

Chapter Three

Methodology

This chapter showed the method that researcher uses in this research. The beginning, there is a research design which improved utilization in the research. Next, there also research setting and participants who were participating in this research. Moreover, this chapter also discusses the method of the data collection. The last was about data analysis in this research.

Research design

First of all, this study is to find the correlation between two variables; vocabulary mastery and listening. Creswell (2013) stated nonexperimental form of quantitative research is the correlational design in which investigators use the correlational statistic to describe and measure the degree of association (relationship) between two or more variables or sets of the score. The explanation above is a part of quantitative research methods. Creswell (2013) stated that quantitative research is an approach for testing physical theories by examining the relationship between variables. Then, quantitative research method has many designs such as survey research and experimental research design. Creswell explain the correlational design as nonexperimental design. Correlation research is one of the kinds of nonexperimental quantitative design. The purpose of this investigation is to get information about the correlation between vocabulary mastery and listening skills of the students' batch 2016 of English Language Department of UMY. Gravetter (2007) stated about descriptive correlational

design “An explanatory correlational design explains or clarifies the degree of one or two variable association.” This forming method is appropriate as it set to look out the relation of vocabulary mastery and the listening skill of students English Language Department of UMY.

Research setting

This study conducted in English Language Department of Universitas Muhammadiyah Yogyakarta. The researcher chose English Language Department of Universitas Muhammadiyah Yogyakarta as research setting because this study aimed to look at the listening ability of students’ of 2016 batch and their vocabulary knowledge. Moreover, it tried to figure out whether there was a relationship or not between listening skill and vocabulary mastery. In this department, listening skill and vocabulary mastery are learned by the students from any batch and especially for the students who were batch 2016 in second semester.

Population and sampling

The participants were fitted because they were on the second semester last year. Then, they are done with listening lecture. The population of this study was 70 students of English Language Department batch 2016. They were capable of doing a test, and the result becomes the input data of listening and vocabulary knowledge. The participants hopefully had the willingness to help in do the test and assessing themselves to discover the result of what they have learned in English especially in vocabulary knowledge and listening skill.

In deciding participants, researcher refers to expert, Sugiyono (2007) stated that total population sampling is a sampling collection data technique in which the number of the sample is equal to the number of population. The reason why the researcher chooses this sampling technique was that the total of the population consisted of less than 100 participants. Then, Sugiyono (2007) also mentioned that if the number of population is less than 100, all of the participants should be a sample of the research. Since the total of a participant in this research was 70 students, that means they (participants) are more than 50% of total amount of students in EED batch 2016. After that, those 70 students are total population sampling matches this research.

Research Instrument

This research according to Meara (1992), vocabulary learning test (VLT). Meara Test is suitable test to gain students understanding on mastery a word at least (the use, meaning of word) In searching for vocabulary mastery score. VLT test was chosen because the characteristic of this test is appropriate to assess student vocabulary acquisition and mastery. There are seven thousand words families in the seventy words that students need to answer the translation in Indonesia. Then a 70-item of the test is equivalent to 1 word in every 100. Thus, students who could only answer 50 or more, their ability classified as an intermediate level. Schmitt (2008) stated that learners with a vocabulary closer to 5000 words would be usually classified as intermediate level. The corresponds to research participants who are in batch 2016.

No.	Word	Translation (Indonesia)	No.	Word	Translation (Indonesia)
1.	Average		36	Knowledge	
2.	Propose		37.	Salary	
3.	Personal		38.	Education	
4.	Suitable		39.	Recommend	
5.	Disturb		40.	Announce	
6.	Postpone		41.	Responsible	
7.	Term		42.	Measurement	
8.	Member		43.	Reasonable	
9.	Prison		44.	Property	
10.	Shame		45.	Arrange	
11.	Crazy		46.	Method	
12.	Advice		47.	Wealthy	
13.	Lucky		48.	Universal	
14.	Whisper		49.	Blame	
15.	Dust		50.	Various	
16.	Aloud		51.	Examine	
17.	Touch		52.	Translation	
18.	Pride		53.	Jealous	
19.	Ribbon		54.	Struggle	
20.	Meanwhile		55.	Curious	
21.	Century		56.	Abroad	
22.	Approve		57.	Satisfy	
23.	Deserve		58.	Pleasant	
24.	Pattern		59.	Encounter	
25.	Force		60.	Equipment	
26.	Extraordinary		61.	Rare	
27.	Moderate		62.	Throughout	
28.	Border		63.	Desire	
29.	Settlement		64.	Major	
30.	Compete		65.	Relative	
31.	Approximate		66.	Fashion	
32.	Compile		67.	Variety	
33.	Convince		68.	Dumb	
34.	Champion		69.	Region	
35.	Payment		70.	Squeeze	

Furthermore, listening score gain from a document of the TOEFL-like test which in Listening lecture “Listening and Academic conversation.” The listening score gain from a document based on TOEFL-like result that done by students who join lecture. The document represents students listening score based on the TOEFL simulation. This document was chosen because it purely assesses the ability of students in listening section when do TOEFL simulation. The score of this test represented the ability of students.

