CHAPTER III

RESEARCH METHOD

A. Approach and Type of Research

This research uses a quantitative approach, which focuses on collecting numerical data and analyzing it statistically to test hypotheses and measure the impact of a treatment. The goal of using this approach is to objectively assess whether the use of English video content on Instagram has a measurable effect on students' vocabulary mastery, particularly in the area of idiomatic expressions.

According to Gay, Mills, and Airasian, quantitative research is defined as the process of collecting and analyzing numerical data in order to explain, predict, or control certain phenomena. This method is often used in educational research to evaluate the effectiveness of instructional strategies, interventions, or tools. Similarly, Sugiyono explains that quantitative research is a method that is grounded in the philosophy of positivism and emphasizes measurable variables. The data are collected using instruments and analyzed using statistical procedures in order to test the hypotheses that have been formulated in advance (Sugiyono, 2021).

The type of research used in this study is preexperimental research, more specifically the One Group Pretest Posttest Design. In this design, the researcher selects one group of participants and gives them a pretest before the treatment is introduced. The treatment in this study is in the form of English video content created by the researcher and uploaded to the Instagram account named HANLY. These videos are designed to teach English idioms in an engaging and contextual manner. After the treatment period is complete, the participants are given a posttest to measure any changes or improvements in their mastery of idiomatic expressions.

This design does not use a comparison or control group, and for that reason it is not considered a true experimental design. However, this model is still widely used in educational research, especially in classroom or field settings where full control over variables may not be possible. According to Gay, Mills, and Airasian, preexperimental designs are appropriate when the purpose is to observe initial changes and patterns in student performance following an intervention. Sugiyono also notes that preexperimental research is useful in practical environments such as schools or informal education

programs where researchers seek to evaluate the impact of a learning innovation or teaching strategy.

Although this design does not provide strong control over all external variables, it is effective for identifying whether a particular treatment, such as the use of Instagram videos, can lead to a significant improvement in learning outcomes. In this case, the outcome being observed is the students' mastery of idioms as part of their vocabulary knowledge.

In conclusion, the quantitative approach and the use of a preexperimental one group pretest posttest design are appropriate for this study. These methods enable the researcher to collect reliable data and analyze whether there is a significant difference between students' performance before and after they are exposed to Instagram-based idiom video content. Through this design, the study seeks to provide evidence that the integration of social media into English learning activities can support vocabulary development in informal learning environments such as Ma'had Al-Jami'ah.

B. Location and Time of Research

This research was conducted at Ma'had Al-Jami'ah, State Islamic University of Fatmawati Sukarno Bengkulu, during the even semester of the 2025 academic year. The researcher is also a *mahasantri* and a *musyrif* at Ma'had Al-

Jami'ah, which allowed for direct involvement in the teaching and learning activities during the research process.

C. Research Design

This research design is a pre-experiment design research with this research design is one group pretest posttest design. This design was used because this study only involved one class, namely the experimental class which was carried out by comparing the pre-test results with the post-test results. The research design model is as follows:

Table 1. One-Group Pretest-Posttest Design

Before	Treatment	After
X1	X	X2

Sumber : (Prof. Dr. Sugiyono, 2019)

Description:

X1 = Pretest value (before treatment)

X = Treatment (cooperative model of talking stick type)

X2 = Posttest value (after treatment)

This experimental model goes through three steps:

1. Administering a pretest to measure the dependent variable (*Mahasantri*'s vocabulary mastery) before the treatment is implemented.

2. Applying the treatment to the research subject class using English video content on Instagram.
3. Conducting a posttest to measure the dependent variable after the treatment has been applied.

D. Population and Sample

1. Population

In a study, a population is a general area consisting of objects or subjects that possess certain qualities and characteristics, which researchers decide to investigate and later draw conclusions from. A population can be interpreted as all individuals who are the focus of research and who will subsequently be subject to generalization. Generalization serves as a method for drawing conclusions about a broader group of individuals based on data gathered from a smaller group. Therefore, the researcher determines that the population is the complete object or subject to be studied, which will later be generalized to formulate conclusions based on the data collected.on the data obtained.

