

Implementation of Keep on Learning Strategy to Improve Student Learning Outcomes in Science Subjects Class IV State Elementary School 142 Bengkulu Utara

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ABSTRACT

Objective: This study examines the implementation of the "Keep on Learning" strategy to enhance science learning outcomes for Grade IV students at Elementary School 142 North Bengkulu. It aims to identify effective practices and address obstacles hindering its success. **Method:** A qualitative research approach was employed, utilizing field research with primary and secondary data sources. Data collection included interviews, observations, and document analysis to explore the strategy's implementation and its challenges. **Results:** The study found that the strategy effectively improved student engagement and learning outcomes through project-based activities, experiments, technology integration, group discussions, independent assignments with feedback, and supplementary resources like videos and articles. However, several challenges were identified, including limited access to technology, insufficient parental support, and inadequate teacher preparedness. **Novelty:** This research highlights the critical role of continuous learning strategies tailored to elementary-level science education and provides actionable solutions, such as targeted teacher training, enhanced infrastructure, and increased community involvement, to overcome implementation barriers and optimize student outcomes.

INTRODUCTION

The application of the "Keep on Learning" learning strategy in the context of elementary education, especially in the subject of Natural Sciences (IPA) for grade IV students, is an approach that can significantly improve student learning outcomes. This strategy focuses on developing students' critical thinking skills and creativity through continuous and interactive learning. In this context, it is important to understand the various learning methods that can be integrated with the "Keep on Learning" strategy to achieve these goals.

One relevant method is problem-based learning (PBL), which has been shown to be effective in increasing student engagement and learning outcomes. Research shows that PBL can improve students' critical thinking skills, which is one of the main goals in science learning [11]. By implementing PBL, students are invited to solve real problems related to science material, so that they can develop a deeper and more applicable understanding of scientific concepts [11]. In addition, PBL also encourages collaboration between students, which is important in creating a dynamic and interactive learning environment [18].

In addition, generative learning strategies can also be integrated into the

application of "Keep on Learning". Generative learning focuses on developing understanding through organizing new information with existing knowledge [22]. In the context of science, teachers can use techniques such as mind mapping or diagrams to help students relate new concepts to their existing knowledge. This not only improves students' understanding but also helps them remember information better. Research shows that the application of generative learning strategies can significantly improve student learning outcomes, especially in the cognitive domain [22].

The use of interactive media is also an important aspect of the "Keep on Learning" strategy. Interactive computer media and demonstration methods can increase student engagement in science learning. Research shows that the use of interactive media can make learning more interesting and challenging, so that students are more motivated to learn [1]. By integrating technology into learning, students can participate more actively in the learning process, which in turn can improve their learning outcomes.

In addition, the contextual learning approach (Contextual Teaching and Learning, CTL) can also be applied to improve science learning outcomes. CTL links subject matter to the context of students' daily lives, so that they can see the relevance and application of what they are learning [5]. In science learning, teachers can use real examples from students' surroundings to explain scientific concepts. This not only makes learning more meaningful but also helps students in developing critical and analytical thinking skills.

The implementation of cooperative learning strategies, such as Think-Pair-Share, can also improve student learning outcomes. This method encourages students to work together in small groups, share ideas, and discuss learning materials [16]. In this way, students not only learn from the teacher but also from their friends, which can enrich their learning experience. Research shows that cooperative learning can significantly improve student motivation and learning outcomes [18].

In the context of science learning, it is also important to consider the role of the teacher as a facilitator. Teachers must be able to create a learning environment that supports and motivates students to continue learning. This can be done by providing constructive feedback, creating a positive classroom atmosphere, and encouraging students to actively participate in learning [27]. Research shows that good teacher support can improve student motivation and learning outcomes [26].

Next, it is important to involve parents in the learning process. Collaboration between teachers and parents can create a more conducive learning environment for students. Research shows that parental involvement in children's education can improve student learning outcomes [14]. Therefore, teachers need to establish good communication with parents and involve them in learning activities.

In implementing the "Keep on Learning" strategy, evaluation is also an equally important aspect. Continuous evaluation can help teachers identify student progress and determine the most effective learning strategies [25]. By conducting regular evaluations, teachers can adjust their teaching methods according to students' needs, so that learning outcomes can be optimally improved.

