CHAPTER III
RESEARCH METHODOLOGY

A. Research Design

Research design is the design of the research process needed in planning and implementing research. According to Creswell (2016) Research design is a model or method used researchers to conduct a study that provides direction to the course of the research. The research design is determined based on the research objectives and hypotheses.

In this research, the researcher used a quantitative descriptive. According to Sugiyono (2017) quantitative research methods can be interpreted as research methods based on the philosophy of positivism, used to examine certain populations or samples, data collection using research instruments, quantitative/statistical data analysis, with the aim of testing predetermined hypotheses. This research method describes data that can be measured by performing statistical, mathematical or computational techniques.According to Burhan (2005) Descriptive quantitative research is used to describe,explain, or summarize various conditions, situations, phenomena, or various research variables according to events as they are which can be photographed, interviewed, observed, and which can be disclosed through documentary materials.

In conclusion, the researcher chose quantitative descriptive research to describe and collect data to find the percentage according to the research objective to find students' perceptions in learning to use smartphones.

B. Research Subject

1. Population

The population is the subject to be studied by researchers. According to Sugiyono(2016) The population is a generalization area consisting of objects/subjects that have certain quantities and characteristics determined by the researcher to be studied and then draw conclusions.

The population in this study were students' of the 3rd semester of English education at IKIP PGRI PONTIANAK, West Kalimantan. 124 students' are active in this semester. in this semester there are 4 classes, namely A morning 28 students, B morning 29 students, A afternoon 33 students' and B afternoon 34 students.

2. Sampling Technique

Sampling technique is a technique of taking samples from the population. sampling technique is divided into 2 types, namely probability and non-probability sampling. In this study, the reseaescher used probability sampling. According to Sugiyono (2014) Probability sampling is a sampling technique that provides equal opportunities for each element (member) of the population to be selected as a sample. Probability sampling consists of several methods, namely simple random sampling, stratified random sampling, cluster/random sampling and systematic sampling. in this study, the researcher used sample random sampling. Simple random sampling is a method of taking samples on populations with different or heterogeneous characteristics (Notoatmodjo, 2012)

3. Sample

Sample is a small part of the population that is taken based on certain characteristics that can represent the entire population. In this research, the researcher used slovin's formula to determine the sample. Slovin's formula is a random sampling technique formula to estimate sampling size. The researcher used slovin's formula(Sugiyono, 2017) with a credibility level of 90% and a margin of error of 15%.

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

n   = Numbers of sample

N   = Numbers of population

e   = Error rate in selectin tolerable sample members by 15%

$$n = \frac{124}{1+124(0,15)^2} = 32.72 = 33$$

Table 3.1

The total Sample of the Third Students' English Education at

IKIP PGRI Pontianak

No.	Class	Respondent
1	A Pagi	9
2	B Pagi	9
3	A Sore	7
4	B Sore	8
Total		33

The results of calculations using Slovin's formula, namely 33 students' for sample and the researcher used Microsoft Excel to found representatives from each class randomly.

C. **The technique of Data Collection**

Data collection techniques are the methods used by researchers to collect data related to their research. This procedure is important to do to get valid research results. According to Riduwan (2010) data collection technique is one of the existing methods in data collection by using techniques or methods used by researchers to collect data. In this research, researcher use questionaire for collecting data. According to Sugiyono (2017) the method or technique of data collection can be done by interview (interview), questionnaire (questionnaire), observation (observation), and a combination of them. In this research, researcher used questionaire to collect the data. The researcher use dclosed-ended questioanire. Closed-ended questionnaire is a question that has limited answers such as "yes" and "No". According to Sugiyono (2012) closed questions are expecting questions short answer or expect respondents to choose one alternative answer from each question that has been provided.

D. Tools of Data Collection

The researcher used the questionnaire and interview to facilitate in collecting data.

a. Questionnaire

Questionnaire is a research instrument consisting of several questions that aim to collect information from respondents. According to Kusumah(2011) a questionnaire is a set of written questions addressed to research subjects to collect various information needed in research. Arikunto stated that the questionnaire is a set of written questions given to respondents to obtain information.

In the questionnaire there are 2 ways, namely the open-ended questionnaire and the closed-ended questionnaire. Open-ended questions are questions that allow someone to give a free-form answer and Closed-ended questions can be answered with "Yes" or "No," or they will have a limited set of possible answers. In this research, the researchers used closed-ended questions. The researcher used closed-ended questionaire with 4 scale (strongly agree,agree,disagree,strongly disagree).

The questionaire consist of three indicator such as reasons of using smartphone for language learning, the use of smartphone for language learning and Impact to students' skill from use smartphone in learning.

