CHAPTER III
RESEARCH METHODOLOGY

The research method, research population and samples, research participants, instruments and data collection technique, instrument validity and reliability, data analysis technique, and research ethical considerations are all presented in this chapter.

A. Research Method

Research is classified into two categories based on the data sources used: *library research* and *field research*. *Library research* is research whose problem definition can only be solved with library data or literature. Whereas *field research* is research whose main source of data is in the field of research whose problem statement can be solved with field data.[1]

Of the two forms of research stated above, field research was the one employed in this study. Field research, namely research for intensive research on the context of the current situation and the environmental interactions of a social entity, whether individuals, groups, institutions, or communities. In this study, field research was chosen with a quantitative approach, to know the conditions in the field about the effect of variable X (*Talking Stick Method*) on variable Y (*Student's Motivation*).

The researchers used a quasi-experimental design to make it easier to obtain a control class. There are two types of quasi-experimental design: non-equivalent control group design and time series design. Alternatively to using random selection, the researcher employed a non-equivalent control group design to identify the experimental class and the control class..[2]

---

[1] Supa'at et al, *Pedoman Penyelesaian Tugas Akhir Program Sarjana (Skripsi)* (Kudus: Epsilon, 2019), 31.

[2] Sugiyono, *Metode Penelitian Pendidikan Kuantitatif, Kualitatif, Dan R&D* (Bandung: Alfabeta, 2010), 79.

B. Research Population and Samples

1. Population

The population consists of all individuals who will be included in the search's subject or object.[3] The population in the study is the subject of research used in sample research which aims to obtain research conclusions that will be observed or studied.[4] So the population is the whole of the subject and or object that will be the target of the research sample which aims to obtain research conclusions that will be observed or researched (Riyanto & Hatmawan, 2020; Ramadhani & Bina, 2021).

The reason the researcher chose the MTs Mazroatul Huda school was, because based on the results of observations the problems studied were found in these school. Then based on the result of interviews with English teachers at the school, students' motivation and students learning outcomes have not been satisfactory so they need special attention, and there has never been a researcher who has developed a talking stick-type cooperative learning method in that school.

The research population in this study included 59 students from class VIII MTs Mazda, 20 students from class VIII A and 20 students from class VIII B, and 19 students from class VIII C.

2. Samples

The component that offers a general description of the population is the research sample. In order to accurately represent the observed population, the study sample's characteristics must be identical to or substantially identical to those of the population.[5] So the research sample is the part that gives an overview

---

[3] Aglis Anindita Hatmawan Slamet Riyanto, *Metode Riset Penelitian Kuantitatif Penelitian Di Bidang Manajemen, Teknik, Pendidikan, Dan Eksperimen* (Yogyakarta: Deepublish, 2020, 11).

[4] Rahmi Ramadhani, *Statistika Penelitian Pendidikan: Analisi Perhitungan Mathematics Dan AplikasiSPSS* (Jakarta: Kencana, 2021), 150.

[5] Aglis Anindita Hatmawan Slamet Riyanto, *Metode Riset Penelitian Kuantitif Penelitian Di Bidang Manajemen, Teknik, Pendidikan, Dan Eksperimen* (Yogyakarta: Deepublish, 2020), 12.

of the selected population with certain considerations and criteria.

The cluster sampling method was used in this research to collect data. Cluster sampling consists of grouping elements of a population into different clusters and then randomly.[6] The sample in this study involved two classes, namely class VIIIA which was the experimental class which was given treatment and class VIII B which was the control class which was not given treatment. The total sample is 40 students.

C. Research Participants

The location of this research is Mts. Mazroatul Huda Wonorenggo Demak. This study will be carried out in the eight grade during the 2021/2022 school year.

D. Instruments and Data Collection Technique

The researcher used the following methods for data collection:

1. Observation

Direct observation and systematic recording of the object under investigation is an approach to data collection known as observation.[7] The observations identified in this study are observations made at the time the research was conducted with the intention of matching the talking stick method lesson plan that was implemented in the experimental class.

2. Test

A test is a method of collecting research data that serves to measure a person's abilities.[8] In order to obtain objective results, this study used multiple-choice tests as the method of data collection. The pretest was administered prior to treatment, and the posttest

---

[6] Umes Umar B, Dubey, Khotari, *Research Methodology: Techniques and Trends* (Boca raton: CRC Press, 2022), 76.

[7] Corry, *Fenomena Dan Makna PembangunanTugu Dalam Kesiapan Suku Batak Toba (Studi Kasus Di Kecamatan Palipi Kabupaten Samosir)* (Yayasan Kita Menulis, 2021), 50.

