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Research Article

Improving Learning Achievement in Natural Science through the Implementation of Discussion Method

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Abstract - *The research at MTs NW Lenek 1 East Lombok evaluated how students in seventh grade performed in their Natural Science (IPA) learning following a discussion method implementation during the academic year 2023/2024. The research studied the outcomes of Classroom Action Research methods when applied to Class VII-D students. The CAR process started by identifying the learning outcome problem in IPA followed by planning and selecting the discussion method as an intervention and its implementation for IPA teaching and performance assessment through systematic observation. Participants in the first cycle achieved an 68% success rate in the IPA course. The teachers' use of the discussion method during instructional delivery produced a remarkable outcome in Cycle II where student learning outcomes achieved 100% success. The study shows that student learning improved because of the discussion method's successful implementation which enhanced both understanding and retention of IPA concepts. The study implications demonstrate why participatory education strategies significantly influence teaching effectiveness. Students engaging in discussions as a learning method establishes an optimal environment for critical thinking and group work which produces superior learning achievements. Such pedagogical approaches help develop classrooms that promote interactive learning through student dialogue which leads to knowledge development. The research demonstrates that VII-D grade students achieve enhanced learning results from the discussion method for IPA. Further studies could explore further variations in implementation or assess its applicability across different subjects and educational contexts.*

Keywords - *Learning Achievement, Teaching Method, Discussion Methods.*

I. INTRODUCTION

Education is a conscious effort made by adults to develop human potential through teaching activities. These teaching activities are held in all educational units and levels, and are given to participants to guide them towards becoming adults in a reasonable manner. This is in line with the national education goals outlined in Law No. 20 of 2003, Article 3, which states: "National education serves to develop abilities, form character, and cultivate the civilization of the nation that is noble in character, in the framework of."

According to Ki Hajar Dewantara (2004), education is a cultural cultivation process, which is an effort to instill noble values to the younger generation in society, not only for preservation but also for the purpose of advancing and developing culture towards the realization of human life's greatness. From the above definition, it can be seen that education is a cultural process expected to be reflected in the values of the younger generation as the inheritors of. According to M. Noor Syam et al. (2003), education is a process where an individual is given the opportunity to adapt to various aspects of modern life related to their future life as an adult. The statement establishes that education is a process that begins with activities that facilitate the adaptation of an individual to the existing elements of modern life. The theoretical foundation of learning IPA (natural sciences) integrated is constructivism theory, which was developed based on ideas and works (according to Jean Piaget and Lev Vygotsky). The principles of constructivism state that *"activity must always precede analysis."* In other words, reflection on experience is the key to meaningful learning, not experiences collected in the form of textbooks, but direct experience with oneself, analysis, or reflective thinking, which should follow the experience. Based on

constructivist theory, there are four things related to learning in children. First, children construct experiences. Second, cognitive development in children is closely related to social interaction. Third, learning can lead to cognitive development. Fourth, language plays a central role in cognitive development. In implementing the learning process in the IPA subject for Grade VII-D students at MTs NW Lenek 1 East Lombok, the author found several challenges, including: 1) The learning outcomes of the IPA subject are very low, 2) Students are not motivated to learn, 3) Students do not pay attention to the teacher when explaining the learning material, 4) Students often do not attend school, 5) Students have a slow understanding of the IPA subject material, 6) Students often sleep during class, 7) Students are not active in the IPA learning process.

Due to time and resource limitations, the author attempted to address the problem of low learning outcomes in the IPA subject by implementing or using a discussion model in classroom activities. Therefore, the researcher conducts a Classroom Action Research (CAR) with the title: "Improving the Learning Outcomes of Natural Sciences (IPA) through the Implementation of the Discussion Method in Grade VII-D students at MTs NW Lenek 1 East Lombok, in the academic year 2023/2024." The research problem in this study is "How can the improvement of IPA/science learning outcomes be achieved through the implementation of the discussion method in Grade VII-D students at MTs NW Lenek 1 in the academic year 2023/2024?" The purpose of this Classroom Action Research (CAR) is to investigate the improvement of IPA learning outcomes through the implementation of the discussion method in Grade VII-D students at MTs NW Lenek 1 in the 2023/2024 academic year.

