

CHAPTER III

RESEARCH METHOD

A. Research Design

This study applies a quantitative research method that emphasizes methodical, organized, and structured procedures for examining correlations between variables using numerical data analysis. Quantitative research is intended to objectively test hypotheses and is especially appropriate for studies attempting to create causal relationships between variables (Creswell, 2014). This study used experimental research, which is regarded as one of the most successful quantitative ways for determining how a specific treatment affects a dependent variable in an educational context.

Specifically, this study employed a quasi-experimental research design, a popular quantitative strategy in educational research when true random assignment is problematic or impractical. Quasi-experimental designs compare treatment and control groups without random allocation, allowing researchers to study cause-and-effect relationships in real educational settings with intact groups (Anantasia, 2025; Zajić, 2022). This design is especially appropriate in educational settings since it allows natural classroom dynamics while yet allowing for intervention assessment, even when extraneous variables cannot be totally controlled. Quasi-experimental approaches, as described by Osmanović Zajić and Maksimović (2022), strike a balance between rigorous empirical inquiry and the ecological validity of classroom environments. They are commonly used when true randomization is not feasible due to ethical or logistical constraints.

The Nonequivalent Control Group Design for Pretest-Posttest was implemented in this investigation, assigning two intact classes as the experimental and control groups without odd selection. While the control group receives instruction using Discovery Learning instruction, The Think-Pair-Share (TPS) strategy is employed to provide instruction to the experimental group. After the treatment is finished, both groups are given a post-test to assess students' speaking performance. This approach allows the researcher to evaluate the outcomes between groups and determine the effect of the TPS strategy in the absence of pre-test sensitization.

Table 1. Research Design

Group	Pre-Test	Treatment	Post-Test
Experimental	Y1	X1	Y3
Control	Y2	X2	Y4

Source: Sugiyono, 2013

Note:

Y1: Pre-Test

Y2: Pre-Test

X1: Applying the Think-Pair-Share strategy

X2: Not Applying the Think-Pair-Share strategy

Y3: Post-Test After Applying the Think-Pair-Share Strategy

Y4: Post-Test After Not Applying the Think-Pair-Share Strategy

B. Research Location

This research was conducted at SMAN 6 Seluma with eleventh-grade students in the even semester of the 2025/2026 academic year, located at Jl. Padang Pelawi, Km. 29, RT 0/RW 0, Desa Padang Pelawi, Sukaraja District, Seluma. The study took place from April 8 to May 13, 2026. Based on the initial observation, the researcher found that the eleventh-grade students still experienced difficulties in speaking

English. Some students were reluctant and anxious when they were required to speak in front of their classmates. This condition was related to their limited vocabulary and the classroom learning activities, which provided insufficient opportunities for meaningful speaking practice. In addition, the instructional activities were considered less communicative and interactive, resulting in limited opportunities for students to practice speaking in real classroom contexts. Therefore, the researcher selected SMAN 6 Seluma as the research location to investigate the effect of the Think-Pair-Share (TPS) strategy on students' speaking performance.

C. Population and Sample

1. Population

The term "population" denotes the complete collection of items or individuals that possess certain specific chosen by the researcher for examination and from which conclusions are expected to be formed based on the research findings. A precisely delineated population ensures that the chosen sample accurately reflects the target group, hence enhancing the study's validity and generalizability. According to Asrullah et.al (2023), population refers to all elements in a study that have defined qualities related to the research objective, making it the primary unit from which data may be collected and evaluated for quantitative inquiry. Eleventh-grade students comprise the population of this investigation at SMAN 6 Seluma academic year 2025/2026, divided into 5 classes.

Table 2. Population of the Research

No	Class	Female	Male	Total
1.	XI A	10	16	26
2.	XI B	9	17	26
3.	XI C	11	17	28
4.	XI D	10	19	29
5.	XI E	11	15	26

Total	135
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Source: SMAN 6 Seluma, 2026

2. Sample

Samples are subsets of the population that are used to make inferences about the traits and behaviors of the larger group being studied. In quantitative research, adopting an appropriate sampling technique is vital to ensuring that the sample precisely reflects the community and that the research results are valid and generalizable. Purposive sampling is a non-probability technique where participants are selected according to particular characteristics and standards pertinent to the study's aim, allowing researchers to concentrate on those most likely to offer relevant data (Hossan et al., 2023).