[8] Emy Sohilait, *Metodologi Penelitian Pendidikan Matematika* (Bandung: CV. Cakra, 2020), 198.

followed. This is done to find out how motivated students are about the subject at hand. Before starting treatment, researchers conducted motivational assessments on both the control and experimental classes' students. The post-test was administered after the experimental class and control class students had received treatment. After students have studied the talking stick method, this is done to see how motivated they are.

A multiple-choice test with four options (A, B, C, and D) was used in this study's giving instructions test to evaluate the level of student motivation. The test consists of 25 questions with the material "giving instructions". The number of correct answers determines the test result. For each correct response, students receive one point, and for each incorrect response, they receive none. To determine a student's drive:[9]

Table 3.1
The Students' Predicate Score

No.	Alphabet	Value
1	Very Good (A)	86-100
2	Good (B)	76-85
3	Enough (C)	61 -75
4	Bad (D)	41-60
5	Very Bad (E)	< 40

3. **Questionnaire**

The statement sheet used as the questionnaire in this study contained the responses of the participants. Students' responses to the use of the talking stick method of learning were recorded as a checkmark in the appropriate column in accordance with the created picture. Following the conclusion of all teaching and learning sessions, students were given questionnaires. The purpose of the questionnaire is to learn how students feel about the method used by teachers.

---

[9] Dwija Utama, "Forum Komunikasi Pengembangan Profesi Pendidik Kota Surakarta 40 Ed," *Jurnal Pendidikan* 9 (2018): 18.

4. Interview

In general, what is meant by interviews is a method of collecting or collecting material or information, which is carried out through oral questions and answers and face-to-face with research respondents with a predetermined goal direction.[10] Interviews can be conducted in a structured or unstructured way, but here the research uses unstructured interviews where researchers do not systematically and fully utilize the interview guidelines when collecting data. Researchers conducted interviews that led to the main thrust of the problem, namely determining the learning motivation of class VIII students of MTs Mazro'atul Huda Wonorenggo Demak.

E. Validity and Reliability of Instrument

1. The validity of the instrument

A validity test is an examination of the accuracy or precision of the measuring instrument used in research.[11] In this study, researchers used content validity to assess a measuring device's accuracy.

Content validity is determined by reasonable analysis or expert judgment by a qualified committee, assessing its viability or relevance.[12] In terms of giving an opinion, this can be done by responding to the suitability of the items written with lattice in terms of material. Subsequent responses are scored in some way.[13]

---

[10] Djaali, *Metodologi Penelitian Kuantitatif* (Jakarta: Bumi Aksara, 2020), 69.

[11] Lukman Daris Muhammad Yusuf, *Analisis Data Penelitian Teori & Aplikasi Dalam Bidang Perikanan, Bogor* (Bogor: PT Penerbit IPB Press, 2018), 50.

[12] Hendryadi, "'Validitas Isi: Tahap Awal Pengembangan Kuesioner,'" *Jurnal Riset Manajemen Dan Bisnis (JRMB) Fakultas Ekonomi UNIAT* Vol.2 No.2 (2017,171.

[13] Purwanto, *Instrumen Penelitian Sosial Dan Pendidikan* (Yogyakarta: Pustaka Pelajar, 2007),126.

Assessment data is the analyzed with the V index formula from Aiken. The formula proposed by Aiken is as follows:[14]

$$V = \frac{\sum s}{n(C-1)}$$

S = r – lo
lo = Lowest score (1)
C = Highest score (4)
r = The score given by the assessor
n = Number of appraisers

This interpretation is carried out using the following criteria:[15]

<0,4	Low validity
0,4-0,8	Medium validity
>0,8	High validity

The *product moment correlation formula*, often known as the *Pears on correlation,* can be used to determine an instrument's validity test. The equation reads as follows:

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

Information :

r_{xy} = correlation coefficient between item score and total score

n = the sum of research subjects

$\sum x$ = total score of items

$\sum y$ = total score

---

[14] Yusrizal and Rahmawati, *Tes Hasil Belajar* (Aceh: Bandar Publishing, 2020),336.
[15] Heri Ratnawati, *Analisis Kuantitatif Instrumen Penelitian* (Yogyakarta: Parama Publishing, 2016), 38.

$$\sum xy = \text{the sum of multiplications between item score}$$
and total score
$$\sum x^2 = \text{the sum of the squares of item scores}$$
$$\sum y^2 = \text{the sum of the squares of total scores}^{16}$$

Table 3.1
Correlation Cofficient Interpretation Guidelines

Coefficient Interval	Level Correlation
$0,00 - 0,199$	Very low
$0,20 - 0,399$	Low
$0,40 - 0,599$	Medium
$0,60 - 0,799$	High
$0,80 - 1,000$	Very high

2. **The reliability of the instrument**

The consistency or stability of the research questionnaire can be assessed using a reliability test. If the Cronbach's alpha value is greater than or equal to 0.600, then the questionnaire is said to be reliable.[17] In this research, the instrument reliability test used the Cronbach Alpha technique with the help of SPSS 25.

