Chapter Three

Methodology

This chapter presents the methodology that was used by the researcher. It consists of the research design, research setting, research population, research sample, research instrument, data gathering procedure, and data analysis. The researcher also mentions the reasons why the researcher uses the methodology, the setting, the respondents, and the instrument. Afterward, the researcher explains the data gathering procedure and the data analysis in this research.

Research Design

This research aims to investigate the metacognitive strategies used by the students of the English Language Education Department at one of the private universities in Yogyakarta to learn English. Specifically, it focuses on discussing the types of the metacognitive strategies used by the students to learn English. Based on the aim of this study, the researcher chose the quantitative method as the methodology of this research due to several reasons.

Firstly, the quantitative method would find the generalizations that can predict the value, and analyze trend such as dominance and frequency by using statistical analysis. Thus, it could give clear results of the types in the metacognitive strategies used by the students to learn English. As stated by Castellan (2010) the goals of quantitative research are the generalization of the data, explanation, and prediction. Also, the result can be more valid and reliable by using a quantitative method.

Secondly, this research used a quantitative method because it can collect numeric data from a large number of the people such as in this study there were 91 respondents. Those 91 respondents could be reached by using the questionnaire as the instruments to ease the process of collecting the data. Then, it would be easier to analyze and interpret

the results by looking at the numeric results such as the frequencies from the 91 respondents. As supported by Harris and Brown (2010), numerical data are used to represent the statistical methods and analyze data in order to get the exact results. Therefore, the readers can easily understand the finding of the research. Deslandes and Bertrand argued that quantitative research provides a role for the literature by suggesting the research questions to be asked and justifying the research problem (as cited in Creswell, 2012, p.4).

This study applied survey design because using survey design can describe trends and determine individual opinions about the types of metacognitive strategies used by the students to learn English. Fowler stated that there are two efforts to establish standardized questions through surveys (as cited in Creswell, 2012, p.5). Firstly, the effort was used rating scales through the development of the Likert scales such as never, rarely, often, and always. Secondly, the instrument guidelines were written for writing clear questions and standardizing interview questions through the questionnaire. Thus, the benefit of applying survey design is that to make it easier to determine the result formed from numbers into words.

Research Setting

This research took place at the English Language Education Department in one of the private universities in Yogyakarta because it is the center where the students can learn English language for the education department. The students get exposures with various teaching method and learning strategies. There is a high possibility for the students to use metacognitive strategies because they exposed to various learning strategies. Moreover, most of the lecturers taught the students with student center learning method, so it is related to the metacognitive strategies because in the metacognitive strategies require the

students to consciously know and be able to supervise the way their learning and thinking process.

This research was conducted in the academic year of 2017/2018. The background of this study was finished approximately two weeks in the eighth semester of the academic year 2017/2018, specifically in March 2018. The literature review was finished around two weeks in April 2018. The methodology of this research was finished approximately within a week in April 2018. Then, the process of collecting data such as distributing the questionnaires took approximately a week in July 2018. Lastly, the data analysis and report of the finding were finished within two weeks in July 2018.

Research Population

The population for this research was students from batch 2015 in the English Language Education Department at one of the private universities in Yogyakarta. The total target populations were 118 students from batch 2015 in the English Language Education Department at one of the private universities in Yogyakarta. The students from batch 2015 were chosen because they were learning English language for education and it has been more than five semesters. Therefore, the probability of the students to try many learning strategies, especially trying to employ the metacognitive strategies is higher than the other batches because they have been learning English in a long time. Furthermore, the students from batch 2015 were more accessible for the researcher to distribute the questionnaire because the number of the students from batch 2015 is not as big as the other batches.

Research Sample

Random stratified sampling was used in this research. It was because random stratified sampling enables the researcher to choose several groups or classes within a particularly large of the population with same characteristic of same group. Also, the

population had an equal chance of being selected. As supported by Cohen, Manion, and Morison (2011) it provides a randomized control of the data as it draws randomly from the wider population into homogenous groups, each group containing subjects with similar characteristics. The characteristic is an ELED students' batch 2015 that have been passed more than five semesters and have experienced in using various English learning strategies.

In this research, the researcher made a lottery filled with the cluster class of batch 2015 which were class A, B, C, and D. Those classes were shuffled in order to make the respondents have an equal chance to be selected. From the lottery, the researcher got the respondents from all of the students of class B, C, and D who answered the questionnaires that were distributed. As supported by Cohen et al. (2011), this step can be done by drawing the classes out of the bowl until the required cluster is reached. It was also the fair way of selecting a cluster sample from the population and can save inordinate amount of time and the costs.