Purposive sampling is commonly applied in educational research when researchers need to select participants based on specific academic or instructional criteria, such as grade level, curriculum, or learning characteristics. In this quasi-experimental study, purposive sampling will be employed to select eleventh-grade students of SMAN 6 Seluma in the Academic Year 2025/2026 who meet the predetermined research criteria. Two intact classes will be selected as the research samples consisted of one for the experimental group and the other for the control group. This selection is intended to ensure that both possess relatively comparable academic characteristics, learning backgrounds, and class sizes, thereby enabling a valid comparison of the effect of the Think-Pair-Share strategy on student performance when speaking. (Hossan et al., 2023)

Table 3. Sample of the Research

No	Group	Class	Female	Male	Total
1.	Experimental	C	11	17	28
2.	Control	B	9	17	26
Total					54

Source: SMAN 6 Seluma, 2026

D. Data Collection Technique

The data in this study were collected through a test as the primary data collection technique. A test is one of the most extensively used techniques in quantitative educational research to obtain objective and measurable data regarding students' knowledge, skills, and learning outcomes. In language learning research, speaking tests are specifically designed to measure learners' oral performance by requiring them to complete speaking tasks that reflect their ability to communicate effectively in English. Therefore, a speaking test provides empirical evidence of students' actual speaking performance and enables researchers to evaluate the effectiveness of an instructional intervention through systematic measurement (Yang et al., 2022). Speaking assessment also serves as an essential means of collecting valid and reliable data because students' oral performances can be evaluated using predetermined scoring criteria, ensuring consistency and fairness throughout the assessment process.

Accordingly, this study employed speaking tests as the main technique of gathering data to obtain quantitative data on students' speaking performance. The data were collected using pre-test and post-test methodologies to evaluate the speaking performance of students before and after the implementation of the Think-Pair-Share strategy. The outcomes of both assessments were subsequently examined to ascertain the strategy's effect on the speaking performance of students.

According to Irwanto et.al (2019), the data collection procedures are as follows:

1. Pre-Test

This stage aims to measure students' performance level before participating in educational exercises employing the strategy. Throughout the pre-test stage, researchers analyze participants' initial conditions to establish a baseline for the variables studied before the intervention is given (Alessandri et al., 2017).

Table 4. Pre-Test Learning Activities

Learning Activity Stage	Teacher and Students Activities	Time
Opening	- Teacher greets students and checks attendance. - Teacher informs students that they will take a pre-test speaking assessment. - Teacher explains that the test aims to assess the students' initial speaking performance and ability prior to the treatment. - Teacher briefly introduces explanation text (simple definition only, without deep teaching). - Teacher explains scoring aspects (Fluency, Grammar, Vocabulary, Pronunciation, and comprehension).	10 Minutes
Main Activity	- Teacher prepares a short text entitled "Floods: A Natural Disaster". - Teacher distributes the text to all students. - The teacher allots students 5–10 minutes to peruse and comprehend the text individually. - Students are not allowed to discuss the text with their classmates. - Teacher informs students that they will be asked to explain the substance of the book in one's own words after reading. - Teacher calls students one by one to come to the front of the class. - Each student briefly reads the text and then explains the content of the text in their own words.	30 Minutes

	- Teacher may ask several simple oral questions related to the text to check students' comprehension and encourage spontaneous speaking. - Students are expected to respond using their own language resources rather than memorizing the text. - Teacher assesses students' speaking performance using a speaking scoring rubric covering pronunciation, grammar, vocabulary, comprehension, and fluency. - Teacher records the scores as pre-test data.	
Closing	- Teacher gives general feedback without mentioning scores. - Teacher encourages students to be more confident in the next meetings.	5 Minutes

2. Treatment

According to Alessandri et al. (2017), this treatment was administered to the experimental group during a specific time period in accordance with the research aims, in contrast, the control group didn't receive the same treatment. In the experimental class, the researcher used Think-Pair-Share (TPS) strategy while in the control class used Discovery Learning instruction. In this study, the experimental class was taught by the researcher while the control class was taught by English teacher from SMAN 6 Seluma. This course comprises a sequence of courses employing the Think-Pair-Share pedagogical approach to enhance students' English speaking proficiency. This strategy was carried out in four sessions, with the researcher guiding classroom learning activities. The treatment aims to enhance students' proficiency in English speaking, implement the Think-Pair-Share strategy.

