CHAPTER III
RESEARCH METHODOLOGY

A. Research Design

The research design in this study was a descriptive approach. Mcmillan & Schumacher (2014:30) stated that research using a descriptive design simply provides a summary of an existing phenomenon by using numbers to characterize individuals or groups. The purpose of most descriptive research is a research method that seeks to describe and interpret objects according to the existing situation (Best, 1982: 199). In this study, the researcher used descriptive quantitative and qualitative methods. Oberiri (2017: 42) states "Quantitative research requires the reduction of phenomena to numerical values to perform statistical analysis. In contrast, qualitative research involves collecting data in non-numerical forms, such as text, images, videos, etc".

The terms qualitative and quantitative research design are related to the two terms in-depth and detailed analysis (Enas, Islam, and Tahani, 2021: 74). In this study, quantitative is used to describe the results obtained using questionnaires while qualitative is used to describe the results obtained using interviews.

Based on the above opinion, it can be concluded that quantitative and qualitative descriptive methods to describe and interpret objects in accordance with the existing situation. Quantitative research involves reducing phenomena to numerical values, while qualitative research involves collecting data in non-numerical form.

B. Population Sample and Sampling
1. Population

Ary, (2010: 450) defines population as a generalization area consisting of objects / subjects that have certain qualities and characteristics that are applied by researchers to study and then draw conclusions. In this study, the population was fifth semester students who in the fourth semester experienced

the online learning process in the English Education Study Program of IKIP PGRI Pontianak in the 2022/2023 academic year. Fifth semester students consisted of five classes with a total of 144 students.

2. **Sampling Technique**

In this study, the sampling method used is a simple random sampling method (Simple Random Sampling) where the population has the same opportunity as a sample in the study. In the opinion of Lodico, et. al., (2006: 143) the simple random sampling technique is a sampling technique from members of the population which is carried out randomly without regard to the strata in that population.

3. **Sample**

The sample is part of a number of characteristics possessed by the population used for research. If the population is large, it is not possible for researchers to study everything in the population, for example due to limited funds, energy, and time, so researchers can use samples taken from the population (Wiratna, 2019: 105). In this study, in determining the size of the sample taken from the population, the researcher took a sample according to Suharsimi Arikunto (2010, 120) which if the subject is less than 100 people, all are taken, if the subject is large or more than 100 people can be taken 10-15% or 20-25% or more. And researchers take the formula 25% of the population.

The formula used for sampling according to Suharsimi Arikunto is:

$n = e \times N$

Description:

n = sample size

N = population size

Thus the researcher can determine the sample size with this formula:

Then:

N= 144

e = 25%

n = ...?

n = 25% x 144 = 36

From the results of the calculation using the formula above, it is known that the sample size needed in this study was 36 respondents of 5th semester students of the English Eucation Study Program at IKIP PGRI Pontianak.From the results of the calculation using the formula above, it is known that the sample size needed in this study was 36 respondents of 5th semester students of the English Eucation Study Program at IKIP PGRI Pontianak.

C. Techniques of Collecting Data

Data collection techniques refer to what techniques researchers use in retrieving the various data needed (Rahman, 2019). Furthermore, according to Mcmillan & Schumacher (2014: 16), data collection can be done with measurement techniques, in-depth interviews, and observation, or document collection. Data collection is the process of gathering information from all relevant sources to find answers to research problems, test hypotheses (if following a deductive approach), and evaluate the results. The techniques used in this research are indirect communication techniques and direct communication techniques. According to Sugiyono (2017), direct communication techniques are data collection techniques obtained using interviews, surveys, and observations while indirect communication techniques are data collection techniques obtained using questionnaires. From the above understanding, the researcher concludes that data collection techniques are the means used by researchers to answer research questions. The data collection techniques in this study used indirect communication techniques through questionnaires and direct techniques through interviews.

1. Questionnaire

The questionnaire is a data collection technique that is done by giving a set of questions or statements to respondents to answer. In this study, researchers used a questionnaire through a questionnaire procedure and a

close-ended questionnaire that had been prepared as a tool to collect data related to the problem to be studied by researchers (Adhabi & Anozie, 2017).

In this study, the researher provided questionnaires online via google form to respondents. The measurement scale used is the Likert Scale. Where the variable to be measured is translated into variable indicators, then the indicator is used as a starting point for compiling instrument items which can be in the form of statements and questions (Sugiyono, 2012:133).

Table 3.1
Likert Scale

Answer	Score
Strongly Agree (SS)	**5**
Agree(S)	**4**
Neutral (N)	**3**
Disagree(TS)	**2**
StronglyDisagree (STS)	**1**

2. Interview

Interview is a data collection tool used to explore data directly. Sugiyono (2017:132) stated that there are three kinds of interviews namely, structured interview, semi-structured interview, and unstructured interview. In this study, the type of interview conducted was a semi-structured interview. Semi-structured interview is an interview method that refers to a series of open-ended questions that have been prepared in advance and allows new questions to arise due to the answers given by participants so that during the information gathering session it can be done in more depth (Hayati, 2021).

