CHAPTER III
RESEARCH METHODOLOGY

This chapter outlines the methodology used in conducting the research. Covering the research design, data procedure, research site and participants, data collection methods, data analysis, and concluding remarks.

3.1 Research Design

This current study employed a Classroom Action Research (CAR) design to improve the students' reading comprehension skills through the use of mind mapping in the classroom. Classroom Action Research (CAR) was chosen because it provides a systematic and reflective approach for the teacher to identify problems in the classroom and take action to improve the teaching and learning process (Mansur, 2014, as cited in Nurjanah & Widyantoro, 2024).

This study followed the Classroom Action Research model developed by Kemmis and McTaggart (1988, as cited in Burns, 1999), which views action research as a cyclical process consisting of four main stages: (1) planning, (2) action, (3) observation, and (4) reflection. According to Burns (2010, p.7), "the first cycle may become a continuing, or iterative, spiral of cycles in which the action researcher has achieved a satisfactory outcome and feels it is time to stop". This implies that the number of cycles is not fixed, but it determined by the researcher depending the progress and outcomes of the intervention

In this study, two cycles were implemented, as they were considered sufficient to apply the teaching strategy, observe its impact, and make improvements based on the reflection from the first cycle. Before implementing the first cycle, a preliminary data was conducted to identify students' initial problems in reading comprehension and their familiarity with mind mapping. This activity was carried out to gain preliminary data, which served as a foundation for planning the first cycle. Although this stage is not part Classroom Action Research (CAR) cycles, it is commonly found in other CAR studies to helped the researcher understand the initial situation. Similar practices can be seen in studies by Wafa et al. (2018), Aprilia (2019), Nopita et al. (2021), which emphasize to conduct preliminary data to measure students' initial reading comprehension before the intervention.

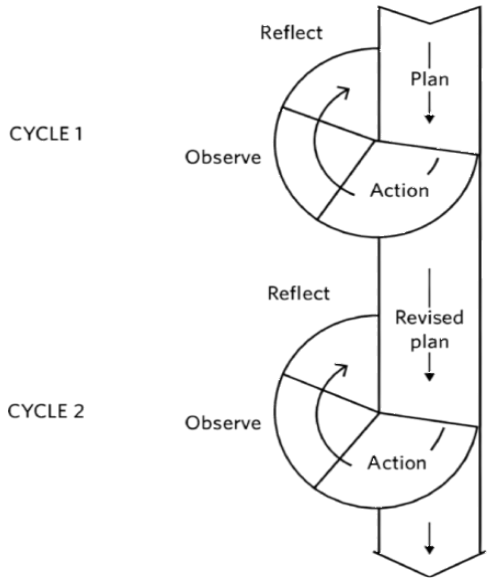

Figure 3.1. Action Research Spiral (Kemmis and McTaggart 1988)

a. Planning

In this stage, the researcher identified students' difficulties in understanding recount text and designed mind mapping-based lessons to address the problems. This planning process was carried out before cycle 1, and then it was revised before the implementation of cycle 2 based on reflection from cycle 1.

b. Action

The planned lessons were implemented in the classroom. In cycle 1, students were introduced to mind mapping and practiced it with teacher guidance, focused on the five reading comprehension skills. In cycle 2, the strategy was refined and emphasized identifying the main idea and making inferences to support deeper comprehension.

c. Implementation

During both cycles, the researcher observed classroom activities, students' engagement, participation, and their comprehension performance. The observation data were collected through field notes.

d. Reflection

After each cycle, the researcher evaluated the effectiveness of the strategy. The reflection from cycle 1 informed the necessary revisions for cycle 2, particularly in improving students' ability to identify main ideas and make inferences when reading.

Furthermore, Burns (1999:30) suggest a number of common features which can be considered to characterize the action research. First, action research is a contextual, small-scale, and localized, as it focuses on identifying and investigating problems within a specific situation. Second, it is evaluative and reflective as it aims to bring about change and improvement in practice. Third, action research is participatory as it provides for collaborative investigation by teams of colleagues, practitioners and researcher. Lastly, changes in practice are driven by the collection of information or data, which serves as for implementing change.

3.2 Research Procedures

This study employed the action research model proposed by Kemmis and McTaggart (1988), which consists of four cyclical stages: planning, action, observation, and reflection. These stages are implemented in a spiral process, allowing each cycle to be revised and improved based on the results and reflection of the cycle 1.