Validity and Reliability

The data used in this study was derived from a standardized test. Moreover, the vocabulary test (VLT test by Meara 1992), the vocabulary mastery test based on a vocabulary of 10000 words, and it is suitable for a wide range of learners, from the reasonably elementary to the advanced quasi-native speaker. Meara & Jones (1990) stated that the scores from this test correlate well with tests of listening comprehension, reading comprehension and grammatical skills, but not with oral fluency. It can be sure that this test is suitable for EFL students. Then, the content of this test has modified into right choice of word. The test also reliable, it was proved by choice of word that obtained from different levels and taken from a word that often appears in each of these levels. Cohen et al. (2011) stated that reliability is “essentially a synonym for dependability, consistency and replicable over time, over instruments and groups of respondents” (p.199). To recheck the reliability of the vocabulary test by Meara 1992, researchers used SPSS 22 version to calculate the reliability using Cronbach’s Alpha coefficient.

The category of reliability using Cronbach's Alpha coefficient mentioned by Cohen et al. (2011) are:

Cronbach's Alpha Score	Category
>0.90	Very Highly Reliable
0.80-0.90	Highly Reliable
0.70-0.79	Reliable
0.60-0.69	Marginally/Minimally Reliable
<0.60	Unacceptably Low Reliability

Table 1: The Criteria of Reliability

After checking the reliability of vocabulary mastery test in SPSS 22, the researcher found the result. The table below is the result of reliability test:

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.868	.635	70

Table 2: Cronbach's Alpha statistic

Based on the table, it explained that Cronbach's Alpha score of the instrument was 0.868 that means it was highly reliable based on the Cohen categorization.

In fact, the TOEFL-like test is a standardized test that has been widely used to measure the ability to hear students and their ability in learning English for foreign language. This test has been validated and reliable to the students. The test also represents student's pure skill of listening.

Data collection method

In the beginning, the first thing that researcher did was searching the available class who is a willingness to do test after ending the class. Next, there are two classes that available to do the test. Then, the researcher was searching for a lecturer who was willing to give their teaching time to the researcher in those class. After the lecturer invited the researcher to enter the class, researchers ask for permission to the lecture to getting in 10 minutes before the class end. Furthermore, the researcher has distributed the test paper to the students, the researcher gave instructions of the test and gave the students time to finish the test while the researcher waited until all participants were done the test.

As author explain before, in collecting the data, this research used the test to collect the data. The first test was listening test. Listening test was used TOEFL similar test in listening section to gain real score of listening. The second test was vocabulary mastery test (VLT) by Mearra 1992. It functioned to assesses the students how well the students are known and use the word. These tests showed the information between listening skills of the students and vocabulary knowledge that students acquire. First of all, before the test, the author asked to the lecture that they have to have permission to do test after the teaching and learning activity was over. The author explains the test rule and conditions to the participants. After the participants did the test, researcher finds out the validity data and reliability of the data from vocabulary mastery test using SPSS application. Then, the same path of will author does to find out the listening test result. After finished, the authors filled out the data into SPSS. The results started from

validity, reliability, of the data from listening skills. The last was frequency, normality, and correlation of the data.

Data Analysis

In order to answer the first question about how the student's vocabulary mastery, the researcher will find out the mean score to define the categorization of the level, then researcher also used an interval formula from Supranto (2006):

$$c = \frac{\text{Maxvalue} - \text{Minvalue}}{N}$$

$$c = \frac{6900 - 2200}{3} = \frac{4700}{3} = 1500$$

c = class width

Maxvalue = Maximal value

Min value = Minimal value

N = Number of classes

This formula function to divide category into three. The formula shows the class width of the first research question is 1500-word families. Hence, the classification can be categorized as follows:

Score	Category
5.201 – 6.900	Good
3.701 – 5.200	Moderate

2.200 – 3.700	Poor
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Table 3: The Vocabulary Mastery Test Category

The poor category of vocabulary mastery is that who has the less score than 2200-word families, and the highest score of vocabulary mastery that was 6900-word families and more. The students could say they are moderate level when they score less than 3701-word families and until 5200-word families.

The second question was answered with same steps as the first question. This research only used the listening score based on the documents in which the maximum score is 8,7. Moreover, the minimum score is 0,8. It makes the interval class width of the second research question is different from the first one. The interval class width of second research question was:

$$c = \frac{\text{Maxvalue} - \text{Minvalue}}{N}$$

$$c = \frac{8,7-0,8}{3} = \frac{7,9}{3} = 2,6$$

c = class width

Maxvalue = Maximal value

Min value = Minimal value

N = Number of classes

The formula shows the class width of the second research question is 2,6. Same as the first research question, there are three categorizations through the score. Hence, the classification is as follows:

Score	Category
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6,2 – 8,7	Good
3,5 – 6,1	Moderate
0,8 – 3,4	Poor

Table 4: The Listening Score Category

Same steps like the first question, the categorization of this score is also same. There are three categorizations to divided the score into class. The minimum score is 0,8 and the highest score is 8,7. First, students who score at least 3,4 or less they are in poor category. Next, they are moderate category when students pass more than 3,4 until 6,1.

In order to answer the third research question, that is a correlation between vocabulary mastery and listening skill. The author of the research chose correlation of Pearson product moment. This product moment required interval data for analysis. The Pearson product moment correlation coefficient or popular with Pearson's correlation functioned to measure the strength and direction that exist of two variables measured. Also, this research has two variables. There are listening skill and vocabulary mastery.

Moreover, the Pearson product-moment has chosen to find out the 'r' score and "p-value." Normality test is to determine whether the data variable of research is standard or not. On the other hand, linearity is to determine whether the linear relationship between independent variables and dependent variables. The data will be inputted to the SPSS application and using Pearson Product moment statistic to find out the correlation. If the coefficient number between -1

and +1 or close enough to +1 that means whether two variables (vocabulary mastery and listening skills) are set to be correlated.