

CHAPTER III

RESEARCH METHOD

A. Research Design

The researcher used the quantitative method descriptive to acquire data on students. According to Shields & Rangarajan (2013), quantitative description is defined as understanding the phenomenon's characteristic population and situation employed in the study. Instead of contemplating the data, this research aims to obtain the data by collecting accurate ideas by studying the object. The researcher mainly comprehended characteristics of students' phonemic awareness through reading comprehension by a pre-test. Assessed the data collection instrument that measures attitudes to an analyzed hypothesis by statistical procedures. Subsequently, statistical interpretation emphasized the theory to illustrate data collection. In other words, this methodology establishes actual value towards the process of testable hypothesis to involve more concern about how specific and complex the study is (Amaratunga, Baldry, Sarshar, & New, 2022).

B. Research Setting

This research was conducted at UIN Antasari Banjarmasin, a university in South Kalimantan, Indonesia. UIN Antasari has Tarbiyah and Teachers' Training Faculty; this study took place in the English Department. In this department, there is a subject that focuses on alphabetical sounds: pronunciation, phonology, and morphology. However, this study focused on students who have learned phonology subjects conscious of sound,

phonemes, and rhythm. This research needs less than one months, from 5th October 2022 to 30th October 2022. Furthermore, it took one month to analyze the data from 30th October 2022 – 8th November 2022.

C. Participants

According to Usman (2006), the population combines data collection, variables, phenomena, events, and objects. The researcher assumes the variable of population characteristic fifth-semester students who have studied phonology in the third semester at English Department UIN Antasari Academic Year 2019/2020. The basic reading skill started at the pronunciation level by mentioning the specific sound of the dialect. Students improved their pronouns of a word and then advanced their skills in phonology subject in the following semester. Several parts of phonology subject ability such as decoding words, phonemics, and rhythm. However, students learned about phonology. They could recognize every part that would be in a test. Considering identifying the characteristic of the population using simple random sampling, that individual of the population has the same chance preference. According to Margono (2004), the researcher chooses simple random sampling because the population in unit sampling obtains an equal chance to represent the population. There is a three class that consists of 97 students. The researcher chose 10% of that population by Slovin's method to apply the formula because the population under 1000. The formula by Slovin's is as follow:

$$n = \frac{N}{1 + N \cdot e^2}$$

In which:

n = Population Sample

N = Population Size

e = In this case, the allowance for inaccuracy due to tolerable sampling error is 10%.

The researcher took a 10% error, allowing for inaccuracy and tolerable sampling error.

$$\begin{aligned} n &= \frac{N}{1 + N \cdot e^2} \\ &= \frac{80}{1 + 80 \cdot (0,1)^2} \\ &= \frac{80}{1,8} \\ &= 45 \end{aligned}$$

The formula from Slovin calculates that the result took 45 samples from 97 of the population. Defines into three classes the people in the third semester of the English Department in UIN Antasari that population is. The total population sample can be seen in the following table:

Table 3.1 Population and Sample

No	Class	Total	Sample
1	A	27	15
2	B	27	15
3	C	26	15
Total		80	45

D. Research Instruments

According to Tayibnapis, Farida , & Yusuf (2008), an instrument is a defined tool to help the researcher to acquire step-by-step information. The

researcher made an instrument for collecting data on two variables supported in this research: phonemic awareness and reading comprehension. Phonemic awareness has five seasons of tests that measure aspects of phonology's skills: recognizing rhyme, generating rhymes, identifying phoneme, phoneme isolation, and substitution phoneme. Every test season is defined into two – five parts of the exercise. However, reading comprehension has three seasons of tests that consist of ten-twelve parts of exercise, such as vocabulary, sentence match, and passage reading. Hence, to obtain the data by tests in phonemic awareness are:

1) Recognizing Rhymes

In this research, part of the test in phonemic awareness is recognizing rhymers to know how students can sound a word. Some words have the same sound even though they have a different alphabetic, but it is very challenging to teach English foreign language. The researcher test students in several ways to evaluate that.

2) Generating Rhymes

Generating rhymes evaluates the student's ability to produce the rhyme from the student. They would be exploring their ability to improve how a word rhymes. The researcher provided the student with a word. Then the student investigated for the word that had the same sound and would write down the

word. hence, the researcher could investigate that student understood enough about the rhymes.

3) Identifying Phonemes

One of the tests to evaluate the student's phonemics is by identifying phonemes. The researcher matched some words in the same sound divided into three: the beginning, middle, and final. In every section on identifying phonemes, the researcher expected students to understand about placement phoneme of the sound.

4) Phoneme Isolation

The different identifying phonemes and isolation phonemes that phoneme isolation to aim student could recognize separate of a word by alphabetic knowledge. Every section of the placement would recognize the detail of the phonemes. It helps to evaluate that students understand which one of the alphabetic is in the appropriate placement.

5) Substitution Phonemes

The last test in the variable of phonemic awareness is substitution phoneme. In this test, students seek a word by replacing the alphabetic in a word. After finding the answer, they would write the word. Substitute the alphabetic could evaluate students about their ability to recognize what is the next word if the alphabetic turn into another word.