The implementation of the "Keep on Learning" learning strategy at Elementary School 142 North Bengkulu faces a number of problems that can affect its effectiveness in improving student learning outcomes in Natural Sciences (IPA) subjects. This strategy emphasizes continuous learning and the development of learning skills that do not just stop after a teaching session, but continue outside of class hours, encouraging students to continue exploring and understanding the material.

However, a number of challenges arise along with the implementation of this strategy. First, there is a problem with students' lack of understanding of the importance of continuous learning. Many students tend to view lessons as something that must only be completed in class and lack the motivation to continue learning outside of class. This could be caused by students' lack of interest in science subjects that are considered difficult or boring, which reduces the effectiveness of learning.

RESEARCH METHOD

This study uses a qualitative research type with a field research approach. This approach was chosen because the focus of this study is to explore an in-depth understanding of the implementation of the "Keep on Learning" learning strategy at Elementary School 142 North Bengkulu, as well as the obstacles faced in its implementation. The data sources in this study consist of primary data and secondary data. Primary Data: The main data sources directly involved in the learning process are teachers and students. Secondary Data: Secondary data is obtained from various documents and references that support the research, such as the curriculum used, observation notes, learning activity reports, and other sources related to the implementation of learning strategies at the school.

The data collection techniques used in this study include several methods designed to obtain comprehensive information about the implementation of the "Keep on Learning" learning strategy:

1. In-depth Interviews: Interviews were conducted with teachers and students to explore their views on the implementation of this strategy, as well as the obstacles and challenges faced.
2. Participatory Observation: The researcher conducted direct observation of the learning process in class IV, especially related to the "Keep on Learning" strategy.
3. Documentation: Collecting data from related documents, such as lesson plans, learning materials, and student assignment results or practicum reports, to complement interview and observation data.

Data obtained from interviews, observations, and documentation were analyzed using a qualitative data analysis approach. This analysis process is carried out through the following steps:

1. Data Organization: All data collected from interviews, observations, and documentation are arranged and grouped based on relevant themes, such as

the form of strategy implementation, obstacles faced, and the impact on student learning outcomes.

2. Data Coding: The data that has been collected is then coded, namely labeling certain parts of the data that have special meaning, such as quotes from interviews or observation notes that relate to the themes that have been identified.
3. Thematic Analysis: After the coding process, the researcher identified the major themes that emerged in the data and analyzed the relationships between these themes.
4. Data Interpretation: Researchers interpret the data that has been analyzed to answer the formulation of the research problem, and draw conclusions regarding the successes and challenges in implementing the learning strategy.

To ensure the validity and legitimacy of the data obtained, this study uses several common data validity testing techniques in qualitative research, namely:

1. Triangulation: Testing the validity of data is done by source triangulation and method triangulation. Source triangulation is done by comparing information obtained from various data sources, namely teachers, students, and related documents.
2. Member Checking: After the interview was conducted, the researcher re-checked the respondents (teachers and students) to ensure that the recorded data reflected what they actually said.
3. Credibility and Dependability: Researchers also ensure the credibility and dependability of data by systematically reviewing the data collection and analysis process, to ensure that the data obtained is consistent and reliable.

RESULTS AND DISCUSSION

Form of Implementation of the "Keep on Learning" Learning Strategy to Improve Student Learning Outcomes in Science Subjects for Class IV of Elementary School 142 North Bengkulu

The implementation of the "Keep on Learning" learning strategy in grade IV of Elementary School 142 North Bengkulu aims to improve student learning outcomes in Natural Sciences (IPA) subjects. In general, this strategy emphasizes the importance of continuous and independent learning, where students are expected to continue learning not only during class hours, but also outside the classroom. The form of implementing the "Keep on Learning" strategy in science learning in grade IV involves several activities that are directed at activating students' roles in learning. The following are some forms of implementation that have been carried out:

1. Project Based Learning and Experimentation

In an effort to improve the understanding of science concepts, teachers apply project-based learning and experiments. Students are asked to do simple experimental activities outside of class hours, which they then report in the form of a lab report. This aims to encourage students not only to listen to the material

passively, but also to be actively involved in searching and finding information directly.