Table 5. Treatment 1 Learning Activities

Learning Activity Stage	Teacher and Students Activities		Time
	Experimental Class	Control Class	
Opening	- Teacher greets students. - Teacher introduces explanation text (definition & purpose). - Teacher explains learning objectives.	- Teacher greets students. - Teacher explains explanation text through lecturing. - Students listen and take notes.	10 Minutes
Main Activity	Think Process :		
	- Teacher gives topic: "Car Accidents". - Students read the text individually. - Students identify causes of accidents in the text.	- Teacher explains the structure of explanation text.	
	Pair Process :		
	- Students discuss the generic structure with their partner. - Students classify causes such as bad weather, car problems, bad roads, and alcohol.	- Teacher reads the text aloud. - Students answer comprehension questions individually. - Teacher discusses the answers together.	60 Minutes
Closing	Share Process :		
	- Each pair presents the causes orally. - Teacher gives feedback and correction.		
	- Teacher summarizes the causes and structure of explanation text. - Teacher appreciates students' participation.	- Teacher summarizes the material. - Students submit their work.	10 Minutes

Table 6. Treatment 2 Learning Activities

Learning Activity Stage	Teacher and Students Activities		Time
	Experimental Class	Control Class	
Opening	- Teacher greets students. - Teacher reviews previous material about explanation text. - Teacher explains learning objectives.	- Teacher greets students. - Teacher explains the concept of explanation text. - Students listen to the explanation.	10 Minutes
Main Activity	Think Process : - Teacher gives topic: "How Does Rain Fall?" - Students identify the process of rain individually. - Students underline important vocabulary related to the water cycle. Pair Process : - Students discuss the sequence of rain formation with their partner. - Students arrange the steps: evaporation, condensation, and precipitation. Share Process : - Pairs explain the rain process orally in the presence of class. - Teacher gives feedback and clarification.	- Teacher explains the process of rain formation. - Teacher gives examples from the text. - Students answer worksheet questions individually. - Teacher checks and discusses the answers.	60 Minutes
	- Teacher concludes the process of rain formation. - Teacher motivates students to practice speaking.	- Teacher summarizes the lesson. - Teacher closes the class.	
Closing			10 Minutes

Table 7. Treatment 3 Learning Activities

Learning Activity Stage	Teacher and Students Activities		Time
	Experimental Class	Control Class	
Opening	- Teacher greets students. - Teacher asks students about rain and evaporation. - Teacher explains learning objectives.	- Teacher greets students. - Teacher explains the material through direct instruction. - Students listen carefully.	10 Minutes
Main Activity	Think Process :		
	- Teacher gives topic: "How the Water Cycle Works". - Students identify the stages of the water cycle individually.	- Teacher explains the stages of the water cycle.	
	Pair Process :		
	- Students discuss the functions of evaporation, clouds, and precipitation. - Students complete a sequence chart with their partner.	- Teacher provides explanation text examples. - Students answer comprehension exercises individually.	60 Minutes
	Share Process :		
	- Students orally present the phases of the water cycle. - Teacher gives feedback and additional explanation.	- Teacher discusses the correct answers.	
Closing	- Teacher summarizes the stages of the water cycle. - Teacher appreciates students' active participation.	- Teacher reviews the lesson briefly. - Teacher closes the class.	10 Minutes

Table 8. Treatment 4 Learning Activities

Learning Activity Stage	Teacher and Students Activities		Time
	Experimental Class	Control Class	
Opening	- Teacher greets students. - Teacher introduces the topic "Snow". - Teacher explains learning objectives.	- Teacher greets students. - Teacher explains explanation text through orally. - Students take notes.	10 Minutes
Main Activity	Think Process : - Teacher gives topic: "Snow". - Students read the text individually. - Students identify how snow is formed. Pair Process : - Students discuss the process of snow formation with their partner. - Students identify important information from the text. Share Process : - Each pair presents the process orally. - Teacher gives feedback and correction.	- Teacher explains the process of snow formation. - Teacher provides explanation text examples. - Students answer comprehension questions individually. - Teacher discusses the answers together.	60 Minutes
Closing	- Teacher summarizes the process of snow formation. - Teacher appreciates students' improvement and performance. - The teacher announced that there will be a post-test on the next meeting.	- Teacher summarizes the material. - Teacher closes the class.	10 Minutes

3. Post-Test

Subsequent to the treatment, The Think-Pair-Share (TPS) strategy is implemented, and in order to evaluate the extent of improvement, a post-test is conducted. In students' speaking performance that has resulted. The post-test is intended to evaluate students' speaking performance using the same indicators as the pre-test, but with diverse speaking subjects to prevent repetition and ensure independent measurement. This strategy enables the researcher to document changes in students' performance levels as a result of the educational intervention. Alessandri et al. (2017) found that comparing pre-test and post-test results is an excellent technique to assess the effects of an educational treatment by analyzing changes over time. As a result, the pre-test and post-test results are contrasted to see if using the TPS strategy is substantially enhanced the speaking performance of students.