The population in this study consisted of all Ma'had Al-Jami'ah *Mahasantri* at State Islamic University of Fatmawati Sukarno Bengkulu, ranging from the second to the eighth semester, totaling 291 *mahasantri.*

Table 2. The Population of *Mahasantri*

No	Semester	Total
1	2	82
2	4	73
Total Amount		155

2. Sample

According to Sugiyono, a sample is a part of the population that has a specific quantity and characteristics used as a source of research data. This means that a sample serves to represent the entire population (Adnyana, 2021: 20).

In determining the research sample, various techniques can be applied. In this study, the sampling technique used is Probability Sampling with the Simple Random Sampling method. This technique is straightforward because the sample is selected randomly from the population without considering differences in types or strata within the population. Sample selection can be done using random numbers, computers, or a lottery method. In this study, the researcher selects sample members using the lottery method from the population members.

The determination of the sample in this study follows Slovin's Formula, which is:

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

Explanation:

n : Sample size

N : Total population

e : Critical value or margin of error

In the formula above, there are two conditions for determining the margin of error:

a. e = 10% if the population size is large.

b. Nilai e = 20% if the population size is small.

In determining the research sample, Suharsimi Arikunto provides a guideline: if the number of research subjects is less than 100, then all subjects are taken. Conversely, if the research subjects are more than 100, a sample of 10%, 15%, 20–25%, or more is taken according to the research needs. (Sigita, 2022: 45).

According to Hendryadi, if the population is too large and it is not feasible to directly sample every member, then Slovin's formula is used to determine the sample size. In this study, the researcher is unable to examine the entire population due to limitations in cost, effort, and time. Therefore, the researcher selects half of the population, considering it representative of the whole. A research sample is necessary to simplify the research process, especially when dealing with a large population.

The selected sample must be representative and accurately reflect the characteristics of the entire population.

The total number of second and fourth-semester *mahasantri* at Ma'had Al-Jami'ah is 155, categorizing it as a large population. Therefore, a 10% (0.1) margin of error is applied.

The sample size in this study is calculated using the following formula:

$$n = \frac{155}{1+155(0,1)^2} = 61$$

The calculation results in a sample size of 61, meaning that the respondents in this study consist of 61 *mahasantri.*

E. Operational Definition of Variables

The operational definition of a variable is a definition given to a variable by giving meaning, or specifying activities, or providing an operation needed to measure the variable. Writing variables are basically anything in the form of anything that has certain variations set by the researcher to study so that information is obtained about it and then conclusions are drawn. The operational definition of the variable is as follows:

1. Independent Variable (X)

A variable that affects other variables. In this study, the independent variable is the use of English-language video content on Instagram.

2. Dependent Variable (Y)

Namely, a variable that is influenced by the independent variable. In this study, the dependent variable is the vocabulary mastery of *mahasantri* at Ma'had Al-Jami'ah.

Table 3. Operational Definition of Research Variables

Variable	Operational Definition	Indicator	Measurement
Use of English Video Content on Instagram (X)	The use of English video content on Instagram by *mahasantri* is the activity of watching, understanding, and utilizing English videos uploaded on the Instagram platform. The definition of English video content is any form of video that uses English as a medium of communication, which can include	1. Frequency of watching English video content on Instagram 2. Duration of time spent watching English videos 3. Level of attention and interest in the content	Likert scale

	various genres such as tutorials, entertainment, education, and others.		
Students' Vocabulary Mastery Ability (Y)	Vocabulary mastery is the ability of *mahasantri* to understand, remember, and use English vocabulary obtained from video content on Instagram appropriately and according to context.	1. Accuracy of vocabulary use 2. Appropriateness of vocabulary context 3. Variety of vocabulary used 4. Ability to recall vocabulary after watching the video	Assessment rubric and vocabulary test

F. Data Collection Technique

This study used both pre-test and post-test to measure students' vocabulary mastery before and after the treatment. The treatment involved the use of English learning videos posted on Instagram. The test used was an objective test in the form of multiple-choice questions, tailored to the vocabulary material being taught. The steps of data collection through tests are as follows:

a. Pre-test

Before the instructional treatment was implemented, a pretest was administered to assess the initial level of

the *mahasantri*'s mastery of vocabulary, specifically focusing on idiomatic expressions. This pretest served to establish a clear baseline of the students' comprehension and ability to recognize, understand, and apply idioms within appropriate contexts.