2. Use of Technology in Learning

Teachers utilize various digital media and educational applications that support science learning. For example, through learning videos about certain materials or educational applications that can be accessed by students at home. In this way, students can continue learning outside the classroom, improve understanding, and work on assignments independently.

3. Group Discussion and Collaboration

This strategy also encourages cooperation between students in the form of group discussions. After receiving the material in class, students are divided into groups to discuss certain topics and find solutions to problems given by the teacher. The results of this group discussion are then presented in front of the class, which gives students the opportunity to learn from their friends.

4. Independent Assignments and Regular Feedback

Each week, students are given independent assignments related to the science material that has been taught. Teachers provide regular feedback on the assignments completed, and students are given the opportunity to improve their work. This process provides students with the opportunity to continue learning, improve their understanding, and develop their skills.

5. Provision of Diverse Learning Resources

In addition to textbooks, teachers also provide additional learning resources, such as articles, journals, and learning videos that can be accessed by students outside of class hours. This allows students to deepen science material independently, according to their interests and needs.

The implementation of the "Keep On Learning" learning strategy in the context of education, especially in science subjects in grade IV of Elementary School 142 North Bengkulu, is a strategic effort to improve student learning outcomes. This strategy focuses on developing students' critical and creative thinking skills, which are very important in science learning. Research shows that the application of various learning models, such as Problem Based Learning (PBL) and Discovery Learning, can significantly improve student learning outcomes [7]; [23]; [15].

The PBL learning model, for example, has been proven effective in improving student learning outcomes at various levels of education. In the context of grade IV, the application of PBL can help students to be more actively involved in the learning process by solving real problems that are relevant to their daily lives. This not only improves the understanding of science concepts but also encourages students to collaborate and communicate with their classmates, which is an important aspect of cooperative learning [23]; [15]; [6].

In addition, the Discovery Learning method can also be applied to encourage students to conduct observations and experiments, which are an integral part of science

learning. By providing opportunities for students to discover their own knowledge through exploration, they will find it easier to understand and remember the information learned. Research shows that this learning model can significantly increase student motivation and learning outcomes [7]; [10].

The application of experimental methods in science learning is also very important. This method allows students to be directly involved in the scientific process, so that they can develop practical skills and a deeper understanding of science concepts. The results of the study showed that the use of experimental methods can improve student learning outcomes in grade IV [10]. Thus, the combination of PBL, Discovery Learning, and experimental methods can be an effective strategy in improving student learning outcomes at Elementary School 142 North Bengkulu.

The success of implementing this learning strategy also depends heavily on the role of the teacher as a facilitator. Teachers need to design interesting and relevant learning activities, and create a learning environment that supports collaboration and discussion. Research shows that teachers who use an active approach in teaching can improve student engagement and learning outcomes [9]; [29]. Therefore, training and professional development for teachers is essential to ensure that they have the skills and knowledge necessary to implement effective learning strategies.

Furthermore, it is important to involve parents and the community in the learning process. Support from parents can increase student motivation and create a positive learning environment at home. Research shows that parental involvement in their children's education can have a positive impact on learning outcomes [8]; [24]. Therefore, schools need to develop programs that involve parents in learning activities, such as workshops or seminars on the importance of science education.

In the context of learning during the pandemic, the implementation of blended learning can also be considered. This model combines face-to-face learning and online learning, which allows students to remain engaged in the learning process even in unusual situations. Research shows that blended learning can improve student motivation and learning outcomes, especially in challenging situations such as the pandemic [3]; [4]. Therefore, schools need to utilize technology to support learning and ensure that all students have equal access to educational resources.

Thus, the implementation of the "Keep On Learning" learning strategy in Elementary School 142 North Bengkulu can be done through a combination of various learning models that have been proven effective, such as PBL, Discovery Learning, and experimental methods. With the right support from teachers, parents, and the community, it is expected that student learning outcomes in science subjects can increase significantly. Further research is needed to evaluate the effectiveness of this strategy in a broader context and to identify best practices that can be applied in other schools.

