

Chapter Three

Methodology

This chapter shows the research methodology used for this research, how the data were collected and analyzed. The researcher explains the research design first. After that, population and sample are presented followed by data collection method. Last, the researcher describes data analysis of the research.

Research Design

This research aimed to find out students' ability in using tenses-aspects. To find out students' ability, this research needs measurement and exact value. Quantitative research with descriptive statistics enables the researcher to measure students' ability descriptively. According to Creswell (2003), quantitative research "observes and measures information numerically". Moreover, Creswell (2012) said that in quantitative research, the measurements and the data analysis used mathematical statistics procedures. In this research, the researcher used mean value of students' test score to gain the level of students' ability. Cohen, Manion and Morrison (2011) added that mean value is mathematical statistics included in descriptive statistics. Therefore, quantitative research was appropriate for this research because in quantitative research, the researcher can gather accurate information through measurements then get mean value to find out students' ability in using tenses-aspects.

Research Setting

The setting of this research was the English Education Department of Universitas Muhammadiyah Yogyakarta. The researcher carried out the research in English Education Department of Universitas Muhammadiyah Yogyakarta because the students of English Education will be English teacher in the future. The students need to master the tenses-aspects so they are able to teach their students well in the future. If their ability is good, they might be able to teach good grammar especially tense-aspects to their students in the future. However, if their ability is not good, they might need to fix their ability. Another reason to do research in English Education Department of UMY because there was no research done to find students' ability in using tenses-aspects in English Education Department of Universitas Muhammadiyah Yogyakarta. The research was done from November 2016 to January 2017.

Research Population and Sample

The population of this research was students batch 2014. The researcher chose batch 2014 because students batch 2014 have learnt the subject of Capita Selecta on Grammar so they also have known the basis of tenses and aspects. Therefore, they were appropriate to be the population of this research.

The number of population of this research was 153 students batch 2014. According to Cohen, Manion and Morrison (2011), if the total population is 150 and the confidence level is 95 and confidence interval 5% then the sample will be 108. Therefore, the researcher should take at least 108 students as the sample because the

population of batch 2014 is 153. The researcher tested 126 students of four classes who attended the class at the dates the test was taken.

The researcher used convenience sampling to get the sample from the population. In convenience sampling, the researcher “involves choosing the nearest individuals to serve as respondents and continuing that process until the required sample size has been obtained or those who happen to be available and accessible at the time” (Cohen, Manion & Morrison, 2011, p. 155-156). The researcher chose convenience sampling because the researcher chose the nearest individuals and students who are able as the respondents at the test.

Research Instrument

The researcher used test to collect the data. The test was chosen because the students got score from the test. Then, the researcher analyzed the student's score to answer the research question. The test as the instrument to gain the students' score was adapted from Azar and Hagen's grammar books entitled *Understanding grammar and using English grammar fourth edition workbook* (2009) and *Fundamentals of English grammar fourth edition* (2011). The test consisted of the combination of tenses and aspects. It is the combination of *simple present, simple past, will + infinitive, be going to + infinitive, be + -ing participle (extended meaning of present progressive), will + progressive, past progressive, present progressive, present perfect, and past perfect.*

There were 19 item questions consisting of *simple present, simple past, will + infinitive, be going to + infinitive, be + -ing participle (extended meaning of present*

progressive), will + progressive, past progressive, present progressive, present perfect, and past perfect.