The following is the Cronbach's Alpha formula:[18]

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

With Variance $\qquad \sigma t = \left(\frac{\sum x^2 - \left(\frac{\sum x}{n}\right)^2}{n}\right)$

Information:
r_{11} = Reliability instrument
k = The number of question
$\sum \sigma i^2$ = The sum of all variances

---

[16] Sugiyono, *Metode Penelitian Pendidikan Kuantitatif, Kualitatif, Dan R&D.* (Bandung: Alfabeta, 2010), 183.

[17] Elex Sarmigi Khalil Khusairi, *Peluang Wisata Budaya Dan Religi Dalam Meningkatkan Kesejahteraan Masyarakat (Pengaruh Budaya Kenduri Tuai Padi Dan Religiusitas Terhadap Kesejahteraan Masyarakat Kerinci)* (Pasuruan: CV. Penerbit Qiara Media, 2021), 240.

[18] Ali Hamzah, *Evaluasi Pembelajaran Matematika* (Jakarta: PT Raja Grafindo Persada, 2014), 233.

33

$\sigma_t{}^2$ = The sum of the total variance

x = Score for each question

n = Total student

The criteria for testing the reliability of the instrument are as follows:

- It is considered reliable if the result of the testing process using the Cronbach Alpha approach is more than 0.60.
- It is considered unreliable if the Cronbach Alpha test result is less than or equal to 0.60.[19]

Table 3.3
Reliability Table Based on Alpha Values

Alpha	Classification
0.00-0,20	Very low reliability
>0,20-0,40	Low reliability
>0,40-0,60	Medium reliability
>0,60-0,80	High reliability
>0,80-1,00	Very high reliability

F. Data Analysis Technique

The technique of data analysis is an analytical activity in research conducted by examining all data from finding aids such as notes, documents, test results, records, and others. This activity aims to make it easier to comprehend the data so that a conclusion can be reached.

1. Descriptive Statistics Data Analysis

Analysis with descriptive statistics is a statistical test used to describe or describe the data as it is without intending to draw general conclusions. The form of description in descriptive statistics can be in the form of tables and diagrams.[20] In this research, a test and a questionnaire are the instruments used in this study whose data results will be analyzed using descriptive

---

[19] Masrukhin, *Statistik Deskriptif Dan Inferensial Aplikasi Program SPSS Dan Excel* (Kudus: Media Ilmu Press, 2014), 139.

[20] Joko Subandoni, *Teknik Analisis Data Kuantitatif Teori Dan Aplikasi Dengan SPSS* (Klaten: Penerbit Lakeisha, 2021), 5.

statistical techniques using Microsoft excel and SPSS 25.

2. Descriptive Inferential Data Analysis

Descriptive Inferential statistics is a statistic for drawing a conclusion or identifying research phenomena from a sample to a particular population.[21] The researchers used inferential statistics to learn about the effect of one variable on another variable, namely the Talking Stick Method variable on student motivation. Before the hypothesis can be tested, it is essential to first check the boundary conditions, such as the test of normality and the test of homogeneity.

a. Analysis of Student Learning Outcome

1) Normality Test

The Normality Test is used to determine whether the data distribution adheres to or resembles the normal distribution.[22] The statistical program SPSS (Statistical Package for the Social Sciences) was used to test the normal. It was tested for normality using the Kolmogorov-Smirnov and Shapiro-Wilk methods. In the population distribution normality test, the following hypothesis is put forth:

- H_0: The data are distributed normally.
- H_a: The distribution of the data is not normal.

The following are acceptance and rejection criteria for the hypothesis:[23]

- If sig is less than 0.05 Ho, H_1 is accepted.
- If sig is greater than 0.05 Ho, H_1 is rejected

[21] Zaid Ali Wardana Siti Azizah Susilawati, Muhammad Musiyam, *Pengantar Pengembangan Bahan Dan Media Ajar* (Surakarta: Muhammadiyah University Press, 2021), 172.

[22] Singgih Santoso, *Statisti Multivariat* (Jakarta: PT Gramedia, 2010), 43.

[23] Jonathan Sarwono, *Buku Pintar IBM SPSS Statistics* (Jakarta: PT Gramedia, 2011), 236.

2) **Homogeneity Test**

The data homogeneity test is a test to provide information that the research data for each group of data come from populations that do not differ much in diversity.[24] In this research, statistical computations will be performed using SPSS (Statistical Package for Social science).