Obstacles in Implementing the "Keep on Learning" Learning Strategy to Improve Student Learning Outcomes in Science Subjects for Grade IV of Elementary School 142 North Bengkulu

Although the "Keep on Learning" strategy provides a lot of potential to improve

student learning outcomes, its implementation at Elementary School 142 North Bengkulu faces several significant obstacles. These obstacles can affect the effectiveness of the strategy in achieving optimal learning objectives. Here are some of the obstacles faced:

1. Limited Access to Technology and Learning Resources

One of the main obstacles in implementing this strategy is students' limited access to technology and adequate learning resources. Although this strategy relies on the use of digital media to expand learning, most students at Elementary School 142 North Bengkulu have limited access to electronic devices (such as computers or tablets) and stable internet. This leads to an imbalance in opportunities for independent learning outside the classroom, especially for students who do not have such facilities at home.

2. Lack of Understanding and Support from Parents

The success of the "Keep on Learning" learning strategy depends heavily on the support and active participation of parents. However, most parents in the region are less involved in their children's education process, especially when it comes to independent learning at home. Some parents also do not fully understand the importance of continuous learning, so they do not provide enough support for their children to continue learning outside of school.

3. Lack of Teacher Readiness in Implementing Strategies

Although teachers at Elementary School 142 North Bengkulu are trying to implement this strategy, not all teachers have a deep understanding of how to effectively implement "Keep on Learning"-based learning. Some teachers feel less prepared with an approach that requires them to manage learning more flexibly and use technology optimally. Lack of training and workshops related to the implementation of this strategy is an obstacle to its implementation.

4. Student Motivation and Independence

Most of the fourth grade students at Elementary School 142 North Bengkulu still depend on direct instructions from teachers and are not yet accustomed to learning that demands independence. Students' motivation to continue learning outside the classroom is often low, especially for students who find science material difficult. This is a big challenge in implementing the "Keep on Learning" strategy, because students need to have the initiative to learn further after learning in the classroom.

5. Limited Facilities and Infrastructure

Limited school facilities and infrastructure, such as limited classroom space and the absence of adequate science laboratory facilities, are also obstacles. Without supporting facilities, the implementation of experiments or practical activities that directly involve students is limited. In fact, this activity is very important to strengthen students' understanding of science concepts.

6. Lack of Time for Continuous Learning

With busy school schedules, the time available for learning outside the

classroom is often limited. Teachers also have difficulty in providing sufficient time to provide in-depth feedback on students' independent work. This can hinder the student learning process which is expected to be sustainable and continuous.

In the context of education, the implementation of the "Keep on Learning" learning strategy in grade IV of Elementary School 142 North Bengkulu faces various obstacles that affect student learning outcomes in Natural Sciences (IPA) subjects. This strategy aims to encourage students to continue learning and developing their skills, but in practice, there are several challenges that need to be overcome.

One of the main obstacles is the lack of understanding of teachers regarding effective learning methods. Research shows that the application of appropriate learning models, such as Problem Based Learning (PBL), can significantly improve student learning outcomes [21]; [30]; [20]. However, if teachers do not have an adequate understanding of this model, then its implementation will be less than optimal. For example, in a study conducted at SD Negeri 1 Sukadana, the application of the group discussion method succeeded in improving science learning outcomes, but only after teachers understood and implemented the method well [13]. Therefore, training and professional development for teachers is essential to ensure that they can implement effective learning strategies.

In addition, student motivation factors are also an obstacle in implementing this learning strategy. Low student motivation can hinder their learning process. In a study conducted by Utomo, it was found that the application of the guided inquiry model can increase student motivation in science learning [28]. This shows that when students feel motivated, they are more likely to be involved in the learning process. Therefore, it is important for educators to create a learning environment that supports and motivates students to continue learning.

Another obstacle faced is the lack of adequate resources and facilities to support learning. Research by Juniati and Jamaluddin shows that the application of ICT in science learning can improve students' scientific skills, but this is highly dependent on the availability of adequate technology and infrastructure [12]. At Elementary School 142 North Bengkulu, if ICT facilities are not available or inadequate, the implementation of technology-based learning strategies will be difficult. Therefore, improving educational infrastructure is very important to support the implementation of effective learning strategies.