The investigator used an oral production test as the primary tool for gathering the information. Referring to Heaton's framework on oral production tests, the speaking assessment was designed in the form of a guided oral composition combined with an oral interview (Heaton, 1988). In this procedure, students were given structured guidance related to the topic of Explanation Text from the Grade XI English textbook (Merdeka Curriculum). They were asked to explain causal relationships and respond to follow-up questions orally, allowing the researcher to evaluate their ability to organize ideas, use appropriate language expressions, and speak confidently. Through this guided and interactive format, the researcher was able to assess students' speaking performance directly and systematically based on established criteria for oral production tests.

Table 9. Post-Test Learning Activities

Learning Activity Stage	Teacher and Students Activities	Time
Opening	- Teacher greets students and checks attendance. - Teacher informs students that they will take a post-test speaking assessment. - Teacher explains that the test is to measure students' speaking improvement after the treatments. - Teacher reviews briefly the structure of explanation text (general statement & sequenced explanation). - Teacher explains scoring aspects (Performance, fluency, clarity, content, and language use).	10 Minutes
Main Activity	- Teacher provides the topic: "The Process of Earthquake". - Teacher writes connectors on the board (first, then, because, therefore, as a result, finally). - Students are given 3–5 minutes to prepare individually (no discussion allowed). - Students make a short outline (not full text). - Students are called one by one to perform their speaking (2–3 minutes). - Each student explains the process of how the rain happens using explanation text structure. - Teacher assesses students using the same speaking scoring rubric as pre-test. - Teacher records the scores as post-test data.	30 Minutes
Closing	- Teacher gives general feedback without mentioning individual scores. - Teacher appreciates students' progress and effort. - Teacher motivates students to keep improving their speaking in English.	5 Minutes

E. Research Instruments

This study aims to measure students' speaking performance in English in order to acquire accurate and relevant data related to the variables of the research. A speaking exam was used as the research tool in this study through an oral retelling task. Students were asked to retell the content of a given explanation text using their own words. The speaking test was based on the material from the Grade XI Senior High School English Student Worksheet, specifically focusing on the relevant topic being taught.

The speaking test rubric adapted from J. B. Heaton is considered appropriate for assessing students' speaking performance in the present study. Heaton (1988), in *Writing English Language Tests*, explains the assessment of oral production through various speaking test formats, including reading aloud, conversational exchanges, picture-based tasks, interviews, and other oral examinations. He also provides oral ability scoring criteria that evaluate important dimensions of spoken language, particularly accuracy, fluency, and comprehensibility. These criteria demonstrate that speaking ability can be assessed through students' actual oral performance in a structured speaking task. Therefore, Heaton's oral production scoring criteria are relevant to the present study because the research measures students' speaking performance through a speaking test administered before and after the treatment. The use of an analytic rubric enables the researcher to convert students' observable speaking performance into quantitative scores and subsequently compare their performance between the pre-test and post-test. This approach is also consistent with recent EFL speaking assessment research conducted by Xie et al. (2024), which evaluates speaking performance through

multiple linguistic dimensions, such as fluency, grammar or accuracy, vocabulary, pronunciation, and comprehension.

Since the present objective of investigation is to assess the effect of the Think-Pair-Share on students' oral proficiency. Heaton's assessment framework serves as a suitable tool for assessment students' oral performance before and after the implementation of the instructional treatment. Accordingly, the assessment criteria proposed by Heaton provide valid and comprehensive indicators for evaluating changes in students' speaking performance throughout the research process. Based on these components, an analytic speaking assessment rubric was constructed to evaluate each student's performance systematically and objectively.

