EED students in learning vocabulary.

Data Analysis Technique

The present study implemented descriptive quantitative analysis method to produce more accurate description on the problems faced by EED UMY students in learning vocabulary and also vocabulary learning strategies mostly used by the students. The data gathered from the questionnaire were analyzed statistically using SPSS version 19 application.

After collecting the data, researcher analyzed the validity and reliability of the questionnaire based on the findings in the piloting study. The results showed that the questionnaire items on the problems faced by EED UMY students in learning vocabulary were

all valid and reliable. The number of items is 20 items. However, for the questionnaire items related to vocabulary learning strategies, there were 5 questions which were not valid. From the total 35 questions, it became 30 items. Therefore, the total number of item is 50 items both for problems faced by EED UMY students in learning vocabulary and vocabulary learning strategies mostly used by EED UMY students.

To find out the strategies used by students when learning vocabulary, the researcher uses questionnaire. Validity analysis is important part when using questionnaire. Validity analysis is important part because it makes sure the questionnaire that will be measured. According to Golafshani (2003), validity is a measurement which shows validity of the instrument. It is a condition in which a test can measure what is supposed to be measured. The researcher used Pearson Product Moment coefficient (r) to analyze the instrument validity. The criteria to decide the validity is as the following.

Table 3.9: The criteria of item validity

No.	Criteria	Validity
1	$r \text{ value} > r \text{ table}$	Valid
2	$r \text{ value} < r \text{ table}$	Not Valid

To measure the validity, r value and r table compared by the researcher. The question is valid if $r \text{ value} > r \text{ table}$. r value was gained by the respondents' responds. Then, r table was gained from the total of the respondents.

In data analysis technique, not only validity that is needed but also reliability. Reliability relies on the consistency of the data. Rosenthal and Rosnow (1991) in Drost (2011), reliability is a necessary characteristic of any good test; for it to be valid at all, a test must first be reliable as a measuring instrument. So, reliability refers to the stability or the consistency of the test scores, besides having high validity, a good test should have high reliability too. The decision of the questionnaire reliability is according to Field (2004) who states that an instrument is said to be reliable if *the reliability coefficient (α) is higher than 0.70*.

The last step in analyzing the data was descriptive data analysis because it uses central tendency that explains mean, median and mode. According to Muhson (2013), descriptive statistical is statistic used to analyze and describe the numeric data by giving clear, concise, consistent summary about phenomenon, event, and circumstances. So, it can conclude the particular meaning. So that, descriptive statistical was used by the researcher in this research to know problems faced by students in learning vocabulary and the strategies mostly used by the students in learning vocabulary.