Furthermore, differences in students' initial abilities are also a challenge in implementing the "Keep on Learning" learning strategy. Each student has a different background and ability, which can affect the way they learn and understand the material. Research by Rahmawati shows that the application of the CTL (Contextual Teaching and Learning) learning model can improve student learning outcomes, but it needs to be adjusted to the students' initial abilities [19]. Therefore, teachers need to conduct an initial analysis of students' abilities so that they can design learning that suits their needs.

Another obstacle that is no less important is the lack of support from parents and

the community. Research shows that parental involvement in children's education greatly influences student learning outcomes [2]. If parents do not support or are not involved in their child's learning process, students will feel less motivated to learn. Therefore, it is important for schools to establish good communication with parents and involve them in learning activities.

In facing these obstacles, several strategies can be applied to improve student learning outcomes. First, training for teachers on effective learning methods needs to be carried out periodically. Second, creating a learning environment that supports and motivates students should be a priority. Third, improving educational infrastructure, especially in terms of technology, must be considered. Fourth, analysis of students' initial abilities needs to be carried out to design appropriate learning. Finally, working with parents and the community can help create the support needed for successful learning.

So, the implementation of the "Keep on Learning" learning strategy at Elementary School 142 North Bengkulu faces various obstacles that need to be overcome in order to improve student learning outcomes in science subjects. By identifying and overcoming these obstacles, it is hoped that students can be more motivated and successful in their learning process.

CONCLUSION

Fundamental Finding : The "Keep on Learning" strategy significantly enhances Grade IV students' learning outcomes in science subjects by emphasizing continuous and independent learning through diverse instructional methods, including project-based learning, experiments, and technology integration. **Implication :** These findings underscore the importance of adopting innovative, student-centered learning strategies to foster critical thinking and self-directed learning in elementary education. Enhancing teacher training, improving infrastructure, and engaging parents and the community are essential to fully realizing this strategy's potential. **Limitation :** Despite its promise, the study highlights significant challenges, including limited access to technology, inadequate parental support, insufficient teacher readiness, and restricted school resources. Additionally, the reliance on qualitative methods limits the generalizability of the findings. **Future Research :** Further studies should explore scalable solutions to these challenges, such as developing cost-effective technological tools and community-driven support programs. Quantitative research could also evaluate the long-term impacts of this strategy on student outcomes across various contexts.

REFERENCES

- [1] N. Aisyah, Y. Supriani, and N. Hawaliyah, "Efforts to Improve Science Learning Outcomes Through the Use of Interactive Computer Media and Demonstration Methods," *Ideas: Jurnal Pendidikan Sosial dan Budaya*, vol. 7, no. 1, pp. 11, 2021, doi: 10.32884/ideas.v7i1.323.
- [2] S. Artinta and H. Fauziah, "Factors Affecting Curiosity and Problem-Solving Skills in Science Subjects for Junior High School Students," *Jurnal Tadris IPA Indonesia*, vol. 1, no.