Table 10. Rubric Speaking Assesment

Score	Fluency	Grammar	Vocabulary	Pronunciati-on	Comprehen-sion
5 (Excellent)	Speaks fluently with very little hesitation	Very few grammatical errors	Uses wide range of appropriate vocabulary	Clear and natural pronunciation	Fully understands and responds appropriately
4 (Good)	Generally fluent with occasional hesitation	Some minor grammatical errors	Adequate vocabulary with few inaccuracies	Mostly clear pronunciation	Understands most questions and responds well
3 (Fair)	Noticeable hesitation but message conveyed	Frequent grammatical errors but meaning clear	Limited vocabulary; occasional repetition	Some pronunciation errors affecting clarity	Understands basic questions with some difficulty
2 (Poor)	Frequent pauses and difficulty maintaining speech	Many grammatical errors that obscure meaning	Very limited vocabulary	Frequent pronunciation errors	Limited understanding; responses often inappropriate
1 (Very Poor)	Unable to speak continuously	Dominated by grammatical errors	Extremely limited vocabulary	Pronunciation seriously impedes communication	Fails to understand questions

Source: Heaton, 1988

F. Data Analysis Technique

This study analyzes data utilizing the experimental and control groups' pre- and post-test findings. The study attempts to investigate whether the Think-Pair-Share (TPS) strategy has a substantial impact on students' speaking performance. The pretest-posttest comparison is commonly employed in quasi-experimental research to evaluate the effects of an educational intervention (Alessandri et al., 2017). To verify the statistical analysis's validity and accuracy, the data is processed with SPSS version 29. The data analysis procedures include the following steps:

1. Descriptive Statistics

Descriptive statistics were employed to delineate the attributes of the data acquired from score comparisons between the experimental group and the control group both prior to and following the test. The mean, variance, standard deviation, minimum score, and highest score were among the descriptive statistics. Descriptive statistics assist researchers in summarizing and interpreting quantitative data prior to performing inferential statistical analysis, claim Creswell and Creswell (2018).

2. Normality-Test

The normality test determines if the pre-test and post-test data for both groups are systematically allocated. For parametric statistical tests, such as the t-test, the normal distribution is an essential assumption. SPSS 29 was utilized in this study to examine the data's normality. If the normality test produces a significance value exceeding 0.05, the data is deemed normally distributed and additional parametric analysis can be performed.

3. Homogeneity Test

The homogeneity test is determine in order to see whether or not the differences between the experimental group and the control group are comparable. This test ensures that group comparisons are statistically valid. The homogeneity assessment criteria are determined as follows:

- a. The significance level (α) is set to 0.05.
- b. If the significance level exceeds 0.05, the data is considered homogenous (equal variance).
- c. If the significance level is less than 0.05, the data are termed heterogeneous (unequal variance).

This test is also carried out using SPSS version 29.

4. Independent Sample T-Test

After the administration treatment, the findings of the post-test were compared between the experimental group and the control group using the independent samples t-test to determine whether the difference was statistically significant. According to Fraenkel et al. (2012), the independent sample t-test is commonly used in quasi-experimental studies to compare the mean scores of two different groups. This exam is meant to measure the impact of the Think-Pair-Share strategy on student speaking performance. The following are the t-test criteria:

- a. If the significance level is less than 0.05, it means that the Think-Pair-Share strategy has a substantial impact on students' speaking performance.
- b. If the significance level is greater than 0.05, it means that the Think-Pair-Share strategy has no meaningful impact on students' speaking performance.

All t-test analyses in this study were performed with SPSS version 29.

5. N-Gain Analysis

In order to evaluate the efficacy of the Think-Pair-Share strategy in enhancing students' speaking performance, this investigation implemented N-Gain analysis in conjunction with the t-test. N-Gain analysis is frequently used in educational research for evaluation the efficacy of instructional practices and gauge students' progress between pre-test and post-test scores (Wahab et al., 2021).

According to Triyono et al., (2024 as cited in Hake, R.R. 1999), the normalized gain score can be categorized into several effectiveness levels to determine the improvement achieved after the implementation of a learning strategy. Different categories of interpretation regarding the efficacy of N-Gain can identified:

Table 11. Interpretation of N-gain Effectiveness

Percentage (%)	Category
N-Gain > 76 %	Highly Effective
N-Gain 56% - 75%	Effective
N-Gain 40% - 55%	Less Effective
N-Gain < 40%	Ineffective

Source: Hake, R.R in Triyono et al, 2024