The research was conducted in two cycles; each cycle follows the same four stages. The results and reflections from cycle 1 were used to inform the planning and improvement in cycle 2. The detailed procedures for each cycle are described in the following sections.

3.2.1 Preliminary Data

The learning problem was identified during the research in teaching practice in class VIII at Junior High Schools. Based on classroom observation and informal discussion with the English teacher, many students had difficulties in reading comprehension and showed low motivation due to the length of text and conventional teaching strategy.

To confirm the issue, the researcher conducted a pre-test before starting cycle 1. The results showed that most students scored below the Minimum Mastery Criterion (KKM) of 75, indicating that need for improvement. This activity was part of the preliminary data, which aimed to identify students' initial problems. Although not part of CAR cycles, such stages are commonly used in other studies to understand students' ability before intervention. Therefore, the researcher chose mind mapping as the strategy to help students organize the information and improve their reading comprehension.

3.2.2 CYCLE 1

1. **Planning**

   In this stage, the researcher prepared the necessary materials and tools to implement the action. The planning includes the design of a lesson plan, recount text materials along with the students' worksheet, observation sheet, and a post-test to measure the outcome of the cycle. The lesson aimed to help students improve their reading comprehension using mind mapping.

2. **Action**

   In this stage, the mind mapping strategy was implemented in the classroom, with the researcher also acting as teacher. The researcher began by explaining the mind mapping strategy along with its purpose. Afterward, students were given a recount text and asked to read it carefully. Through a teacher-guided discussion, the class explored the structure of the text, such as orientation, events, and reorientation. Students then created their own mind maps by placing the title in the center and branching out the key elements using guiding questions such as *"Where did the story take place?", "What happened first?",* etc. Finally, these branches were further expanded with supporting details to help students structure the information visually.

   Furthermore, at the end of the meeting, a post-test was distributed to measure students' reading comprehension after the implementation of the strategy.

3. **Observation**

   During the implementation of the action, the researcher conducted the classroom observation to monitor both the teaching and learning process as well as the students' responses toward the use of mind mapping. In this phase, the researcher assigned a peer to act as the observer. The observer monitored all classroom activities and took notes related to the process of teaching and learning, students' engagement, and how the mind mapping strategy was applied during the lesson. The

observer followed a structured observation sheet to collect the relevant data.

Additionally, a post test was given in this stage to evaluate students' reading comprehension after the action. The post-test served as part of the data collection process during the observation stage, in line with Kemmis and McTaggart (1988) stating that observation involved documenting the effects of informed action.

4. **Reflection**

At the end of the cycle, the researcher made an evaluation by reviewing field notes, observation sheets, and the results of the post-test. The reflection revealed both the strength and weaknesses of the lesson implementation. Based on the reflection, the results showed that some students were still struggling to identify the main idea and make inferences. These results were used as the consideration for planning improvement to conduct the next cycle.

3.2.3 CYCLE 2

1. **Replanning**

Based on the post-test results at the end of cycle 1 with some reflections, the researcher revised the lesson plan to address the weaknesses during the cycle 1. Several adjustments were made, such as allocating more time for practicing how to identify main ideas in recount texts, providing teacher-guided examples of mind maps before students created their own, and adding follow up questions to deepen comprehension. These revisions aimed to help students gain a clearer understanding of the text structure and improve their ability to make inferences.

2. **Action**

The revised lesson plan was implemented in the classroom. The researcher delivered the lesson with emphasis on identifying the main idea and making inferences using mind mapping. The students participated in more structured practice activities, received more detailed

examples, and were encouraged to work collaboratively in analyzing recount texts.

At the end of the meeting, a post-test was given to evaluate students' reading comprehension after the implementation of the revised strategy.

3. **Observation**

As in the first cycle, the classroom observation was carried out using a structured observation sheet. The focus was on students' participation, interaction during the lesson, and how effectively they used mind mapping to support their reading comprehension. In this stage, the researcher is also given the post-test to evaluate students' progress after the implementation of the strategy.

4. **Reflection**

After completing the second cycle, the researcher conducted a reflection by reviewing the classroom observation sheet, field notes, and students reading post-test results. The analysis showed that most students demonstrated the improvement especially in identifying the main idea. They also showed better confidence in making inferences.

Based on these findings, it was indicated that the revised strategy was effective in addressing the learning problems identified in cycle 1. Therefore, it was concluded that the research objective had been achieved and no further cycle was needed.