The assessment consisted of multiple-choice questions that targeted three key indicators of idiom mastery: the ability to identify idiomatic expressions, the understanding of their intended meanings, and the capacity to choose the correct idiom to complete sentences based on context. All test items were carefully constructed using commonly used idioms, which were also featured in the instructional video content on Instagram, ensuring strong alignment between the assessment and the learning materials.

The test was conducted in a consistent and controlled environment within the dormitory, under the supervision of the researcher. To maintain the validity of the results, students were instructed not to use dictionaries, phones, or other learning aids. This procedure ensured that the scores truly reflected their existing knowledge before receiving any form of instructional intervention.

The data collected from the pretest played an essential role in determining the participants' starting

point and served as a basis for measuring their progress after the treatment. Additionally, the pretest results allowed the researcher to identify areas of weakness or potential misconceptions, which could then be addressed more effectively during the instructional phase.

b. Treatment

During the treatment phase, the researcher carried out a carefully structured and interactive learning process utilizing English video content that was specifically developed and disseminated through Instagram as a teaching medium. This phase was designed to immerse students in a contextual learning experience centered on idiomatic expressions, which are often considered one of the most challenging aspects of English vocabulary. The researcher acted as both content creator and learning facilitator by producing a series of short, engaging educational videos, each lasting approximately one minute. These videos were uploaded to a dedicated Instagram account named HANLY (Han Daily), which was specially created and managed for educational purposes. Every video presented between five to ten idioms accompanied by clear narration, relevant real-life context, subtitle support, pronunciation guides, and

subtle background music. These features were carefully selected to enhance both student engagement and comprehension, especially for learners who benefit from multimodal input.

The learning sessions were held in the dormitory of Ma'had Al-Jami'ah and implemented using the Cooperative Learning model, which emphasizes teamwork, shared responsibility, and individual accountability. Each session began with an opening activity in which the researcher, acting as the musyrif, greeted students, led a short prayer, and conducted a brief review of attendance. This was followed by an aperception stage aimed at activating students' prior knowledge about idioms by posing familiar expressions such as "Break a leg" or "Spill the beans." The researcher then clearly conveyed the objectives of the day's learning activities, ensuring students understood that the lesson would focus on understanding the meaning of idioms, observing how they are used in real-life contexts, and practicing their application in structured tasks.

Students were then divided into small, heterogeneous groups of three to five members, taking into account their language proficiency, learning preferences, and prior understanding of English idioms.

Each group was asked to select a creative name inspired by idioms (e.g., “Out of the Blue Team” or “Piece of Cake Team”), which served to increase group identity and motivation. Next, each group was guided to establish shared learning goals, such as comprehending the idioms presented in the video, using them correctly in sentences, and supporting one another’s learning process throughout the session. After the goal-setting, the researcher played the selected Instagram video for the day, which was followed by the distribution of LKPDs (student worksheets) containing a list of idioms, guided questions, a space for writing meanings, and areas for constructing example sentences.

The main learning activity took place during the group discussion phase, where students collaboratively worked to identify the idioms, interpret their meanings in Bahasa Indonesia, and explore how they were used in the video’s context. Students also practiced pronouncing each idiom correctly and shared examples from their own lives that might relate to the expressions. The researcher closely monitored each group, providing support when needed, clarifying unfamiliar vocabulary, and ensuring that all students were actively participating. This phase emphasized

peer support and mutual responsibility, as students were encouraged to help their groupmates understand the idioms and improve their sentence writing. Once the group task was completed, each group presented one idiom along with its meaning and an original sentence they had composed. These presentations fostered communication and interaction among groups, as other students were encouraged to respond, ask questions, or offer corrections in a respectful and constructive manner.