II. MATERIALS AND METHODS

The method applied for the research about "Improving Learning Achievement in IPA through the Application of Discussion Method for Even Semester of Class VII-D Students of MTs NW Lenek 1 in the Academic Year 2023/2024" is Classroom Action Research (CAR). The technique brings value to this study because it applies a sequential process starting with planning followed by action and observation before reflection phases which enables real-time intervention assessment in classrooms. The research strategy of CAR proves useful because it enables continuous learning modifications through immediate input from educational environments.

Research data comes from students in MTs NW Lenek 1 class VII-D numbering thirty participants with fifteen males and fifteen females whose average age stands at fourteen years. The focus of this research examines iPad results achieved by the students during their IPA (Science) course. The researcher directs this evaluation effort towards students of class VII-D at MTs NW Lenek 1 to determine how well discussion strategies influence their scientific learning achievement and class participation. The research followed two repeating cycles through which the investigators performed planning after which students took action while the researcher observed and reflected on the results.

A. Research Procedure

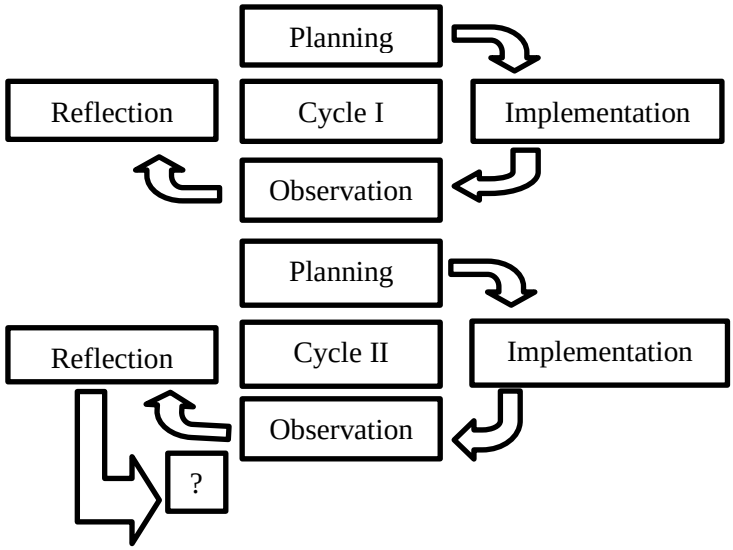

Figure 1. Research Procedure (Sources: Suharsimi Arikunto, 2008: 16)

III. RESULTS AND DISCUSSION

The research called "Improving Learning Achievement in Natural Sciences / IPA through the Application of Discussion Method for Even Semester of Class VII-D Students of MTs NW Lenek 1 in the Academic Year 2023/2024" focused on using the discussion method to enhance students' performance in IPA subjects. The research utilized two cycles of Classroom Action Research (CAR) which involved planning, action and observation and reflection stages. The study investigated whether classroom dialogue served as an adequate method to enhance student academic outcomes along with engagement levels.

A. The Cycle I Results

The first cycle of the study introduced discussion methods to Class VII-D students. Two presentations and one meeting for evaluation structured the cycle which took place between March 2024. The subject understanding of IPA received emphasis through student discussions during this educational period. The first cycle evaluation results failed to meet expected expectations. The learning targets were attained by 68% of students who scored an average of 75 points. Although some progress was made the learning objectives did not achieve their expected level so the teaching strategy needed additional adjustments.

B. The Analysis of Cycle I

Multiple obstacles emerged during the Cycle I observation period. Student involvement through discussions did not result in full student engagement because several students experienced difficulty understanding the presented material. Students needed better discussion organization and more directed facilitation methods according to the reflection phase to make effective contributions during class. Data from observation sheets and evaluation tests showed discussion method could work with proper modifications to enhance its effectiveness.