3.3 Research Site and Participants

The study was conducted at a Junior High School in Bandung. The research was conducted through a teaching and learning process in the classroom in the second semester of the academic year of 2025/2026. It was carried out from April 2025 to June 2025 by implementing the use of mind mapping in teaching reading. The site was selected because the researcher has experience teaching there, which allows for easier access to the site for observation. As Creswell (2012) notes, it is essential for researchers to have permission to access the site and involve participants at the location of the study. Junior High School was chosen because recount text is first introduced at this level, making it a relevant setting for exploring how students comprehend such text using mind mapping strategy.

The participants of this research consisted of 28 eight-grade students in the classroom. The class was selected using purposive sampling. According to Palinkas et al. (2015), purposive sampling is used when researchers intentionally select participants based on specific characteristics that align with the study's objective. In this study, eight-grade students were selected as the participants because, according to the Merdeka Curriculum, students at this level are expected to explore and understand various text types, including recount texts. Additionally, Emilia (2011) states that Junior High School students are in the stage of developing their understanding of different genres, making them suitable subjects for a study aimed to improve reading comprehension using mind mapping strategies.

3.4 Data Collection

The study utilizes several instruments to facilitate data collection. The instrument used are classroom observation, interviews, and students reading comprehension tests. The description of each instrument will be outlined as follows.

3.4.1 Classroom Observation

Classroom observation serves as the primary data used to collect real-time data on the teaching and learning process during the implementation of mind mapping strategy. In this Classroom Action Research (CAR), the researcher acted as both the classroom teacher and a participant observer, meaning that the researcher was responsible for delivering the materials while also observing students' responses throughout the process. As Creswell (2012) explains, a participant observer is actively involved in the classroom activities while also recording the relevant information as well during the process.

In line with Hatch (2002), classroom observation helps the researcher understand the participants' behaviors, classroom environments, and social interactions. In line with this study, observations were carried out during five classroom meetings across Cycle 1 and Cycle 2, particularly during the action and observation phases. The observation focused on how students engaged with the mind mapping strategy and how it supported their reading comprehension development.

To collect the data, the researcher used a structured classroom observation sheet, which was adapted from Hanifa (2016). This instrument was chosen

because the objective of Hanifa's study aligned with the current research, both aims to improve students' reading comprehension through the use of mapping strategy. The observation sheet included indicators such as students' participation, responses to instruction, involvement in group tasks, and use of mind maps. In cycle 1, the observation focused on how students responded to the introduction of mind mapping and their understanding of the concept. While in cycle 2, the focus shifted to students' ability to use the strategy more independently, especially in identifying main ideas and making inferences. The observation sheet can be found in Appendix 2.

In addition to the observation sheet, the researcher also wrote field notes during and after each meeting. These field notes served a dual function, they recorded the objective of classroom and also included the researcher's personal reflections on students' progress, teaching decision, and any challenges during the progress. This combined format allowed the researcher to document classroom activities and critically evaluate each session for future improvement. The field notes, which included both descriptive and reflective component can be found in Appendix 3.

All sessions were also video recorded to capture classroom interactions and to ensure that no relevant data were missed. Additionally, the researcher wrote reflective notes after each meeting to document the challenges or instructional decisions made during the process. The data from the observations were analyzed after cycle 1 to inform the replanning stages for the cycle 2, aligning with the spiral nature of Classroom Action Research. The table 3.1 shows the stages of the classroom action research and the data collected in each phase.

Table 3.1. Classroom Action Research Phase and Data Collection

Preliminary Cycle			
Pre-Test			
Cycle 1			
Planning	Action	Observation	Reflection

Initial teaching plan	Classroom Observation, Post Test 1		Reflection notes
Cycle 2			
Planning	Action	Observation	Reflection
Revised teaching plan	Classroom Observation, Post Test 2		Summary of results

3.4.2 Interview

The interviews were conducted to gain deeper insights into students' experiences with the implementation of mind mapping in reading recount texts. According to Creswell (2012), a qualitative interview occurs when the researcher asks one or more participants in general, open-ended questions, and records their responses. In this study, semi structured interviews were conducted at the end of the second cycle, during the reflection stage of the Classroom Action Research (CAR).