- 2, pp. 210–218, 2021, doi: 10.21154/jtii.v1i2.153.
- [3] Y. Azis, "Implementation of Blended Learning at SMA PMB Bandung," *Buletin Udayana Mengabdi*, vol. 21, no. 2, pp. 171, 2022, doi: 10.24843/bum.2022.v21.i02.p12.
- [4] W. Daniswari, "The Effectiveness of Blended Learning-Based Methods in PIP Violin Subjects at SMK Negeri 8 Surakarta," *Ekspresi Seni: Jurnal Ilmu Pengetahuan dan Karya Seni*, vol. 25, no. 1, pp. 73, 2023, doi: 10.26887/ekspresi.v25i1.2617.
- [5] N. Dewi, "Effect of Contextual Teaching and Learning Based on Ethnoscience Models on Critical Thinking Skills and Science Learning Outcomes," *Pendasi: Jurnal Pendidikan Dasar Indonesia*, vol. 7, no. 2, pp. 207–217, 2023, doi: 10.23887/jurnal_pendas.v7i2.2393.
- [6] A. Diana, R. Dewi, and J. Prakoso, "Improving Student Activeness and Learning Outcomes in Grade III at SDN Babarsari Using Problem-Based Learning Models," *Strategy: Jurnal Inovasi Strategi dan Model Pembelajaran*, vol. 2, no. 3, pp. 332–340, 2022, doi: 10.51878/strategi.v2i3.1466.
- [7] Z. Fajri, "Discovery Learning Model in Improving Student Achievement in Elementary Schools," *Jurnal Ika PGSD (Ikatan Alumni PGSD) Unars*, vol. 7, no. 2, pp. 1, 2019, doi: 10.36841/pgsdunars.v7i2.478.
- [8] A. Fatmayanti and T. Susantri, "Analysis of Factors Influencing Students' Interest in Learning in Grade 4 Islamic Elementary School Athirah Makassar," *Publikasi Pendidikan*, vol. 9, no. 3, pp. 212, 2019, doi: 10.26858/publikan.v9i3.9720.
- [9] H. Hayaturraiyah and A. Harahap, "Learning Strategies in Basic Citizenship Education Through Quiz Team Active Learning Methods," *Dirasatul Ibtidaiyah*, vol. 2, no. 1, pp. 108–122, 2022, doi: 10.24952/ibtidaiyah.v2i1.5637.
- [10] A. Hurit and M. Wati, "Improving Science Learning Outcomes Using Experimental Methods in Grade IV Elementary School Students," *Musamus Journal of Primary Education*, vol. 2, no. 2, pp. 85–90, 2020, doi: 10.35724/musjpe.v2i2.2455.
- [11] L. Indriani, "Improving Activeness and Learning Outcomes Using Problem-Based Learning Models in English Language Lessons," *Edukasiana: Jurnal Inovasi Pendidikan*, vol. 1, no. 1, pp. 9–17, 2022, doi: 10.56916/ejip.v1i1.4.
- [12] N. Juniati and J. Jamaluddin, "Application of ICT to Enhance Scientific Skills in Science Learning," *Jurnal Ilmiah Profesi Pendidikan*, vol. 5, no. 2, pp. 124–128, 2020, doi: 10.29303/jipp.v5i2.126.
- [13] N. Kelirik, "Application of Group Discussion Methods to Improve Science Learning Outcomes in Elementary School Negeri 1 Sukadana," *Jurnal Ika*, vol. 16, no. 1, pp. 1, 2019, doi: 10.23887/ika.v16i1.19821.
- [14] N. Mardiana, E. Widayat, and S. Sumartono, "Learning Strategies During the Pandemic at 'Flamboyan' Playgroup Cokrokusuman, Yogyakarta," *To Maega: Jurnal Pengabdian Masyarakat*, vol. 4, no. 2, pp. 208, 2021, doi: 10.35914/tomaega.v4i2.768.
- [15] M. Marlina and S. Rahmah, "Application of Problem-Based Learning in Mathematics Content to Improve Learning Outcomes in Grade IV Elementary School Students," *Asian Journal of Applied Education*, vol. 2, no. 2, pp. 257–268, 2023, doi: 10.55927/ajae.v2i2.3761.
- [16] I. Nasution, "Effect of Think Pair Share Cooperative Learning on Critical Thinking Ability and Mathematics Learning Outcomes in Grade VI Students at SD Muhammadiyah 12 Medan," *Paedagogia: Jurnal Kajian Penelitian dan Pengembangan Kependidikan*, vol. 8, no. 2, pp. 42, 2018, doi: 10.31764/paedagogia.v8i2.66.
- [17] E. Nurchurifiani and R. Alfiawati, "Effect of Generative Learning Strategies on Narrative