The sample of the data were the students of the English Language Education Department from batch 2015 at one of the private universities in Yogyakarta. The total sample of batch 2015 was 118 students, so the sample that chosen was 91 respondents. Those samples were chosen from the table of sample size for the probability sample with a confidence level of 95% and confidence interval of 5% for the education society. These 91 respondents were obtained from all of the students of class B, C, D where these classes had been shuffled.

Data Collection Method

The data collection method that was used in this study was a questionnaire. There were two reasons to choose a questionnaire as the data collection method. Firstly, using a questionnaire enables the researcher to collect the data from a large number of the

population in a short period. As supported by Cohen et al. (2011), as the information can be collected from a large number of a group, it is relatively quick to collect the information and analyze the data. Secondly, the researcher chose to distribute the questionnaire through an online and mobile survey to save cost. As suggested by Dillman, Smyth, and Christian (2014), administering the questionnaire through online and mobile surveys have a little to no cost because there is no printing cost. It is an affordable way to be administered. Therefore, it became the suitable method for this study.

Research Instrument

The type of questionnaire in this study was a structured questionnaire. It was chosen because a structured questionnaire can ease the respondents to fill out the questionnaire based on the responses provided. As supported by Harris and Brown (2010) in a structured questionnaire, the participants can respond directly by selecting from predetermined answers such as Likert scales responses. Also, a structured questionnaire would help the researcher to get fixed data. Moreover, the structured questionnaire was a complex structure containing four sub-factors. The questionnaire of mean scores for these factors could give multiple constructions and separated into different attitudes.

The types of responses that the researcher provided was Likert scales such as strongly disagree (1), disagree (2), agree (3), and strongly agree (4). Likert scales could ease the respondents to express their opinion and to ease the researcher to recognize the categories of responses from the respondents. As supported by Harris and Brown (2010) the purpose of rating scales is to allow the respondents to express their opinion in one direction and strengthen their opinion on a topic. Furthermore, rating scales such as Likert scales without mid-point could give a positive reply to the questions in order to

assist the researcher in guessing the results of the respondents' answer that are reasonable and acceptable.

The questionnaire of this study provided 38 questions. Those items of the questions were intended to answer the research question. The research question was about the types of metacognitive strategies used by the students to learn English. The questionnaires divided into five subscales: (a) planning (items 1 to 6), (b) organizing (items 7 to 14), (c) paying attention (items 15 to 20), (d) monitoring (21 to 27), (e) self - evaluating (28 to 38). The questionnaire of the present study was adapted from a questionnaire of Schraw and Dennison (1994). It was because the source provided details categorization of the items for the questionnaire and it was necessary for the questionnaire that was used in this research. Also, the questionnaire had been used in the previous study thus the questionnaire should be more valid and reliable to be used in this study. The adjustment in the questionnaire was involved the changing of English language into the Indonesian language. Then, the first expert suggested adding three more items for the paying attention strategy, so that from the original 35 items of question became 38 items of the question. The second expert suggested revising some of the translation words for the items number 4, 7, 10, 17, 19, 25, 30. The third expert suggested arranging the distribution of the questionnaire items orderly. It was because in the original questionnaire there were three items of the paying attention strategy that separated into a different section, so the researcher put it together in one section.

The language used in this questionnaire was Indonesian language. It was because Indonesian language is the native language of the researcher and the respondents. Indonesian language was easy to understand by the respondents and to avoid bias results. According to Castellan (2010) using a native language for the questionnaire is better than

using another language in order to get reasonable and acceptable data. Therefore, the researcher used the Indonesian language to obtain valid data.

Before distributing the questionnaire, the translation of the questionnaire was judged by the experts. The experts gave a score in the range of one to four for each translation item of the questionnaire. The experts were three lecturers of the English Language Education Department at one of the private universities in Yogyakarta. After each translation item of the questionnaire judged by the lecturers, the researcher input the data score given by the lecturers into Microsoft Excel. Microsoft Excel was used to test the validity of each translation item of the questionnaire based on the score from the experts. It was processed by giving a logical formula to know the validity. The formula was from Aiken (1980) in the following:

$$\text{Value} = \frac{S\,U\,M}{(\sum \text{validator} \times (N\text{max} - N\text{min})}$$

The validity Aiken Test was used as the statistical test. According to Cohen et al. (2011), each translation item of the questionnaire is considered as highly valid if the total score is more than 0,8. If the score of the translation item is higher than 0,4 but less than 0,8 it means that the validity is medium. If the score of the translation item is less than 0,4 it means that the validity is low.

