



Efforts to Improve Student Learning Outcomes from a Scientific Approach to the Theme of Growth and Development of Living Things in Class III of SDN Banyumekar, Labuan District, Pandeglang Regency

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Abstract: The purpose of this study was to determine how Nuraeni (2017:15) the use of the scientific approach could improve the learning outcomes of third-grade students at SDN Banyumekar, Labuan District, on the subject of the growth and development of living things. This study is a Classroom Action Research (CAR) conducted in two cycles, with 22 students in the class involved in the planning, implementation, observation, and reflection stages. III SDN Banyumekar in the 2020–2021 academic year. The methods used to collect data included observation, interviews, learning outcome tests, questionnaires, and information. The results of the study emphasised that the application of the scientific method can significantly improve school academic outcomes. The average learning outcome score increased from 56.96 in the pre-cycle to 71.81 in cycle I and 85.45 in cycle II. This improvement was also accompanied by an increase in student learning activities, particularly in terms of paying attention, asking questions, trying, debating, and communicating observation results. Thus, it can be concluded that the application of the scientific method improved student learning outcomes in the subject of growth and development of living things at SDN Banyumekar, Labuan District, in the 2020–2021 academic year.

Keywords: Child Friendly Schools, Learning Environment, Safe, Comfortable, Education

Introduction

Students to become Indonesians who are faithful, devoted to God Almighty, have noble character, and possess knowledge and skills that are beneficial to themselves, society, the nation, and the state. Education is expected to produce a future generation that is intelligent, creative, and capable of facing various challenges in life (Lutfi, Suryadi & Husain, 2024). Teachers play a very important role as the main drivers in the learning process to achieve these national education goals. Teachers are not solely responsible for imparting information, they can also help create a positive and enjoyable learning environment that encourages students to learn (Sundawa, 2023).

To ensure that students participate actively and acquire the ability to think critically about what is being taught, teachers must be talented and innovative in choosing the right learning approach. However, facts in the workplace show that many students are less active in the learning process (Wardani & Fiorintina, 2023). They tend to be passive, do not ask questions, and do not pay attention to what the teacher says. This situation limits teacher-student interaction. As a result, the learning process is disrupted (Senduk, 2024). The use of conventional learning approaches, such as lectures that lack variety and the use of uninteresting learning media, exacerbates this problem (Lu & Asih, 2025). As a result, students feel bored and unmotivated to learn, especially in thematic education about the factors responsible for the growth and development of living things. In the third Grade classroom at Banyumekar 3 Elementary School in Labuan District, this condition also occurs.

The evaluation results show that the majority of students did not meet the Minimum Passing Criteria (KKM). This indicates that the current educational methods are ineffective in improving student learning outcomes. Therefore, learning innovations are needed that can increase student activity, boost their motivation, and improve their understanding of the subject matter (Adriani, 2023). The scientific approach, another alternative, emphasizes the active involvement of students in the learning process through actions such as observing, questioning, experimenting, debating, and communicating (Sukmawati & Fatonah, 2018). The scientific approach enables students to think scientifically and acquire knowledge passively. Students are expected to be more active, motivated, and understand the lessons better (Nurdin, 2024).

It is hoped that using the thematic scientific learning method, particularly material related to the growth and development of living things, in Grade III at Banyumekar 3 Primary School in Labuan Sub district, will result in a significant improvement in the teaching and learning process. This method can help students improve their logical, critical, and creative thinking skills and achieve learning outcomes that are more in line with the expected educational goals.

Methodology

This study was conducted during the additional semester of the 2021–2022 academic year at SDN Banyumekar in Labuan Village, Pandeglang Regency. This study lasted for three months, from July to September 2021. The purpose of this study was to apply a method to improve students' academic achievement, technique, innovative education that suits the characteristics of primary school pupils. Twenty-two third-grade students from Banyumekar Elementary School, 11 boys and 11 girls, were the subjects of the study. During the intervention, all students were directly involved in the learning process. Researchers act as action instructors, while instructors act as observers to help observe the learning process and outcomes (Berti, Grazia, Vavassori, & Molinari, 2025).

