CHAPTER III

RESEARCH METHOD

This chapter presents the research methods of this study. It consists of research design, time and place of research variables of research, population and sample, data collection, research instrument, research instrument test, and data analysis.

A. Research Design

The research design in this study is a comparative study with a quantitative approach. The quantitative approach is used to obtain accurate data to show the relationship between variables which aims to answer the previously suspected hypothesis (Sugiyono, 2019). This type of comparative research aims to compare two or several variables to the sample. This study attempts to compares students' motivation between offline and online learning during the pandemic era of students at SMK N 2 Kota Kediri.

B. Time and Place of Research

The research was conducted when offline and online learning was carried out simultaneously in March 2022. The located of this study at SMKN 2 Kota Kediri.

C. Variables of the Research

The independent variables of this study include:

Independent Variable (X1) : Students' motivation in offline learning

Independent Variable (X2) : Students' motivation online learning

D. Population and Sample

The populations of this study were all students of tenth grade at SMKN 2 Kota Kediri there are 652 students. The population collection was based on the fact that the class X students had experienced two learning methods, namely offline and online learning. In this study, the sampling technique was used in the form of a *simple random sampling* technique. It is said to be simple because the sampling of members of the population is done randomly without regard to the strata that exist in the population. The technique for determining the number of samples used is to use the *Slovins'* formula:

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

n = Sample

N = Population

e^2 = Specified precision (10%)

If the initial population is 652 students, then the sample calculation using the specified precision of 10% is:

$$n = \frac{652}{1 + 652(10\%)^2} = \frac{652}{7{,}52} = 86{,}70212765957447 = 87 \text{ students}$$

Based on these acquisitions, the sample of 87 students was obtained respondents. Sampling was carried out randomly using random number collection on population data. Student names will be numbered and those selected will be recorded and become the research sample.

E. Data Collection

The data collection technique used in this research is the questionnaire. The questionnaire is a closed questionnaire provided with several questions. The researchers used paper and *google forms* to distribute to respondents. The use of the questionnaire in this study was to determine the level of students' motivation during offline and online learning. In making the questionnaire, the questions are made based on the measuring point of the indicators of each variable.

F. Research Instruments

The questionnaire in this study is to determine the level of student motivation during offline learning and online learning. The questionnaire was adapted from the *Attitude/Motivation Test Battery* (AMTB) by Gardner (2004). Then this questionnaire was validated by expert judgment. Question items are made into two types, namely positive questions, and negative questions. The placement of positive and negative questions in the questionnaire is alternated with positive statements to ensure students read the statements carefully on each question item and avoid choosing inconsistent answers. There are several steps to preparing the questionnaire, including:

1. Create a research instrument development grid.
2. Determine the instrument to be used.
3. Testing the instrument on some samples for effectiveness.
4. Revise invalid statement items.
5. Make a finished instrument to be ready for distribution to the respondents.

Table 3.1 Blueprint of Students' Motivation

Variable	Sub Variable	Indicator	Questions	
			F	UF
Students' Motivation in Offline Learning (X1)	Intrinsic	Interest	1.3	2
		Need	4.5	-
		Hobby	6.7	-
		Goal	8,9,10	-
	Extrinsic	Study condition	11	12
		Social condition	13.14	15
		Family	16,17,18	-
		Supporting facilities	19,20	-
Students' Motivation in Online Learning (X2)	Intrinsic	Interest	1.3	2
		Need	4.5	-
		Hobby	6.7	-
		Goal	8,9,10	-
	Extrinsic	Study condition	11	12
		Social condition	13.14	15
		Family	16,17,18	-
		Supporting facilities	19,20	-

The researcher used Likert Scale to measure the answers of students' questionnaire. The Likert scale in this study has five points to assess, namely Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree. As see bellows:

Table 3.2 Likert Scale

Options	Favorite	Unfavorable
Strongly Agree	5	1
Agree	4	2
Neutral	3	3
Disagree	2	4
Strongly Disagree	1	5

According to Eko Putra in Lismayana (2019) rule of give a score and classification of assessment in motivation is below:

a. Score of negative statement is opposite of positive statement.

b. The highest score = total of statement x total of choices.

c. Total of score = (total of score is gotten: the high score) x total of interval classes.

d. Total of interval classes = assessment scale.

e. Total of interval by using formula:

$$Ji = \frac{(t - r)}{Jk}$$

Explanation: t = the highest score

r = the lowest score

Jk = interval class

Table 3.3 Categories of Students' Motivation

Interval	Category
84 – 100	Higher
67 – 83	High
50 – 66	Moderate
33 – 49	Low
16 – 32	Lower

G. Research Instrument Test

1. Validity test

Before the actual questionnaire is distributed, it is necessary first that the instrument was tested on several respondents as a sample. It is intended to eliminate statements that do not relevant, evaluate whether the questions asked in the questionnaire are easily understood by respondents or not, and find out the duration of filling out the questionnaire.

The researchers took 30 respondents to try out this instrument. From the validity test conducted using *SPSS version 21.0*, it is proven that the learning motivation questionnaire. Decision making valid items using

r-count is compared with r-table with the total number of samples is reduced. If r-count > r-table, it is said to be valid, but if r-count < r-table is found, it is said to be invalid.