After the group presentations, students were given individual tasks as a form of personal accountability. They were required to complete short written or oral exercises that assessed their ability to use idioms independently. These included filling in blanks with appropriate idioms, explaining idioms verbally, or writing short dialogues using idioms in a natural context. This step ensured that each student had internalized the material, not only through group collaboration but also through individual effort. Following this, students completed a written reflection form in which they were prompted to describe which idiom they found most interesting, what difficulties they encountered during the lesson, and how well their group worked together. This reflection stage helped the

researcher evaluate both cognitive and affective responses to the learning process.

To conclude the session, the researcher provided general feedback and gave verbal praise to the most active or cooperative group as a form of celebration and positive reinforcement. Students were also assigned enrichment tasks, such as searching for two additional idioms from Instagram or other digital sources and writing their meanings along with sample sentences. To further reinforce the material, the researcher used the Instagram Stories feature to post quizzes or polls related to the idioms, making review and repetition feel more engaging and gamified. Throughout the treatment period, students were encouraged to rewatch the videos independently and revisit the posted content at their own pace, fostering learner autonomy and ongoing exposure to authentic language input. This learning design not only enhanced idiomatic expression mastery but also integrated digital literacy, collaborative skills, and independent learning habits in a way that aligned with both modern pedagogical trends and the unique needs of Ma'had students.

c. Post-test

After the completion of the instructional treatment, a posttest was conducted to evaluate the extent to which the use of Instagram-based video content influenced the *mahasantri*'s mastery of vocabulary, with a particular focus on idiomatic expressions. The posttest used the same multiple-choice format as the pretest, allowing for consistency in the structure and facilitating an accurate comparison between the two sets of results.

The test items were designed to assess students' ability to recognize commonly used idioms, interpret their figurative meanings, and apply them correctly within various sentence contexts. By maintaining alignment in terms of item format, content scope, and difficulty level, the researcher ensured that any differences observed in the results could be reliably attributed to the instructional treatment rather than extraneous factors.

The posttest played a central role in measuring the students' learning progress and determining whether there was a statistically significant improvement in their idiom comprehension after engaging with the Instagram video content. The administration of the test followed the same procedures as the pretest and was

carried out in a controlled environment under the supervision of the researcher. To ensure the validity and reliability of the data, students were instructed to complete the test independently and without the use of external aids.

All responses from the posttest were systematically recorded, scored, and analyzed using appropriate statistical methods. The analysis focused on identifying individual and group-level improvement, measuring the magnitude of change, and evaluating the overall effectiveness of the treatment. The comparative results between the pretest and posttest served as empirical evidence of the impact of Instagram-based video content as a learning tool, thereby providing direct support for answering the research question concerning the enhancement of idiom mastery among the *mahasantri* at Ma'had Al-Jami'ah.

Adapted from Heaton, J.B. (1998). Writing English Language Tests)

Table 4. Vocabulary Assessment Rubric

Score	Classification	Contextual Understanding	Lexical Recognition
96–100	**Excellent**	Accurately identifies and understands idioms in various contexts with minimal errors.	Demonstrates strong knowledge of idiomatic meanings and consistently distinguishes between similar expressions.
86-95	**Very Good**	Understands idioms well in most contexts, with only minor misinterpretations.	Recognizes and applies most idioms correctly; few errors that do not hinder meaning.
76-85	**Good**	Understands common idioms accurately, though occasionally confused by complex ones.	Generally grasps idiomatic meanings with some misuse in less familiar contexts.
66-75	**Fairly Good**	Understands basic idioms with some effort; context sometimes helps clarify meaning.	Recognizes simple idioms but struggles with those that are structurally complex.
56-65	**Fairly**	Often misinterprets idioms or relies on literal meaning when context is	Limited recognition of idioms; frequent

		unclear.	confusion with non-idiomatic phrases.
36-55	**Poor**	Rarely understands idiomatic meaning; heavy reliance on guessing.	Inadequate knowledge of idioms; minimal ability to distinguish their meanings.
0-35	**Very Poor**	Unable to understand idioms in context; responses are mostly inaccurate or irrelevant.	Shows no functional understanding of idiomatic expressions; answers are mostly guesses.