As seen in table 1, the results of the validity Aiken Test showed that there were 18 items with high validity because the value was more than 0.8, and 20 items with medium validity because the value was more than 0.4 but less than 0.8. Therefore, the validity of the questionnaire in this research was acceptable since the overall validity in this questionnaire were high and medium according to the classification of Cohen et al.

Table 1.

The Result of the Validity for the Questionnaire (N of items = 38)

Questionnaire Items	Rater 1	Rater 2	Rater 3	{Rater Score – (1)}			Sum	Value	Validity
				∑ 1	∑ 2	∑ 3			
Q1	4	2	4	3	1	3	7	0.78	Medium
Q2	4	4	4	3	3	3	9	1.00	High
Q3	4	4	4	3	3	3	9	1.00	High
Q4	2	4	3	1	3	2	6	0.67	Medium
Q5	4	3	4	3	2	3	8	0.89	High
Q6	4	4	4	3	3	3	9	1.00	High
Q7	4	3	3	3	2	2	7	0.78	Medium
Q8	4	3	3	3	2	2	7	0.78	Medium
Q9	4	3	3	3	2	2	7	0.78	Medium
Q10	4	3	4	3	2	3	8	0.89	High
Q11	4	2	3	3	1	2	6	0.67	Medium
Q12	3	3	3	2	2	2	6	0.67	Medium
Q13	4	2	4	3	1	3	7	0.78	Medium
Q14	4	4	4	3	3	3	9	1.00	High
Q15	4	3	4	3	2	3	8	0.89	High
Q16	4	3	3	3	2	2	7	0.78	Medium
Q17	4	3	4	3	2	3	8	0.89	High
Q18	3	2	4	2	1	3	6	0.67	Medium
Q19	3	3	3	2	2	2	6	0.67	Medium
Q20	4	2	3	3	1	2	6	0.67	Medium
Q21	3	3	4	2	2	3	7	0.78	Medium
Q22	3	3	4	2	2	3	7	0.78	Medium
Q23	3	3	4	2	2	3	7	0.78	Medium
Q24	2	3	4	1	2	3	6	0.67	Medium
Q25	3	2	4	2	1	3	6	0.67	Medium
Q26	4	4	4	3	3	3	9	1.00	High
Q27	4	4	3	3	3	2	8	0.89	High
Q28	4	4	4	3	3	3	9	1.00	High
Q29	4	3	4	3	2	3	8	0.89	high
Q30	3	3	4	2	2	3	7	0.78	Medium
Q31	4	3	3	3	2	2	7	0.78	Medium
Q32	4	3	4	3	2	3	8	0.89	High
Q33	3	3	3	2	2	2	6	0.67	Medium
Q34	4	3	4	3	2	3	8	0.89	high
Q35	4	3	4	3	2	3	8	0.89	high
Q36	4	3	4	3	2	3	8	0.89	high
Q37	4	3	4	3	2	3	8	0.89	high
Q38	4	3	4	3	2	3	8	0.89	high

A statistics software program was used to test the reliability of the instrument and Cronbach's Alpha was used as the statistical test of the reliability. The items of the questionnaire were very highly reliable if the score is more than 0.90. If the score of the items is between the ranges of 0.80-0.90, it is considered highly reliable. If the score of the items is between the ranges of 0.70-.79 it is considered reliable. If the score of the items is between the ranges of 0.60 – 0.69, it is considered as minimally reliable. If the item's score is no more than 0.60 it is considered to have an unacceptably low reliability.

The result of the reliability in table 2 showed that the overall Cronbach alpha (N= 38) was 0.961 which was categorized into "very highly reliable". Cohen et al. (2011) remarked that the reliability level is acceptable at 0.8. Therefore, the reliability of the questionnaire in this research was acceptable since the overall alpha in this questionnaire was 0.961, which was higher than 0.8.

Table 2.

The Result of the Reliability Statistics

Cronbach's Alpha	N of Items
.961	38

Moreover, as seen on table 3, it shows that all items in the questionnaire were categorized to "very highly reliability" because the score was more than 0.90. Therefore, the questionnaire items were all reliable as seen from the overall Cronbach's alpha and each item of the Cronbach's alpha.

Table 3.

