CHAPTER III

RESEARCH METHODOLOGY

A. Location and Time of the Research

A.1. Location of the Research

A classroom action research was conducted at Nurul Iman Private High School Tanjung Morawa, situated at Pasar 13, Desa Limau Manis, Kecamatan Tanjung Morawa, Kabupaten Deli Serdang. The school's location is exceptionally strategic, and it possesses a conducive atmosphere that facilitates the implementation of the teaching and learning process.

A.2. Time and Duration of the Action

This research was conducted from October to November 2021, spanning a duration of three weeks.

B. Subject of the Research

In this study, the researcher employed a purposive sampling technique. As described by Lodico, this sampling method was utilized with the aim of deliberately selecting individuals, participants, or specific detailed information for the research purposes.[1]

The subjects in this research comprised 30 students from Class XI-MIA 1, consisting of 26 female and 7 male students. The selection of this target group was based on students' suboptimal learning achievement scores.

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[1] M. G. Lodico.. *Methods in Educational Research (2nded).*(US: A Willey Imprint, 2010) P. 134

C.Types of the Research

Based on the identified problems in this research, with a primary focus on the process, meaning, and perception, a suitable and relevant research type and strategy is qualitative research employing Classroom Action Research (CAR). The term "CAR" is used as this research approach aims to address and resolve issues within the learning process by taking appropriate actions to enhance and improve the quality of both the learning process and outcomes.

This research was conducted through a collaborative and participative approach. Collaboratively, the researchers worked in conjunction with the class teachers, while participatively, the researchers received assistance from their peers. The objective of this study was to provide insights into enhancing student engagement and cognitive competence in relation to writing skills, specifically in the context of Analytical Exposition Text, through the utilization of the Discovery Learning method. As a result, the research focused on implementing actions to increase student engagement and cognitive competence with regard to their writing abilities.

D. Design of the Research

Classroom action research is a research methodology characterized by a series of cycles. In this research, two cycles were conducted, with the objective of assessing the improvement in students' ability to write Analytical Exposition texts based on a specific percentage increase.

In this study, the researchers adopted the research framework proposed by Kemmis and McTaggart as described by Kusumah (2011). The research process

encompassed three distinct stages: Planning, Action & Observation, and Reflection. Each of these stages constituted one cycle. When visualized, the research process can be illustrated as follows:[2]
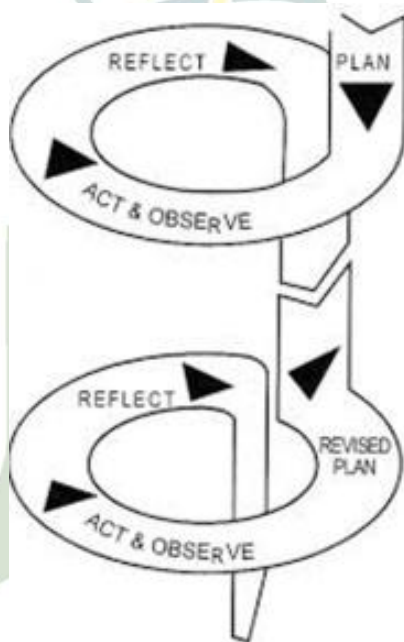
Picture 1. The research model of Kemis and Mc. Taggart

The following is a more detailed discussion of the stages involved in classroom action research:

a. Planning

This initial stage involves preparing everything necessary to support the research before taking action based on the formulated problem. The following elements need to be prepared at this stage:

b. Learning Media

Lesson plans implementing the Discovery Learning method in Analytical Exposition text

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[2]Kusumah, *Mengenal Penelitian Tindakan Kelas. Edisi 2*. (Jakarta: PT. Indeks, 2011) p. 20-21

c. Instrument of the Research

    1) Observation sheet for the implementation of the Discovery Learning method.

    2) Student activity sheet.

    3) Test sheet to measure students' ability to write Analytical Exposition Text.

d. Action and Observation

    During this stage, the planned actions are implemented in the classroom. The implementation follows the Learning Implementation Plan (RPP), utilizing the Discovery Learning method for Analytical Exposition Text material. It is important to note that the actions should be carried out naturally without manipulation. Another observer assists the researcher during the observation phase to ensure accurate data collection. The observation process is guided by the previously developed observation sheet. The observer focuses on monitoring the activities and learning processes involved in using the Discovery Learning method.

e. Reflection

    The Reflection Phase involves collecting data and notes throughout the teaching and research process, followed by analysis. The analysis results are then discussed with the collaborating teacher to determine whether any improvements need to be made in the subsequent cycle, particularly regarding student activity and cognitive competence. If there has been no improvement, adjustments can be made. However, if there is evidence of

improvement aligned with the success indicators, the cycle can be concluded.