Research instrument test that focusses on reading comprehension such as:

1) Vocabulary

Learners in the English language have to master the skill of vocabulary 98% to acquire proper reading comprehension. Researchers find out the comprehension's students reading by thirteen sections of a vocabulary test. This test used multiple choice to evaluate the student's skill and check literal researcher comprehension more effectively (Qian, 2002).

2) Sentence Match

The test is to recognize sentences with the same word or meaning by observing the picture or event in the text. The researcher evaluates student skills by the correlation between text or pictures that the researcher provides on the test.

3) Grammatical Structure

Test in grammatical structure is required to identify the correct paraphrase of a statement in multiple choice. It is multiple choice. That rubric of statement is divided into four statements. Students would choose one of the relevant statements. Thus, this is help students to predict accurately related answer.nc

4) Passage Reading

Passage reading is a form of gapped test to evaluate students' reading comprehension. Students have to decide what

they should answer by filling the grasp. The researcher provides a paragraph that students have to analyze for the question and the detail of it.

E. Data Collecting Procedure

The researcher investigated English department students to obtain data according to several kinds of procedures. According to Edmons & Kennedy (2017), use particular tools to collect and analyze observational data according to quasi-experimental research. Obtaining the data took two months, from 5th October 2022 to 30th October 2022. Previously on 7th October, the researcher shares the link to join the group on WhatsApp for fifth-semester students and tests students ready to contribute to this online research with the google form for the web helper. The researcher used several sections of tests that support obtaining data.

1. Test

According to Arikunto (2002), test is a tool that forms into question or exercise to measure the skills or ability of that individual or a group. To establish the data collection, the researcher used a test focusing on two things: phonemic awareness and reading comprehension. In quantitative research, according to Sugiyono (2019), the correlation between two variables has to hold the formula about the problem that has the characteristic of inventing the result. Measurement of the test would be administered to each student for two session test of phonemic awareness and reading comprehension. Phonemic awareness consists

of 20 items and reading comprehension of 30 items. To measure student's performance in phonemic awareness, the researcher makes indicator scoring as follows:

Table 3.2 Indicator of Questions Phonemic Awareness

Variable	Indicator	Item Number
Phonemic Awareness	Recognizing Rhymes	24 – 30
	Generating Rhymes	32 – 36
	Identifying Phonemes	37 – 39
	Phoneme Isolation	40 – 48
	Substitution Phoneme	49 – 52

The value of the data collection presents the score of the test to assume the result. Item of a number divided the test's detail as the variable's indicator. However, measuring reading comprehension have another indicator scoring than phonemic awareness. The researcher makes indicator of scoring as:

Table 3.3 Indicator of Test Reading Comprehension

Variable	Indicator	Item Number
Reading Comprehension	Vocabulary	1 – 10
	Sentence Match	11 – 17
	Passage Reading	18 – 23

Reading comprehension has a different point with phonemic awareness in every test question. The different focuses of phonemic awareness and reading comprehension make different measurement indicators. The test on this research referred to an online test by using google form of a multiple choice and fill the blank. The researcher shares the link in the random sampling in every class in the fifth

semester of the English Department. However, to measure the student's phonemic awareness, the researcher categorized the classification of student's phonemic awareness (PA) performance. The classification performance can be seen as follows:

Table 3.4 Classification Performance Phonemic Awareness

Category	Score
Proficient	80 – 100
Developing	60 – 80
Beginning	0 – 60

Source: International Reading Association and National Council of Teacher of English (1996)

The classification of phonemic awareness describes that classment of students know what is affected by phonemic awareness. After that, the researcher analyzes the data quantitatively by data classification based on data collection. Hence, the researcher used tests to obtain data focusing on phonemic awareness and reading comprehension.

F. Data Analysis

Design research based on data to expand knowledge for ability performance of quality in an educational context it utilized to obtain data that impacts the context whether it could be criticized as a weakness in educational research (Tinoca, Piedade, Pedro, Gomes, & Santos, 2022).

1. Test Data Analysis

a. Validity Tests

According to Mohajan & Haradhan (2017), research instrument includes validity to the extent to which one instrument measures what the researcher needs to measure. To validate the

result, the researcher finds out by observing this study. The variables will be measured accurately to present the research result. Data collection could be to significant result; however, it could affect the function of the score.

This research used support application Excel IOS 2021 for validity test. Thus, the validity test in this research helps the outcome study validate and discuss the result. An instrument or questionnaire with valid status would be a measurement to show that it can be used in a research instrument or questionnaire (Ghozali, 2018).