In conducting the interview, I asked several questions related to the research problem, namely the challenges faced by fifth semester students in conducting online learning during the new era. Some of the questions asked had been prepared in advance, but during the interview new questions emerged to explore more in-depth answers from participants.

In this study, interviews were used to strengthen the data obtained through questionnaires. According to Soeginjono (2013:18), interviews are a complementary method, which is used to complete information that cannot

be reached by other means. Therefore, of the 36 respondents involved, the researcher only selected five (5) interviewers. Ade (2018: 7) says, qualitative research generally uses a small sample. Researchers in determining the number of informants are not on representation, but when the depth of information is sufficient.

The selection of informants in this study used purposive sampling technique, the technique of determining informants in accordance with the wishes of the researcher based on the specified criteria (Sulistyo-Basuki, 2006: 202). The reason for choosing purposive sampling technique in this research is to reveal how the role of online learning in the new normal era in the perspective of students?

Selection of informants in this study, obtained by conducting interview activities conducted with 5 informants, namely representatives of each fifth semester class, including 1 student of class A in the morning, 1 student of class B in the morning, 1 student of class A in the afternoon, 1 student of class B in the afternoon, and 1 student of class C in the afternoon.

D. Test the validity and reliability of the instrument

To get accurate data results, an accountable data collection tool is needed by testing the instrument grids which are processed as follows:

1. Instrument validity test

Validity is a measure that shows the level of validity or error of an instrument. The data is said to be valid if the questionnaire statement is able to reveal something that you want to measure, if the questionnaire is declared invalid then the question item will be removed from the corrected questionnaire. Valid or not using the Product Moment correlation formula (Singarimbun and Effendy, 1995). The product moment correlation formula is as follows:

$$\text{Formula } r \text{ xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum x^2 - (\sum X)^2\}\{N \sum Y^2 - (\sum Y^2)\}}}$$

Description:

r xy = Product moment correlation coefficient

$\sum XY$ = The number of multiplication results of variables X and Y

$\sum X$ = The sum of all X variable data

$\sum Y$ = The sum of all Y variable data

$\sum Y$ = The sum of all Y data squared

$\sum X$ = Sum of all X data squared

N = Number of respondents

After rcount is obtained, the result of rcount is consulted with rtable with a significance level of 5% to 1%. By using the provisions of the distribution of rtable values at 5% significance, the acquisition of r table used in accordance with the number of respondents (N) 36, the value is 0.329. If obtained rcount > rtable, then the instrument item can be said to be valid, but otherwise if rcount < rtable, it is said that the instrument is invalid. In this study, researchers used the Microsoft Excel 2013 application to determine the price of r count > r table. By testing all question items for each variable are declared valid. The following are the results of the validity testing of this study:

Variable	Item	rcount	rtable	Description
Internal Factor	item 1	0,463	0,329	valid
	item 2	0,433	0,329	valid
	item 3	0,577	0,329	valid
	item 4	0,498	0,329	valid
	item 5	0,465	0,329	valid
	item 6	0,455	0,329	valid
	item 7	0,664	0,329	valid
	item 8	0,475	0,329	valid
External Factor	item 9	0,481	0,329	valid
	item 10	0,075	0,329	valid
	item 11	0,857	0,329	valid
	item 12	0,781	0,329	valid
	item 13	0,593	0,329	valid
	item 14	0,522	0,329	valid
	item 15	0,464	0,329	valid

Source: Primary data

2. Instrument Reability Test

The reliability test is carried out to determine how much confidence in the research instrument used as a data collection tool. In this study, the reliability test used Cronbach Alpha. A construct or variable is said to be reliable if it provides a Croanbach Alpha value > 0.60, it can be said that the instrument used is reliable (Suharsimi, 2006). The formula used in Cronbach's Alpha reliability testing, with testing steps as follows:

a. Calculate the variance of each item.

$$(\sigma_{b^2}) = \frac{\sum x^2 - \frac{(\sum X)^2}{N}}{N}$$

Description :

σb^2 : variance of each item variance

$\sum X^2$: the sum of the squares of respondents' answers to each variance

$(\sum X)^2$: the sum of the squares of all respondents' scores from each item.

N : number of respondents

b. Calculating the total variance.

$$(\sigma_{t^2}) = \frac{\sum Y^2 - \frac{(\sum Y)^2}{N}}{N}$$

Description :

σ_{t^2} : total variance

$\sum Y^2$: sum of squares of the total score of each respondent

$(\sum Y^2)$: the sum of the squares of all total scores of each respondent

N : number of respondents

c. Calculating the reliability of the instrument using the Cronbach's Alpha formula.

$$r_{11} = \left(\frac{k}{k-1}\right)\left(1 - \frac{\sum \sigma_{b^2}}{\sigma_{t^2}}\right)$$

Description :

r_{11} : instrument reliability

k : number of items

$\sum \sigma_{b^2}$: the sum of item variances

σ_{t^2} : total variance

      Test results reliability test results for each variable are summarized in the following table following table:

Variable	Reference value	Cronbach's Alpha value	Description
Internal Factor	0,60	0,81	Reliable
External Factor	0,60	1,06	Reliable

      The reliability test results show that all variables have an Alpha coefficient which is quite large, which is above 0.60 so that it can be said that all concepts measuring each variable from the questionnaire are reliable so that henceforth the items on each variable concept are suitable for use as measuring instruments.