- Writing Skills in Grade X SMA Negeri 1 Natar, Lampung Selatan," *Buana Pendidikan: Jurnal Fakultas Keguruan dan Ilmu Pendidikan*, vol. 16, no. 30, pp. 168–172, 2020, doi: 10.36456/bp.vol16.no30.a2714.
- [18] U. Qarni, "Variations in Social Studies Learning Strategies to Increase Student Motivation at MTsN 1 Pasuruan," *Dinamika Sosial: Jurnal Pendidikan Ilmu Pengetahuan Sosial*, vol. 2, no. 4, pp. 423–436, 2023, doi: 10.18860/dsjpips.v2i4.4088.
- [19] D. Rahmawati, "Application of Problem-Based Learning Assisted by PowerPoint Media to Improve Learning Outcomes in Grade IV Science Lessons at SDN Tenggaro," *Jurnal Pendidikan Indonesia*, vol. 3, no. 8, pp. 712–718, 2022, doi: 10.59141/japendi.v3i08.1087.
- [20] T. Rahmawati, "Application of Contextual Teaching and Learning Models to Improve Learning Outcomes in Elementary Science," *Jurnal Ilmiah Pendidikan dan Pembelajaran*, vol. 2, no. 1, pp. 1–8, 2018, doi: 10.23887/jipp.v2i1.13765.
- [21] Y. Rambe, "Effect of Problem-Based Learning Models on Critical Thinking Skills and Science Learning Outcomes in Elementary Students," *Jurnal Riset dan Inovasi Pembelajaran*, vol. 4, no. 1, pp. 341–355, 2024, doi: 10.51574/jrip.v4i1.1372.
- [22] H. Rosdianto, "Effect of Generative Learning Models on Cognitive Learning Outcomes in Newton's Laws," *Jurnal Pendidikan Fisika dan Keilmuan*, vol. 3, no. 2, pp. 66, 2017, doi: 10.25273/jpfk.v3i2.1288.
- [23] A. Santosa, "Improving Activeness and Science Learning Outcomes Using Problem-Based Learning Models in Grade V at SD Negeri Sudimoro 2," *Teaching: Jurnal Inovasi Keguruan dan Ilmu Pendidikan*, vol. 2, no. 2, pp. 234–239, 2022, doi: 10.51878/teaching.v2i2.1345.
- [24] L. Setiawan, N. Wardani, and T. Permana, "Enhancing Creativity in Thematic Learning Using a Project-Based Learning Approach," *Jurnal Basicedu*, vol. 5, no. 4, pp. 1879–1887, 2021, doi: 10.31004/basicedu.v5i4.1068.
- [25] S. Suwannaphisit, C. Anusitviwat, P. Tuntarattanapong, and C. Chuaychoosakoon, "Comparing the Effectiveness of Blended Learning and Traditional Learning in an Orthopedics Course," *Annals of Medicine and Surgery*, vol. 72, pp. 103037, 2021, doi: 10.1016/j.amsu.2021.103037.
- [26] N. Ulya, "Effect of Problem-Based Learning with Differentiated Learning Strategies and Learning Motivation on Student Outcomes in English," *Jiip: Jurnal Ilmiah Ilmu Pendidikan*, vol. 6, no. 12, pp. 9903–9909, 2023, doi: 10.54371/jiip.v6i12.2733.
- [27] R. Umamah, H. Shalihatun, S. Purnomo, S. Nur'aini, and R. Ramadhasari, "Innovative Strategies in Learning Thaharah," *Jurnal Penelitian*, vol. 13, no. 1, pp. 1, 2019.
- [28] C. Utomo, "Increasing Student Motivation in Science Learning Using Guided Inquiry Models in Grade V at SDN Kaliwungu," *Kalam Cendekia: Jurnal Ilmiah Kependidikan*, vol. 7, no. 2, 2020, doi: 10.20961/jkc.v7i2.40692.
- [29] G. Wali, W. Winarko, and T. Murniasih, "Improving Activeness and Student Learning Outcomes Using Peer Tutoring Methods," *Rainstek: Jurnal Terapan Sains dan Teknologi*, vol. 2, no. 2, pp. 164–173, 2020, doi: 10.21067/jtst.v2i2.3574.
- [30] I. Widura, G. Bayu, and N. Aspini, "Application of Problem-Based Learning Models to Improve Science Learning Outcomes," *Jurnal Ilmiah Pendidikan Profesi Guru*, vol. 4, no. 2, pp. 190–199, 2021, doi: 10.23887/jippg.v4i2.35695.

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