G. Research Instrument

This research aims to measure a phenomenon in order to obtain the necessary data. The number of instruments used is adjusted according to the variable being studied (Arikunto, 2019). In this research, the treatment was carried out using 20 validated multiple-choice questions about vocabulary, specifically focusing on idiomatic expressions. The questions were given to the same group of participants in both the pre-test and post-test to measure the students' vocabulary mastery before and after the treatment using Instagram-based English video content.

H. Data Analysis Technique

Data analysis in this study was conducted to determine the effect of using English video content on Instagram toward the vocabulary mastery of *mahasantri* at Ma'had Al-Jami'ah State Islamic University of Fatmawati Sukarno Bengkulu. The purpose of the analysis was to identify whether there was a significant improvement in students' vocabulary mastery after being exposed to Instagram-based English video materials.

1. Documentation

Documentation is a technique used to collect data from written sources, archives, or previous records relevant to the research (Prof. Dr. Sugiyono, 2019). In this study, documentation was utilized to gather institutional data related to the profile of Ma'had Al-Jami'ah, including the number of students, facilities, educational programs, and other institutional aspects that support the research setting.

This documentation process helped the researcher to understand the educational environment in which the treatment was implemented. The institutional background, learning systems, and existing English learning activities were used as supporting data to contextualize the analysis and discussion in later chapters.

2. Validity Test

According to Arikunto (2019), a test item is considered valid if it measures what it is intended to measure. Validity is typically assessed through correlational analysis between the individual item score and the total score. In this study, the instrument used was a vocabulary test consisting of 50 multiple-choice items focused on idiomatic expressions in English. The try-out was conducted on 33 English Department students from semester 2 and 4, selected randomly.

To determine item validity, each item's r-count was compared to the r-table value, which is 0.279 at a significance level of 5% for N = 33. The instrument was analyzed using SPSS version 30. Based on the decision rule, if r-count > 0.279 and Sig. < 0.05, the item is considered valid; otherwise, if r-count ≤ 0.279, the item is considered invalid. After processing the try-out data, it was found that 20 items were valid, while 30 items did not meet the validity criteria. The valid items are summarized based on their respective indicators in the following table

Table 5. Indicators of Vocabulary Test Validity

No	Indicator	Number of Valid Items	Valid Item Numbers
1	Understanding idiomatic expressions in context	8	1, 2, 3, 4, 9, 12, 14, 17

2	Interpreting figurative language	4	18, 23, 24, 25
3	Recognizing meaning from common idioms	4	28, 29, 33, 34
4	Applying idioms in appropriate usage	4	43, 44, 45, 50
	Total	20	

The results above show that only 20 items were valid and therefore used as the main instrument in this research. The validity test ensured that the selected items were capable of measuring students' vocabulary mastery accurately, particularly their understanding of idiomatic expressions in context.

Table 6. Instrument Validity

Item	r Tabel	Significance	r Count	Results
1	0,279	0,009	.449**	Valid
2	0,279	0,045	.351*	Valid
3	0,279	0,001	.568**	Valid
4	0,279	0,019	.408*	Valid
5	0,279	0,642	0,084	Unvalid
6	0,279	0,131	0,269	Unvalid
7	0,279	0,330	0,175	Unvalid
8	0,279	0,492	0,124	Unvalid
9	0,279	0,003	.501**	Valid
10	0,279	0,204	0,227	Unvalid
11	0,279	0,642	0,084	Unvalid
12	0,279	0,021	.401*	Valid
13	0,279	0,135	0,266	Unvalid
14	0,279	0,009	.450**	Valid