E. Collecting Data Technique

The data collection methods employed in this study encompassed several approaches:

E.1. Test

The test was conducted to assess the students' proficiency in writing analytical exposition texts. Prior to administering the test, the researcher prepared an initial test comprising a pre-test and a post-test that would be administered to the students.

E.2. Observation

Observation is an analytical method that involves systematically recording the behaviors of individuals or groups through direct observation. In this study, observation was employed as a means of gathering data regarding the behavior of students. Prior to conducting the observations, specific behavioral indicators were established and an observation sheet was prepared to facilitate systematic data collection in the classroom setting.

E.3. Documentation

Documentation involved the creation of an archive consisting of photographs capturing the activities that took place during the learning process. The researcher took photographs of students engaged in learning activities. The utilization of documentation in this research enhanced the reliability of the research outcomes.

F. **Instrument of the Research**

Two instruments were employed by the researcher to collect data in this research, namely test instruments and non-test instruments.

F.1. Test Instrument

The test instrument was utilized to assess the students' proficiency in writing analytical exposition texts. Students were required to compose an analytical exposition text on a predetermined theme, adhering to the appropriate generic structure and language structures.

F.2. Non-Test Instrument

The non-test instrument employed in this study comprised an observation instrument. Observations were conducted to closely monitor and assess the students' behaviors throughout the learning process. The observation instrument consisted of two components: Observation of Student Activity and Observation of the Application of the Discovery Learning method. The observation of student activity was conducted using a checklist format.

G. Data Analysis

The data analysis technique employed in this research was descriptive quantitative. The collected data, comprising the results of student activities and cognitive competencies, were analyzed through direct observation. Additionally, tests were administered to ascertain the students' cognitive competence outcomes.

G.1. Data Analysis of the Learning Activity

The student activity data comprised quantitative data that assessed students' engagement in the classroom during the learning process. The assessment was

based on indicators outlined in the observation sheet. The scores for each statement were summed and divided by the maximum score across all statements. To obtain the percentage score for activity, the resulting score was multiplied by 100%.

$$P = \frac{\sum indikator\ yang\ muncul}{\sum Indikator\ Maksimal} \times 100\%$$

To assess the changes in student activity throughout each cycle, a comparison was made between the percentage scores of student activity across cycles. This analysis aimed to determine whether there was an increase in student activity. As the average value of student activity (P) was expressed in the form of a percentage, a conversion was necessary to establish criteria for different levels of student activity, namely high, sufficient, and low. The following table presents the conversion guide data, following the guidance provided by Suharsimi et al., to determine the corresponding levels based on the "P" value.[3]

Table 1. Table of the Conversion Guide Data According to Suharsimi

Percentage Rate	Criteria
80% - 100%	Very Good
70% - 79%	Good
60% - 69%	Fair
50% - 59%	Bad
0% - 49%	Very Bad

G.2. Data Analysis of students' Cognitive Competence

The data analysis employed in this study involved quantitative data analysis techniques. This analysis entailed conducting tests at the conclusion of each cycle.

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[3]Suharsimi Arikunto, et al. *Penelitian Tindakan Kelas.* (Jakarta: PT Bumi Aksara, 2015) p. 245

By comparing the average scores between Cycle I and Cycle II, it was possible to ascertain whether there was an improvement in student learning outcomes.

The class average can be calculated by the formula:

$$X = \frac{\sum X}{\sum N}$$

$$Y = \frac{\sum Y}{\sum N}$$

Meaning:

X   : mean of the pre-test scores

Y   : mean of the post-test scores

N   : number of the subjects

ΣX   : the sum of the pre-test score

ΣY   : the sum of the post-test score

Thus, the percentage of students who achieved the minimum passing grade (KKM) score was calculated using the following formula:

$$P = \frac{\sum ni}{\sum no} \text{ x } 100\%$$

Meaning:

P   =Percentage of the students' completeness

Σni   =Number of the students who reach KKM

Σno   =Total of the students

H.Indicator of Success

This classroom action research (CAR) was conducted with the objective of enhancing student activity and cognitive competence in writing analytical exposition texts among Class XI MIA-1 students at Nurul Iman Private High School Tanjung Morawa, through the implementation of the discovery learning method. The achievement indicator for the success of this research was defined as a minimum student activity level of 70%. This criterion aligns with the quality criteria for student activity, which denotes "good" performance, as outlined in the learning activity conversion guidelines. Moreover, the competency score was considered successful if students attained a minimum test score of 70.