C. The Cycle II Improvements

The evaluation of Cycle I prompted the development of new strategies during Cycle II. Researchers enhanced the approach by setting specific aims and implementing formal discussion patterns with enhanced facilitation methods. One meeting for each cycle focused on material presentation while the second meeting functioned as an evaluation session. Both sessions took place during the second phase of the study. The second cycle from April to May 2024 aimed to solve previous cycle issues through creating a better discussion platform to maximize student involvement in material learning.

D. The Cycle II Results

The improvements in Cycle II led to a significant increase in student learning outcomes. The percentage of students achieving the learning targets rose to 100%, with an average score of 83. This marked improvement from Cycle I's 68% success rate demonstrated the effectiveness of the refined discussion method. The comprehensive data collected through observation sheets and evaluation tests showed enhanced student engagement and understanding of the IPA subject matter. The successful implementation of the discussion method in Cycle II validated the hypothesis that such an interactive approach could substantially improve learning outcomes.

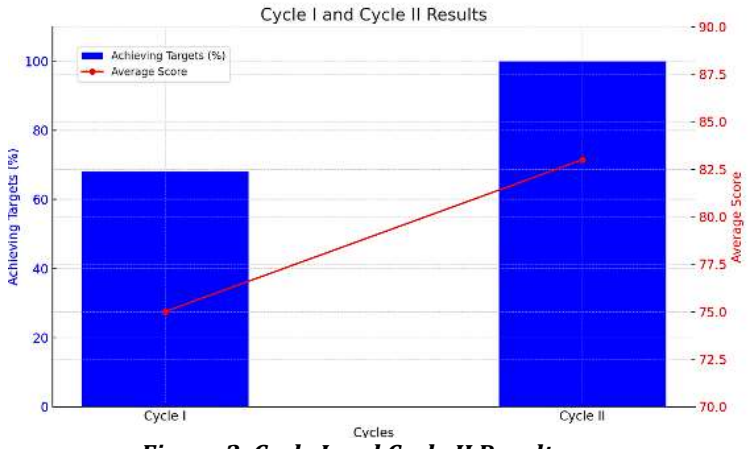

Figure 2. Cycle I and Cycle II Results

The study used a graph to display the learning performance differences of Cycle I students compared to those of Cycle II students when improving reading comprehension skills. Here are some key observations:

E. Achievement Percentage

- The achievement percentage measured 68% within Cycle I.
- The achievement percentage reached 100% during Cycle II.

F. Average Scores

- The research participants achieved an average score of 75 during Cycle I.
- The academic performance scored 83 points during Cycle II.

The implemented interventions between Cycle I and Cycle II demonstrated positive results which improved reading comprehension abilities of students. The students showed improved performance and understanding according to the increased achievement percentage together with elevated average scores during the second cycle.

IV. CONCLUSION

The discussion method delivered successful results which enhanced learning outcomes for science education in class VII-D at MTs NW Lenek 1 East Lombok. The teaching strategy demonstrates a dual advantage by raising academic results while simultaneously developing both students' analytical abilities and their ability to work together. As a different educational approach teachers can utilize the discussion method to enhance the standards of classroom instruction.

The results from this Classroom Action Research indicate that the discussion method, when properly structured and facilitated, can significantly enhance student learning outcomes in the IPA subject. The shift from a 68% success rate in Cycle I to 100% in Cycle II underscores the importance of iterative improvements in teaching strategies. It is recommended that educators consider incorporating structured discussion methods in their teaching practices to foster a more interactive and engaging learning environment. Future research could explore the application of this method across different subjects and student demographics to further validate its effectiveness.

The research findings demonstrate that teaching through discussions results in better student learning results in science subjects. This research demonstrates that teachers should implement the discussion method as an effective teaching method for increasing student classroom involvement. This study demonstrates how teaching students through discussions demands the teacher functions as a facilitator. Teachers need to develop skills which support students to conduct critical thought while sharing their opinions until every student becomes actively involved.

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