Table 3.4 Validity Test of Student Motivation in Offline Learning

Item	r-count	r-table	Status
1	0,652	0, 361	Valid
2	0,493	0, 361	Valid
3	0,756	0, 361	Valid
4	0,567	0, 361	Valid
5	0,610	0, 361	Valid
6	0,664	0, 361	Valid
7	0,679	0, 361	Valid
8	0,846	0, 361	Valid
9	0,503	0, 361	Valid
10	0,551	0, 361	Valid
11	0,610	0, 361	Valid
12	0,493	0, 361	Valid
13	0,567	0, 361	Valid
14	0,429	0, 361	Valid
15	0,567	0, 361	Valid
16	0,421	0, 361	Valid
17	0,556	0, 361	Valid
18	0,679	0, 361	Valid
19	0,550	0, 361	Valid
20	0,512	0, 361	Valid

(Source: Processed research data, 2022)

Table 3.5 Validity Test of Student Motivation in Online Learning

Item	r-count	r-table	Status
1	0,789	0,361	Valid
2	0,504	0,361	Valid
3	0,654	0,361	Valid
4	0,794	0,361	Valid
5	0,741	0,361	Valid
6	0,697	0,361	Valid
7	0,450	0,361	Valid
8	0,597	0,361	Valid
9	0,549	0,361	Valid

10	0,447	0,361	Valid
11	0,385	0,361	Valid
12	0,794	0,361	Valid
13	0,697	0,361	Valid
14	0,789	0,361	Valid
15	0,504	0,361	Valid
16	0,535	0,361	Valid
17	0,374	0,361	Valid
18	0,654	0,361	Valid
19	0,549	0,361	Valid
20	0,517	0,361	Valid

(Source: Processed research data, 2022)

Based on the table above, it shows the results of the calculation of the validity of the questionnaire that has been distributed to 30 students. Then determine the r-table with a significance level of 0.05 with (n) 30 the r-table is 0.361. The table above showed that the r-count value is bigger than the r-table value or > 0.361, then the all of items can be said to be valid or feasible to be used as a research questionnaire.

2. Reliability Test

The reliability of the instrument from this study was calculated by using *SPSS version 21.0*, the *Cronbach Alpha* statistical test to determine whether the research data was reliable or not. Reliable is the ability of the questionnaire to provide consistent measurement results. The instrument can be said to be reliable if r-count > 0.600

Table 3.6 Reliability Test of Student Motivation in Offline Learning

Reliability Statistics

Croncach's Alpha	N of Item
,891	20

(Source: Processed research data, 2022)

Cronbach's Alpha value is 0.891 > from 0.600, then the instrument can be said to be reliable.

Table 3.7 Reliability Test of Student Motivation in Online Learning

Reliability Statistics

Cronbach's Alpha	N of Item
,991	20

(Source: Processed research data, 2022)

Cronbach's Alpha value 0.911 > 0.600 then the instrument can be said to be reliable.

H. Data Analysis

1. Descriptive Analysis

The researcher used a descriptive analysis technique to find out the description of students' learning motivation during online learning and offline learning, as well as to see the data criteria for each variable indicator. The tendency test was conducted to find out the general description of learning motivation during offline and online learning to find out the level of the tendency of students' learning motivation scores during offline learning.

2. Normality Test

Normality testing is used to see if the data is normally distributed or not. This test can determine what statistics will be used in the future. If the data is normal, the research will be carried out using parametric analysis and if the data is not normal, nonparametric analysis will be carried out. The test was carried out using the *Kolmogorov Smirnov* test

with the help of the SPSS application with the following basic decision making:

a) If significant (sig) > 0.05 = normal data.

b) If significant (sig) < 0.05 = data is not normal

3. Homogeneity Test

Homogeneity test is used to determine whether the variance is homogeneous or not based on the number of samples selected from the same population. This test is assisted by using the SPSS program with the following decision-making guidelines:

a) If the probability significance > 0,05 = homogeneous data

b) If the probability significance < 0,0,5 = the data is not homogeneous

4. Hypothesis Test

If the research data is normally distributed and homogeneous, then a parametric test is carried out using a *paired sample t-test* (Sugiyono, 2019). Hypothesis testing will be helped by using the SPSS program. The selection of this test is carried out if it has two paired samples, which have the same sample group but have two or more treatments for the sample group. This study aims to determine whether there are differences in students' motivation between offline and online during the pandemic era. The following is the basis for decision making in the *Paired Sample T-Test* are:

a) If the significance level (Sig.) is bigger than 0.05, Ho is accepted and Ha is rejected.

It means that there is no difference between students' motivation in offline and online learning during pandemic era at SMKN 2 Kota Kediri

b) If the significance level (Sig.) is less than 0.05, Ho is rejected and Ha is accepted.

It means that there is a difference between students' motivation in offline and online learning during pandemic era at SMKN 2 Kota Kediri

Meanwhile, if the results of the research data are not normally distributed, then the alternative statistic applied is non-parametric using the test Wilcoxon. Then it is converted to the basis of decision-making in the Wilcoxon test (Santoso, 2014) are:

a) If the value of Asymp.Sig. > 0.05, then Ho is accepted and Ha is rejected.

It means there is no difference between students' motivation in offline and online learning during pandemic era at SMKN 2 Kota Kediri

b) If the value of Asymp.Sig. < 0.05, then Ho is rejected and Ha is accepted.

It means there is a difference between students' motivation in offline and online learning during pandemic era at SMKN 2 Kota Kediri