Item	r Table	Significance	r Count	Results
15	0,279	0,179	0,240	Unvalid
16	0,279	0,492	0,124	Unvalid
17	0,279	0,000	.633**	Valid
18	0,279	0,094	0,296	Valid
19	0,279	0,642	0,084	Unvalid
20	0,279	0,942	-0,013	Unvalid
21	0,279	0,121	0,276	Unvalid
22	0,279	0,642	0,084	Unvalid
23	0,279	0,003	.501**	Valid
24	0,279	0,009	.447**	Valid
25	0,279	0,008	.455**	Valid
26	0,279	0,216	0,221	Unvalid
27	0,279	0,204	0,227	Unvalid
28	0,279	0,028	.382*	Valid
29	0,279	0,062	0,329	Valid
30	0,279	0,135	0,266	Unvalid
31	0,279	0,204	0,227	Unvalid
32	0,279	0,131	0,269	Unvalid
33	0,279	0,016	.414*	Valid
34	0,279	0,029	.381*	Valid
35	0,279	0,194	0,232	Unvalid
36	0,279	0,226	0,217	Unvalid
37	0,279	0,189	0,235	Unvalid
38	0,279	0,409	0,149	Unvalid
39	0,279	0,179	0,240	Unvalid
40	0,279	0,703	0,069	Unvalid
41	0,279	0,194	0,232	Unvalid
42	0,279	0,226	0,217	Unvalid
43	0,279	0,001	.568**	Valid
44	0,279	0,107	0,286	Valid
45	0,279	0,058	0,333	Valid

Item	r Table	Significance	r Count	Results
46	0,279	0,218	0,220	Unvalid
47	0,279	0,226	0,217	Unvalid
48	0,279	0,330	0,175	Unvalid
49	0,279	0,189	0,235	Unvalid
50	0,279	0,034	.370*	Valid

3. Reliability Test

According to Arikunto (2019), a test is considered reliable if it gives consistent results when administered to the same group of subjects on different occasions. Reliability refers to the degree of consistency and stability of the measurement results. In this study, the reliability of the vocabulary test instrument was assessed using Cronbach's Alpha formula, which is suitable for measuring internal consistency of multiple-choice tests.

The reliability test was conducted using the responses of 33 English Department students from semesters 2 and 4 who participated in the try-out of 50 vocabulary items. The calculation was performed with the help of SPSS version 30.

The result of the reliability test is presented in the following table:

Table 7. Reliability Statistics of Vocabulary Test Instrument

Reliability Statistics

Cronbach's Alpha	N of Items
0,811	50

Based on the table above, the value of Cronbach's Alpha is 0.876, which is higher than 0.70, the minimum standard for acceptable reliability. This indicates that the instrument has high internal consistency and is reliable to be used in the main study.

Therefore, the vocabulary test used in this research was declared reliable and feasible for measuring the vocabulary mastery of the research participants, particularly in the context of idiomatic expressions.

4. Normality Test (Kolmogorov–Smirnov)

Before conducting hypothesis testing, the researcher first tested the normality of the data using the Kolmogorov–Smirnov test. This test was chosen because the sample size exceeded 50 participants, making it more appropriate than the Shapiro–Wilk test. The purpose of the normality test was to determine whether the data from the pre-test and post-test were normally distributed. If the significance value is greater

than 0.05, the data are considered to meet the assumption of normality and are appropriate for parametric tests.

5. **Paired Sample t-Test**

After confirming that the data were normally distributed, the researcher conducted a paired sample t-test to compare the pre-test and post-test scores. This test was used to determine whether the difference between the two sets of scores was statistically significant. If the significance level (Sig. 2-tailed) is less than 0.05, it indicates that the use of English video content on Instagram had a significant effect on the students' vocabulary mastery.

6. **Descriptive Statistical Analysis**

Descriptive statistics were used to present an overview of students' vocabulary test scores before and after the treatment. This included calculating the mean, minimum score, maximum score, and standard deviation. These values helped provide a summary of student performance, identify trends, and determine whether the treatment had an observable effect on their vocabulary mastery.