The Result of the Reliability for each Item of the Questionnaire

Items	Cronbach's Alpha if Item Deleted	Reliability
Q1	.960	Very highly reliable
Q2	.960	Very highly reliable
Q3	.960	Very highly reliable
Q4	.960	Very highly reliable
Q5	.960	Very highly reliable
Q6	.960	Very highly reliable
Q7	.960	Very highly reliable
Q8	.961	Very highly reliable
Q9	.960	Very highly reliable

Q10	.961	Very highly reliable
Q11	.960	Very highly reliable
Q12	.960	Very highly reliable
Q13	.960	Very highly reliable
Q14	.959	Very highly reliable
Q15	.960	Very highly reliable
Q16	.960	Very highly reliable
Q17	.960	Very highly reliable
Q18	.960	Very highly reliable
Q19	.960	Very highly reliable
Q20	.961	Very highly reliable
Q21	.960	Very highly reliable
Q22	.960	Very highly reliable
Q23	.959	Very highly reliable
Q24	.959	Very highly reliable
Q25	.960	Very highly reliable
Q26	.960	Very highly reliable
Q27	.960	Very highly reliable
Q28	.960	Very highly reliable
Q29	.960	Very highly reliable
Q30	.960	Very highly reliable
Q31	.960	Very highly reliable
Q32	.960	Very highly reliable
Q33	.960	Very highly reliable
Q34	.959	Very highly reliable
Q35	.960	Very highly reliable
Q36	.959	Very highly reliable
Q37	.960	Very highly reliable
Q38	.959	Very highly reliable

Data Gathering Procedure

There were several procedures to gather the data in this study. Firstly, the researcher made a lottery filled with the cluster class of batch 2015 and shuffled the lottery to choose the cluster class. Then, from the lottery, the researcher got a cluster random sample from class B, C, D. Thus, these 91 respondents were obtained from all of the students of class B, C, D. Next, the questionnaire was administered with the presence of the researcher and it used a Google-form with the link: https://goo.gl/forms/rgwvXoR2zNNdmRkD2.

Secondly, the researcher came to the class to guide the respondents to fill out the questionnaire in the Google form. The presence of the researcher was to ensure that the respondents fill the entire questionnaire on time and in a proper way. In addition, the respondents could ask the researcher if they had a question related to the questionnaire so the researcher could directly answer and assist them. Furthermore, the researcher gathered the data quickly by using an online survey to administer the questionnaire. Also, the forms for the questionnaire already provided in an online survey. It was a simple way to use an online survey and its accessible for the respondents to respond to the questionnaire. Moreover, using an online survey can make the data analysis easier because the researcher can directly import the data gathered from the Google form and analyze it to a statistics software program. Research by Sills and Song (2002) supported that web survey allows effective and economical surveying of the population and thereby avoid inference problems.

Thirdly, the researcher asked the permission from the lecturers to have an access to collect the data. Next, the researcher came to the class that had been decided by the lottery and gave the respondents a clear instruction on how to fill out the questionnaire in Google form in order to minimize confusion. They were informed that the questionnaire was not a test and their responses would be used for research purposes only. Then, the researcher asked them to prepare their gadget to access the online survey. Finally, the researcher ensured that all of the respondents had filled the online questionnaire properly. The researcher only chose 91 respondents from three classes of batch 2015.

Data Analysis

The data analysis that was used in this study was descriptive statistics. The aim of using descriptive statistics was to find the dominant results of each item of the questionnaire and also to find out the mean, median, maximum and minimum score,

range, and frequencies. As supported by Cohen et al. (2011) descriptive statistics enable the researcher to present the data in a meaningful way from the results of frequencies and tendencies. It allowed the researcher to interpret the data more simply. It also provided rich data in large amounts. The descriptive statistic could describe the types of metacognitive strategies used by students in learning English and the researcher did not make any hypothesis or prediction so that this type of statistic is the best choice to be used.

The researcher made a range score to classify the result of the mean score of each item and to find which category of the mean score belongs to. The formula to make the range of categories was from Supranto (2000) in the following:

$$c = \frac{Xn - X1}{K}$$

c : the range prediction (class width, class size, class length).

K : the number of categories.

Xn : the maximum score of the variable.

X1 : the minimum score of the variable.

Moreover, the range scales of the types in the metacognitive strategies used by students in learning English were divided into four categories. The categories were 'never', 'rarely' 'often', and 'always' which means that those categories show the average of each type of the metacognitive strategies used by students in learning English.

Table 4.

Category for each Types of Metacognitive Strategies

(N of items = 38)

Description	Scale
Never	1.00 – 1.75
Rarely	1.76 – 2.51
Often	2.52 – 3.27
Always	3.28 – 4.03