E. The Technique of Data Analysis

1. Analysis of Questionnaire Results

      Hence, after the researcher collects all the data from the questionnaire, the researcher uses percentage formula to find out the students' experiences of online learning during the new normal era specifically fifth-semester students of the English education department of IKIP PGRI Pontianak. In order to process the questionnaire data that has been obtained, the researcher in this study used the TCR (Respondents' Achievement Level). This calculation aims to measure student satisfaction with online learning implemented on campus, so the researchers can find out how students respond influenced by internal and external factors to their learning experience. Furthermore, as adopted from Sugiyono (2017:131) the formula TCR is figured out in the following statement:

$$TCR = \sum_{i=n}^{n} (Ti \; x \; LSi$$

Description :

TCR   : Respondent's Achievement Level

Ti   : Total Likert score of Respondents' answer

Lsi   : Likert score according to the number of respondents' answer choices

Meanwhile, too see the TCR index, a formula is needed, namely :

$$Index\ TCR = \frac{TCR}{Y}\ x\ 100\%$$

Description :

Y   : Highest TCR score (Highest Likert score $\times$ n)

n   : Number of respondents

to see the criteria for achieving respondents based on certain characteristics, it is necessary to describe the level of Achievement Index of Respondents. Therefore, in every research, a "*Master Scale*" is always made, which is a measure scale that generally shows five levels of particular trait.

For a description of a master scale of these various properties can be seen in the following table:

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Respondents Achievement Level Criteria

No	Criteria	Index TCR
1	Very good	90-100
2	Good	80-89
3	Sufficient	70-79
4	Not good	55-69
5	Less good	1-54

Source: Sugiyono (2010:78)
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Determination of the Respondents achievement criteria is obtained based on the calculations carried out previously whether the results fall into the category of Very good, Good, Sufficient, Not good, or Less good.

In finding the percentage of research variables, researchers use a mathematical formula, namely:

$$Value\ asked\ = (percent\ value\ asked \div 100\%) \times total\ (n)$$

Percentages are useful to knowing the number of respondents to answer choices that have been determined.

2. Analysis of Interview Results

To analyze the data obtained by using interviews, the researcher applied several steps quoted from Ary (2010:3), steps include:

a. Data Reduction

It is the process of reducing the data occurring repeatedly. "Reducing the data means summarizing, choosing the main thing, focusing on the important things, finding the topic and the form". In this stage, the researcher gets the data from an interview with the respondents, the result of the interview showed how the important data related to the student's experiences in online learning during the new normal era. The irrelevant data is reduced and the needed data is included.

b. Data display

It is a process of displaying data in the form of a table or essay so that it gets more understandable. In this research, the researcher used an essay in displaying the data, because it is the most common data display used in descriptive research.

c. Conclusion

The last step of data analysis is a conclusion, the researcher begins to see what the data is. The researcher examines all entries with the same code and then merges these categories and finds the connection among the categories. Then, it continues to tell the stories and to make connections among stories. Finally, the researcher can get the result and conclusion of this research.

Finally, the researcher presented the results of the questionnaire and interviews descriptively, namely in the form of numbers and stories. In general, the questionnaire presented data in the form of a list while the interview present data in the form of a story. The results of the questionnaire and interview showed data related to student experiences in online learning during the new normal era. Furthermore, this research according to the title presented in a descriptive manner which includes quantitative and qualitative data.

F. Research Procedures

To achieve the research objectives, researchers are required to follow procedures that are divided into four, namely planning, processing, data processing, and data reporting, as added by Brancato (2015).

1. **Planning**

Research contains a plan that formulates questions and research objectives. Furthermore, what must do is to build a theoretical foundation, and prepare target participants in the research. The data collection instruments included try out (Gentry & Gable, 2001). Finally, take care of access to permission to do research.

2. **Data Collection Process**

Data collection is a process of collecting and measuring information about various variables of interest, in an established, systematic way, which allows one to answer questions from research, test hypotheses, and evaluate the results of the research undertaken. According to Megel (2016), the data collection process is an activity to collect and measure information about the various variables observed.

3. **Data Processing**

In data processing, there is analysis and interpretation to collect data. "The data processing is primarily concerned with checking of illegible, incomplete, illogical or inconsistent responses." (Shukla & Ghazibad, 2018: 1). The researcher used questionnaires, and interview guidance to analyze colleges selected by the researcher that involve students.

4. Data Reporting

In reporting data, the researcher conveys the results of data that are by those obtained in the field without manipulating the data at all. "Data reporting involves some different legal and regulatory standards."(Experian, 2008:1). Then the final stage is the data report submitted in the form of a thesis.