The following are the homogeneity test hypotheses:

- H0: The data's variances are homogeneous.
- Ha: The data's variances are not homogeneous.

The following are the acceptance and rejection criteria for the hypothesis:

- If Significance > 0.05 then Ho is accepted
- If Significance < 005 then Ho is rejected[25]

3) **Hypothetical Test**

An assumption or temporary conclusion to the data that we will get later. Of course, this conclusion must be verified. Testing of a hypothesis or conclusion that we mentioned earlier will result in a determination of whether to accept or reject the hypothesis.[26] In this situation, the use of SPSS is to increase the study's efficiency and practicality. The following are some of the research hypotheses:

- H_a: The talking stick method has a significant impact on students' motivation
- H0: The talking stick method does not significantly improve students' motivation.

The following are the acceptance or rejection criteria for the hypothesis test:

---

[24] Fajri Ismail, *Statistika Untuk Penelitian Pendidikan Dan Ilmu-Ilmu Sosial* (Jakarta: Kencana, 2018), 201.

[25] Ana Ramadhayanti, *Aplikasi SPSS Untuk Penelitian Dan Riset Pasar* (Jakarta: PT Gramedia, 2019), 167.

[26] Akhmad Musthofa, *Uji Hipotesis Statistik* (Sleman: Gapura Publishing.com, 2013), 1.

- The following are the acceptance or rejection standards for the hypothesis test:
- If Sig. <= 0.05, Ha is accepted
- If Sig. >= 0.05, H0 is accepted.

b. **Analysis of Student Response Questionnaire Data**

The students' response questionnaire in this study was developed by using the pattern to choose one of the two available answers. The percentage of relative frequency is calculated using a formula, and then used to analyze the data from the student questionnaire:[27]

$$P = \frac{f}{n} \, x \, 100$$

P = Student presentation questionnaire
f = The number of visible responses
n = The total number of students.

The following criteria were used to determine the a percentage of student responses:[28]

No.	Percentage	Information
1	0-20 %	Not interested
2	21-41 %	Little interested
3	41-61 %	Quite interested
4	61-80 %	Interested
5	80- 100 %	Very Interested

G. Research Ethical Considerations

One of the most crucial aspects of research is ethical considerations. The thesis can also fail if this part is lost. The guiding principles for ethical issues in a dissertation are summarized in the following points:

1. Participants in the research should not be in any way harmed.
2. The participants in the research must be respected first.

---

[27] Turmudi, *Metode Statistika* (Malang: UIN Malang, 2008), 47.
[28] Anas Sudjono, *Pengantar Statistik Pendidikan* (Jakarta: Grafindo Persada, 2005), 43.

3. Before the study can begin, participants must give their full consent.
4. The security of exploration members should be ensured.
5. Any type of research-related communication should be honest and transparent.
6. Avoid providing primary data results in a distorted or misleading manner.[29]

Overall, ethical considerations in research are important, because maintaining the safety of both researchers and human participants is the primary goal of ethical considerations in research.

---
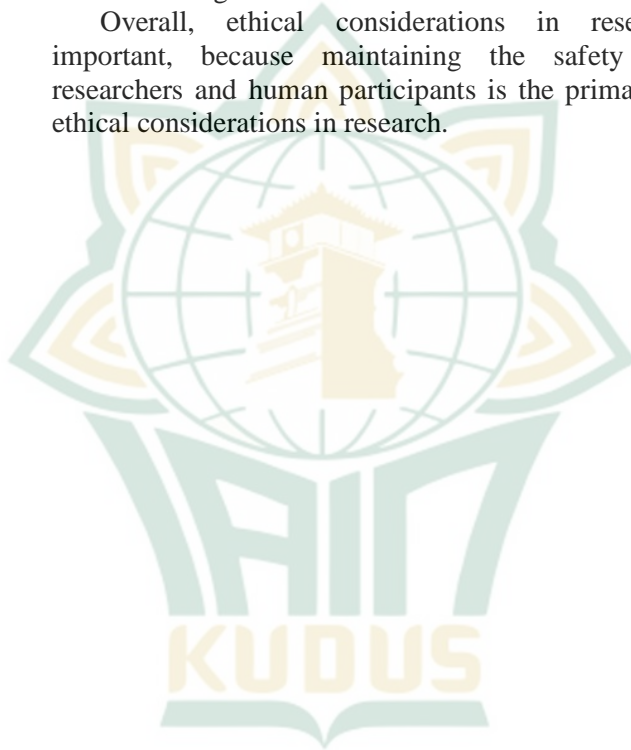
[29] E. Bryman, Ab ., Bell, *Business Research Methods* (New York: Oxford University Press, 2007), 131.