Researchers began the preparatory stage by identifying problems and developing learning plans focused on applying scientific approaches. Next, in the action implementation phase, researchers use activities such as observing, questioning, trying, reasoning, and communicating to apply knowledge (Pedaste et al., 2015).

Collaborating teachers conduct an observation stage to identify how teachers and students interact throughout the learning process. Meanwhile, the reflection stage is used to examine the results of the actions that have been taken and determine what changes should be made in the next cycle. Interviews, learning outcome tests, questionnaires, observations, and documentation are some of the data collection methods used. Data on teacher and student actions during the learning process can be collected through observation. Interviews are also conducted to find out their responses to the learning process and outcomes that are implemented (Moleong, 2006).

At the end of each cycle, learning outcome tests are administered to evaluate students' level of understanding and progress after the intervention. The documentation includes photographs of activities, students' work, and test scores to reinforce the research data. Meanwhile, the questionnaire revealed students' responses to the learning approach used. Triangulation of methods and sources was carried out to ensure that the information was authentic. Source triangulation is carried out by analyzing the results of learning tests, interviews, and observations from various perspectives; source triangulation is carried out by comparing the results of observations, interviews, and learning tests from various perspectives. By using this triangulation, the research results are expected to have high validity and reliability. They are also expected to provide an unbiased picture of how effective the implementation of measures is in improving student learning outcomes (Sujarweni, 2014).

Descriptive and quantitative data are used to assess the success of an individual's actions. Qualitative data, derived from observations and interviews, are analysed using reduction, presentation, and draw conclusions. Quantitative data, derived from learning test results, was analyzed by calculating the average score, learning completion percentage, and improvement in learning outcomes for each cycle (Sugiyono, 2013).

Result and Discussion

In The focus of this theoretical research is thematic learning and how it can be applied in the Natural Sciences curriculum in primary schools. Thematic learning is an educational method that combines various subjects into one specific subject. This allows students to gain consistent, meaningful, and contextual learning experiences. According to the Ministry of Education and Culture (Culture, 2016), the objective of thematic learning is to improve students' ability to think broadly and understand the relationships between concepts from various disciplines (Nisa & Jiamin, 2022).

Thematic learning in primary schools is based on the developmental characteristics of primary school students, who still think concretely and holistically (Liando, 2019). This method helps students not only acquire knowledge about ideas as separate entities, but also

learn how these ideas interact with one another and how they interact with one another in specific real-world situations (Rochbani & Hashim, 2025).

Teachers help students discover knowledge through meaningful learning experiences (Morris, 2025). In addition, thematic learning can enhance students' creativity, interest in learning, and social skills by emphasizing the importance of cognitive, affective, and psychomotor integration. Natural scientists (IPA) strive to foster curiosity, scientific thinking skills, and concern for the surrounding environment. Science is a highly relevant tool for thematic learning because its concepts can be observed in everyday life. Students can develop scientific understanding independently through observation, simple experiments, and group discussions (Fitriana & Wardani, 2020).

One example of a theme in thematic learning is 'Caring for Living Things'. Students learn about the needs of living things (Science), write observation reports (Indonesian), understand the value of caring (Civics), and calculate the size or number of certain living things (Mathematics). Integrated knowledge becomes more contextual, surprising, and meaningful to students (Kaffa & Amini, 2023).

The 2013 curriculum emphasizes the use of a scientific approach in the learning process for each subject. This method consists of five main steps, namely observing, questioning, experimenting, reasoning, and communicating. By using a scientific approach in thematic learning, the learning process focuses not only on results, but also on the scientific thinking process (Suyanto, 2018). This method helps students become creative, critical, and able to solve problems using the data and evidence they learn first-hand. Scientific methods for student learning outcomes can be improved through thematic learning, motivation, and scientific attitudes (Fitriana & Wardani, 2020).