Table 3.2

NO	INDICATOR	ITEMS NUMBER
1	Reasons of using smartphone for language learning	1,2,3,4,5,6,7,8
2	The use of smartphone for language learning	9,10,11,12,13,14,15,16
3	Impact to students' skill from use smartphone in learning	17,18,19,20

E. **Validity and Reliability of Instrument**

   1. The validity

       Validity test is conducted to test whether the instrument used can be a measuring tool that is able to measure what you want to measure. According to Azwar (1986) Validity comes from the word validity which means the extent to which the accuracy and accuracy of a measuring instrument in carrying out its size function. The validity used SPSS 25.0 program with the Pearson correlation method and using the following validity testing criteria:

   a. If r count $\geq$ r table (2-sided test with sig, 0.05) then the instrument or statement item is significantly correlated with the total score (valid).

   b. If r count $\leq$ r table (2-sided test with sig, 0.05) then the instrument or statement items have a significant correlation with the total score (invalid)

Table 3.3

Validity of Writing Anxiety

Item No.	R-value	R table	Status
Statement 1	0.384	0.344	Valid
Statement 2	0.604	0.344	Valid
Statement 3	0.764	0.344	Valid
Statement 4	0.778	0.344	Valid
Statement 5	0.581	0.344	Valid
Statement 6	0.829	0.344	Valid
Statement 7	0.466	0.344	Valid
Statement 8	0.424	0.344	Valid
Statement 9	0.678	0.344	Valid
Statement 10	0.434	0.344	Valid
Statement 11	0.686	0.344	Valid
Statement 12	0.436	0.344	Valid
Statement 13	0.670	0.344	Valid

Statement 14	0.750	0.344	Valid
Statement 15	0.463	0.344	Valid
Statement 16	0.752	0.344	Valid
Statement 17	0581	0.344	Valid
Statement 18	0.477	0.344	Valid
Statement 19	0.851	0.344	Valid
Statement 20	0.703	0.344	Valid

Based on the data, question in the questionaire by Hidayati (2019) were valid and matched to the students.

2. The reliability

Reliability test is a test used to test whether the questionnaire used is reliable or not. According to Sugiyono (2017) states that the reliability test is the extent to which the measurement results using the same object will produce the same data. To determine the reliability of the instrument used, the researcher used the Alpha Cronbac coefficient in the SPSS 25.0 program. if the Cronbach alpha value > 0.60 then the questionnaire is declared reliable, while if the Cronbach alpha value < 0.60 is declared unreliable. The table below is the category of reliability test in determining the level of reliability according to Cohen (2007).

Table 3.4

A commonly accepted rule of thumb for describing internal consistency

by using Cronbach Alpha

Cronbach Alpha	Internal Consistency
>0.90	Very highly reliable
0.80 - 0.90	Highly reliable
0.79 - 0.70	Reliable
0.69 – 0.60	Minimally reliable
>0.60	Unacceptably low reliability

Based on the data To test the reliability, the researcher used SPSS 25.0 Program to determine whether the questionnaire was reliable or not.

Table 3.8

Reliability Statistic of Writing Anxiety Questionnaire

Reliability Statistics	
Cronbach's Alpha	N of Items
0.799	20

Based on the data, shows that the value of Cronbach's alpha is 0.799. The value is higher than Cronbach's standard alpha that is 0.60. In conclusion, the questionnaire is reliable.

F. The technique of Data Analysis

Data collection techniques are the methods used by researchers to collect data related to their research. This procedure is important to do to get valid research results. According to Riduwan (2010) data collection technique is one of the existing methods in data collection by using techniques or methods used by researchers to collect data. In this research, researcher use questionaire for collecting data. According to Sugiyono (2017) the method or technique of data collection can be done by interview (interview), questionnaire (questionnaire), observation (observation), and a combination of them. In this research, researcher use questionaire to collect the data. The researcher use closed-ended questioanire.

The researcher used a questionnaire adopted from Hidayati (2019). The questionnaire was checked for validity and reliability using SPSS 25.0 and entered the try out data that had been taken. the results obtained from the validity and reliability checks are all valid and reliable questions. After making sure all the questions are valid, the researcher distributes a questionnaire to the sample to get data, the results of which will be used to find the percentage per category using Excel.

G. Research procedure

1. Planning

Before doing the research, the researcher prepare some planning such as determines the problem for the research and determines the object for the research and do the try out.

2. Collecting data process

1. The researcher ask permission to collect data using a questionnaire to respondent via whatsapp messenger and Saying thank you to respondent.
2. The researcher the link from the google form containing the questionnaire. In that google form provide directions and ways to fill out the questionnaire.
3. The answers from respondents will go directly to the google form.

3. Data processing

In data processing, the resercher anlyzed the data from data collecting. data processing is done using SPSS 25.0 and microsoft excel. In this study the researcher used quantitative descriptive analysis. The interpretation in this study of data related to student perceptions of smartphones in English learning is presented in tabular form along with and described in detail.

4. Data reporting

In data reporting, the researcher describes the data obtained and conveys the result of this research using SPSS 25.0 and Microsoft Excel.