Six students were selected through purposive sampling to represent different levels of reading comprehension: high, middle, and low. This variation aimed to capture a broad range of experiences, both from students who found mind mapping helpful and those who faced challenges. Although there were 28 students in class, only six were interviewed to allow for in-depth exploration while keeping the data manageable. This number was considered enough to reflect diverse perspective without making the analysis overly complex.

Open-ended questions were used to let students express their thoughts freely. Since the participants were eighth-grade students, the interviews were conducted in Bahasa Indonesia to help them feel more comfortable and clear communication. This aligns with Alamsyah (2018), who emphasized that using participants' preferred language, including Bahasa Indonesia, helps them communicate their ideas more freely and provide more meaningful responses.

The interview questions were adapted from Hanifa (2016), as her study also aimed to explore students' learning experiences. As both studies shared a similar objective, the adaptation was considered appropriate to guide this research. Each interview lasted about 5 to 10 minutes. With the participants' consent, all interviews were audio-recorded, transcribed, and translated into

English by the researcher. The interview questions used in this study can be found in Appendix 8. To ensure confidentiality and protect the participants' identities, each student was assigned a pseudonym in the form of a code. These codes are used consistently throughout chapter 4 during the data analysis process. The table 3.2 presents the participant coding used in this study.

Table 3.2. Interview Participant Codes

Code	Name	Meaning
P1	Galang	Participant 1
P2	Julia	Participant 2
P3	Nares	Participant 3
P4	Alika	Participant 4
P5	Dean	Participant 5
P6	Sania	Participant 6

3.4.3 Students' Reading Tests

In addition to classroom observations and interviews, reading comprehension tests were conducted at two stages to evaluate students' progress in understanding recount texts. A pre-test was administered before the implementation of cycle 1 to measure students' initial ability in understanding text. In addition, a post test was then conducted at the end of each cycle to evaluate the improvements following the application of mind mapping strategy.

The reading test consisted of 10 short answer questions, each designed to measure students' understanding of recount text. The questions were developed based on five key aspects of reading comprehension as outlined by Nuttall (1982): (1) main idea, (2) detailed information, (3) inference, (4) reference, and (5) vocabulary. The same set of test questions was used for both the pre-test and post-tests to allow for a valid comparison of students' progress across cycles. All tests were conducted under classroom conditions, and students' answers were later analyzed to determine the level of improvement. The full list of test items is can be found in Appendices 4,5, and 6.

3.5 Data Analysis

This study examined three types of primary data: observation notes, interview transcripts, and reading test scores to explore how the mind mapping strategy improved students' reading comprehension. The observation data were collected through video recordings and descriptive field notes, which included both classroom activities and the researcher reflections. The observation focused on students' behavior, engagement, and interaction during the learning process, following the indicators adapted from Hanifa (2016), whose study also aimed to improved students' reading comprehension. Interviews were transcribed into narrative form to capture students' experiences with mind mapping. Meanwhile, reading test results were analyzed based on the five aspects of reading comprehension as proposed by Nuttal (1982). All collected data were analyzed using the model proposed by Miles and Huberman (1994), which consists of three steps: data reduction, data display, and drawing conclusions. These steps are explained as follows:

1. **Data Reduction**

   In this stage, the researcher selected and simplified data from observations, interviews, and reading test results. For example, from the observation notes, only students' behaviors related to students' comprehension processes and their responses to mind mapping were retained. The interview data were summarized to capture key experiences and insights regarding the use of mind mapping. Reading test scores were. This process helped eliminate irrelevant information and focus on data aligned with the research objective.

2. **Data Display**

   The reduced data were organized into narrative descriptions and thematic grouping to help identify emerging themes. Observation notes were described narratively to illustrate student engagement and responses to the strategy (see Appendix 2). Interview data were grouped into major themes through coding to represent students' experiences and perceptions (see Appendix 8). Reading test scores were presented in tables comparing students' progress across pre-test, cycle 1, and cycle 2 (see Appendix 7).

3. **Drawing the conclusion**

In this stage, the researcher interpreted patterns across all data sources to answer the research question. Thematic patterns from interviews and observations were checked with students test performance. The findings showed that students demonstrated improved comprehension of recount texts, increased engagement during lessons, and clearer organization when using mind mapping.

3.6 Concluding Remarks

This chapter has presented research method of the study consists of research design, research site and participants, data collection, and data analysis. From the application of this method, a set of data was acquired, and the findings and discussion are presented in the next chapter, Findings and Discussion.