(Matsuri, 2025) found similar results, stating that implementing thematic learning in primary schools can improve students' logical thinking skills and their sense of responsibility towards the environment. In addition, (Fitriana & Wardani, 2020) research found that thematic learning conducted using a scientific approach can improve science learning outcomes and foster a caring attitude towards living things and the environment.

It is possible that students' cognitive, affective, and psychomotor abilities can be improved through thematic learning based on relevant theories and research. Students gain real and meaningful learning experiences through the integration of various subjects. Thus, the application of thematic learning not only improves science learning outcomes but also fosters awareness of the environment and living things around them (Caesar, 2023).

The results of observations and initial interviews with class teachers showed that students' learning abilities remained low before the intervention. The students did not appear to be engaged in the learning process, were not enthusiastic about answering the teacher's questions, and failed to cooperate well with others. The results of the students' learning in the subjects observed showed that most of the students had not achieved the school's minimum passing grade (KKM) of 70. This situation indicates that more efficient teaching methods must be used to improve student participation and understanding. The scientific method, which involves observing, questioning, experimenting, debating, and communicating, has been proven to improve learning outcomes and student engagement

(Maknunah, 2025). Students began to show interest in learning activities during the first cycle. There are some pupils who lack focus and need guidance to complete their tasks, but they appear more confident in asking questions and expressing their opinions (Sundawa, 2023).

The learning test results at the end of the first cycle showed that the initial conditions were better. The average student score rose from 63.5 before the cycle to 72.3 in the first cycle. However, as there were still around 30% of students who failed to achieve the minimum passing grade, it was clear that their results did not meet the expected targets. As a result, the second cycle produced improvements. Learning strategies are improved with more concrete examples, the use of more surprising educational tools, and increased teacher-student interaction (Nirmala, Nuraini, Widiarti, & Forsia, 2025).

Cycle II showed more optimal results. Students were more active in participating in learning activities, better at working together in groups, and more confident in recounting what they had seen. Student learning outcomes in cycle II increased significantly, with an average score of 82.5, and almost all students, or around 90%, achieved the minimum passing grade. This proves that applying the scientific method can improve students' academic performance while also enhancing their critical and creative thinking skills (Rezai, Ahmadi, Ashkani, & Hossein, 2025). In addition, the results of this study indicate that learning focused on student activities can increase their motivation to learn and enhance their sense of responsibility for the learning process.

This is in line that students actively create their knowledge by participating in interactions with their environment and meaningful learning experiences. Therefore, the scientific method not only improves students' cognitive learning outcomes, but also helps them in terms of affective and psychomotor skills (Dewi & Elisa, 2025). Overall, the findings of this study indicate that using a scientific learning approach can improve the quality of the learning process and outcomes of third-grade students at SDN Banyumekar. Students become more active, creative, and motivated to learn when participating in activities that involve observing, questioning, trying, reasoning, and communicating. This method can be used as a useful substitute to improve the quality of basic education.

Conclusion

The results of the two-cycle school action research show that the scientific method can improve student learning outcomes in grade III at SDN Banyumekar, Labuan Subdistrict, Pandeglang Regency. The scientific method, which consists of observing, questioning, experimenting, transferring, and communicating, has been shown to increase student engagement and learning activities. Students became more active in asking questions, making direct observations of objects, and drawing conclusions based on the results of experiments. The results of student learning evaluations improved with each cycle, demonstrating this improvement. In addition, scientific attitudes such as curiosity, responsibility, and cooperation among students also showed positive development. It is easier for teachers to supervise the class and create an engaging and meaningful learning environment. Therefore, it can be concluded that the scientific approach is an effective

learning approach to improve student learning outcomes in the subject of growth and development of living things in primary school. To ensure that students gain a deeper understanding of concepts and obtain a better contextual and meaningful educational experience, this approach must continue to be applied in science learning activities.

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