This research used Bivariate Pearson Moment to analyze the correlation to each questionnaire item. The validation result would correlate into a coefficient correlation to determine whether the researcher can use the item. The coefficient depends on the number of samples in the population to assess the stability of the r table. Thus, this is several steps to do validity test is as follows:

1. Input data into the data editor, then click “*analyze*”, “*correlate*”, and “*bivariate*”.
2. Input variable X into the “*independent list*” column and variable Y into the “*dependent list*” column.
3. Click Pearson to active mode and then click continue.

b. Reliability Test

Testing using reliability measuring instruments refers to important consistency. The most appropriate and consistent measure of reliability is the Cronbach Alpha coefficient. Reliability is concerned with the repeatability of scale, or a reliable test of stable conditions would give the same result. This research used support application SPSS 16 version for reliability test. The instrument that reliable is could be used the same object to obtain the same data result (Sugiyono, 2010).

The criteria of form that used in this research instrument depends on how form of question. The criteria of the coefficient of reliability to interpretation the result of this test. In this study, determine the instrument's reliability in the form of multiple choice, at least it's declared reliable of Cronbach Alpha 0.60 (Huck, 2007).

Thus, this is several steps to do reliability test by using SPSS 16 version is as follows:

1. Input data into the data editor, then click "*analyze*", "*scale*", and "*reliability Statistic*".
2. Input variable X into the "*independent list*" column and variable Y into the "*dependent list*" column.
3. Click continue.

According to Arikunto (2013), the formula to identify test item in reliability is as follows:

$$r_{11} = \frac{2xr \frac{11}{22}}{(1 + r \frac{11}{22})}$$

r_{11} : Instrument reliability

$r_{\frac{11}{12}}$: The results of validity (r_{xy})

Reliability has criteria of the testing instrument; every item of the reliability test has a value arrangement to determine the level in the description. However, the researcher provides a table of criteria for a testing instrument for all items.

Table 3.5 Instrument reliability Testing Criteria

Item Reliability	Description
$R_{11} < 0,20$	Very Low Reliability
$0,20 < r_{11} 0,40$	Low Reliability
$0,40 < r_{11} 0,70$	Sufficient Reliability
$0,70 < r_{11} 0,90$	High Reliability
$0,90 < r_{11} 1,00$	Very High Reliability

2. Correlation Analysis

Correlation analysis used Pearson product moment to measure correlation coefficient value to compared. Data process used SPSS version 16. The formula for the correlation analysis is as follows:

$$r_{xy} = \frac{N (\sum XY) - (\sum X)(\sum Y)}{\sqrt{[N \sum X^2 - (\sum X)^2] [N \sum Y^2 - (\sum Y)^2]}}$$

r_{xy} : Correlation coefficient variable X and Y

X : Reading comprehension score

Y : Phonemic awareness score

N : Number of samples

Correlation characteristics would determine the direction of the correlation, the closeness of the correlation could be grouped as follows:

Table 3.6 Correlation Coefficient

Correlation Coefficient (r)	Interpretation
0.00- 0.20	Very low correlation
0.21-0.40	Low correlation
0.41-0.70	Moderate correlation
0.71-0.90	High correlation
0.91-1.00	Very high correlation

The significant value would be represent the results there any correlation between variables was found. The correlation coefficient value would be analyse into P-value. Thus, the analysis would be continued to see if there any correlation between phonemic awareness and reading comprehension.

3. Normality Test

Normality test represents data or samples from a population with normal distribution results. Collecting the sample has several methods to test. This test is used for the research to know whether the residual value has a normal distribution. The researcher used this test to observe the data result: students answered perfunctory questions. This research used support application SPSS 16 version for normality test. The normality test is divided into Chikvadrat, Lilliefors, and Kolmogorov-Smirnov. Thus, this is several steps to do normality test by using SPSS 16 version is as follows:

- a. Input data into the data editor, then click “*analyze*”, “*linear*”, and “*one simple KS*”.

- b. Input variable X into the “*independent list*” column and variable Y into the “*dependent list*” column.
- c. Click continue.

The normality test used to know that data residual value have a normal distribute or not. The data that have a normal distributed would be minimize the possibility of bias. The results of normality test with normal status would be determine about to do parametric-test. Thus, this research used Kolmogorov-Smirnov tests for this research (Ghozali, 2018).

To indicate the result of the residual value is as follows:

- a. The significant value > 0.05 means the residual has a normal distribution.
- b. The significant value < 0.05 means residuals do not have a normal distribution.

4. Linearity Test

Linearity test is used to determine the linearity of the data, namely whether two or more variables tested has a linear relationship or not. This test usually used as a prerequisite in correlation or linear analysis regression. The linearity test would be approved if residual value with standard prediction form a certain pattern or random. Thus, this is several steps to do linearity test by using SPSS 16 version is as follows:

- a. Input data into the data editor, then click “*analyze*”, “*compare means*”, and “*one way Anova*”.

- b. Input variable X into the factor and variable Y into *the “dependent list”* column.
- c. Choose option then click descriptive data homogeneity of variance test.

According to Sugiyono (2018), the result of linearity test would described the relationship between two variable in research. The relation between variable X and variable Y would be explain the value into the significant value of linearity test. This test used SPSS version 16 to support the test. There is a standard significant for linearity test is as follows:

- a. The significant value < 0.05 , means variable have a linear relation.
- b. The significant value > 0.05 , means variable do not have a linear relation.