Questions	Tenses-Aspects
1.	Present Tense and Present Progressive
2.	Present Tense
3.	Present Progressive
4.	Simple past and past progressive
5.	Simple past and past progressive
6.	Present perfect
7.	Present perfect
8.	Past-Present perfect
9.	Present perfect
10.	Will + infinitive
11.	Be going to + infinitive
12.	Will + infinitive
13.	Past perfect
14.	Will + progressive
15.	Will + progressive
16.	Will + progressive
17.	Will + progressive
18.	Present progressive for future tense
19.	Present progressive for future tense

Data Collection Method

The researcher adapted the test from Azar and Hagen's book before distribute to the students. After that, the researcher checked the validity and the reliability of the questions in the test. Then the researcher distributed the test to students batch 2014 after having approval from the supervisor. During the test, the researcher stayed in class with the aims to make students easier if they wanted to ask about the test and to make sure that the students done the test carefully. The students were tested in 35 minutes. Then, the participants submitted the test. The researcher involved four students from parallel class of A, B, C and D to fulfill the sample. After the researcher distributed to four classes, there were 126 students of batch 2014 who done the test and all were valid.

Validity and Reliability

The researcher checked the validity and reliability of the questions after the researcher gave the test to 35 students batch 2014 at 13 December 2016 as piloting test. The researcher used SPSS v.20.0 to check the validity then the researcher compare r value each item with r product moment. The questions were valid if the questions got r score more than r product moment (Noor, 2012). In this research, the sample was 35 students, so the r product moment should be 0.334 (see appendix c). The question was valid if r value was higher than 0.334. After the researcher checked the validity, the researcher got 20 valid questions from 34 questions. The questions are:

Item	r table	r value	validity
1	0.334	.440 ^{**}	Valid
2	0.334	.528 ^{**}	Valid
3	0.334	.531 ^{**}	Valid
4	0.334	.451 ^{**}	Valid
5.	0.334	.474 ^{**}	Valid
6.	0.334	.353 [*]	Valid
7.	0.334	.391 [*]	Valid
8.	0.334	.462 ^{**}	Valid
9.	0.334	.538 ^{**}	Valid
10.	0.334	.520 ^{**}	Valid
11.	0.334	.445 ^{**}	Valid
12	0.334	.640 ^{**}	Valid
13.	0.334	.495 ^{**}	Valid
14.	0.334	.470 ^{**}	Valid
15	0.334	.506 ^{**}	Valid
16.	0.334	.491 ^{**}	Valid
17.	0.334	.405 [*]	Valid
18.	0.334	.502 ^{**}	Valid
19.	0.334	.445 ^{**}	Valid
20	0.334	.400 [*]	Valid

The researcher also checked the reliability of the questions using SPSS V.20.

The researcher used only the valid questions to check their reliability. From 20 valid questions, the researcher deleted Q7 question which had higher reliability than overall reliability. Therefore, there were only 19 questions used in this research with the value of Cronbach's alpha .846 as seen in table 3.3 below.

Table 3.3	
<i>Reliability Statistics</i>	
Cronbach's Alpha	N of Items
.846	19

According to Cohen, Manion, and Morrison (2011), if the Cronbach's Alpha of items is between 0.80-0.90 then the item is highly reliable. The Cronbach's Alpha of these questions was .846. It means that the question items in this research were highly reliable. Therefore, the instrument could be used to gather data.

Data Analysis

After collecting the test, the researcher analyzed the data by marking the students' test to get the students' score. The correct answer was worth 1, whereas the incorrect answer was worth 0. The maximum correct answer was 19. The researcher used SPSS v20.0 to analyze the result of students' test. The result was categorized based on the following formulation:

$$C = \frac{X_n - X_1}{k}$$

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

k: the number of class that researcher wants

X_n : the maximum score of variable

X_1 : the minimum score of variable

(Supratno, 2000)

The maximum score which was gained by students in the research was 18 and the minimum score was 2. Mardapi (2006) categorized test result into three categories. They are low/bad, medium/fair, and good/high. Therefore, the number of the categories of the test result was divided into three categories. Using Supratno's formulation, the range of the category was 5.3. Table 3.4 presents the range of the categories of students' ability:

Table 3.4 <i>Categories of students' ability</i>	
Scale	Description
2-7.3	Low/Bad
7.4-12.6	Medium/Fair
12.7-18.00	High/Good

After the researcher gained the mean of students' score, the researcher described which categories the students belong to based on the range of students' ability shown in table 3.3 above.