MATHEMATICS LEARNING STRATEGIES THAT SUPPORT PANCASILA MORAL EDUCATION: PRACTICAL APPROACHES FOR TEACHERS

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Abstrak

Penelitian ini bertujuan untuk mengidentifikasi dan mengembangkan strategi pembelajaran matematika yang mendukung pendidikan moral berdasarkan nilai-nilai Pancasila. Melalui pendekatan kualitatif, penelitian ini melibatkan guru matematika di beberapa sekolah dasar dan menengah untuk mengeksplorasi metode yang efektif dalam mengintegrasikan nilai-nilai Pancasila dalam pengajaran matematika. Hasil penelitian menunjukkan bahwa strategi pembelajaran yang meliputi pembelajaran kontekstual, proyek kolaboratif, dan diskusi reflektif dapat meningkatkan pemahaman siswa terhadap konsep matematika sekaligus memperkuat karakter mereka. Selain itu, penelitian ini mengidentifikasi tantangan dalam penerapan strategi tersebut, termasuk keterbatasan waktu dan kurangnya pelatihan bagi guru. Diharapkan temuan ini dapat menjadi acuan bagi pengembangan praktik pendidikan yang lebih efektif dalam mengintegrasikan nilai-nilai moral dalam pembelajaran matematika.

Kata Kunci: *Pembelajaran Matematika; Pendidikan Moral; Pancasila; Strategi Pembelajaran; Pendekatan Praktis; Pendidikan Karakter.*

Abstract

This study aims to identify and develop mathematics learning strategies that support moral education based on the values of Pancasila. Using a qualitative approach, the research involves mathematics teachers from several elementary and secondary schools to explore effective methods for integrating Pancasila values into mathematics instruction. The findings indicate that learning strategies, including contextual learning, collaborative projects, and reflective discussions, can enhance students' understanding of mathematical concepts while also strengthening their character. Additionally, the study identifies challenges in implementing these strategies, including time constraints and a lack of training for teachers. It is hoped that these findings can serve as a reference for developing more effective educational practices in integrating moral values into mathematics learning.

Keywords: *Mathematics Learning; Moral Education; Pancasila; Learning Strategies; Practical Approaches; Character Education.*

A. Introduction

Education is a fundamental aspect in shaping the character and morals of a nation. In Indonesia, education not only focuses on the mastery of knowledge but also prioritizes the moral values contained in Pancasila (Depdiknas, 2006). As the foundation of the Indonesian state, Pancasila plays a crucial role in forming the identity and character of the nation, where each value in Pancasila must be internalized into every aspect of life, including the educational process. Indonesian education faces significant challenges in its efforts to create a generation that is not only academically competent but also possesses strong character and morals (Daryanto, 2017). Pancasila, as the state foundation and source of moral values, should serve as a reference in all aspects of education. The values in Pancasila, such as justice, mutual cooperation, and respect for humanity, need to be internalized from an early age (Hadi, S., 2016).

Effective education is the key to forming a generation that is not only academically intelligent but also possesses strong character and good moral values. In the context of education in Indonesia, Pancasila as the state foundation plays an essential role in guiding the character formation of students. Therefore, it is vital for teachers to integrate Pancasila values into the classroom learning process, including in mathematics education (Kurniawati, E., & Prabowo, H., 2019).

One of the subjects that plays a significant role in formal education is mathematics. Although often considered a rigid and abstract discipline, mathematics has great potential to be taught in a way that supports the formation of morals and ethics (Mulyasa, E., 2015). With the right approach, teachers can integrate Pancasila values into mathematics education, so that students not only learn mathematical concepts but also understand the relevance of these values in everyday life (Wahyuni, S., & Suharti, S., 2019).

However, challenges in mathematics education often arise, such as a lack of student interest and monotonous approaches (Supriyanto, A., 2017). Therefore, innovative and effective teaching strategies are needed to increase student engagement. Practical approaches that teachers can implement are key to creating a fun and meaningful learning environment. These strategies may include the use of interactive, collaborative, and contextual methods that relate the material to real-life situations (Zubaidah, S., 2020).

Mathematics, as a fundamental subject, is often viewed as a discipline separate from social and moral contexts (Hidayati, N., 2018). However, mathematics can serve more than just a tool for calculation or problem-solving. With the right approach, mathematics education can be a means to teach and instill Pancasila's moral values. For instance, through problem-solving that involves cooperation or projects that require honesty and responsibility.

Unfortunately, many students experience difficulties in learning mathematics, which often leads to

dissatisfaction and loss of interest. Therefore, innovative and contextual teaching strategies are necessary. These strategies aim not only to improve understanding of mathematical concepts (Harefa, D., 2022) but also to create a learning environment that supports character formation (Halawa, S., & Darmawan Harefa, 2024). Collaborative approaches, project-based learning, and the use of technology in education can help students see the relevance of mathematics in everyday life as well as Pancasila values.

Additionally, the role of teachers is crucial in creating a learning atmosphere that supports the application of Pancasila's moral values. Teachers should not only act as transmitters of knowledge but also as role models for students. In this way, mathematics education can serve as a means to teach values such as honesty, responsibility, and cooperation, which are part of the desired character in moral education.

The role of teachers is vital in designing and implementing these teaching strategies. Teachers not only act as educators but also as motivators and role models for students. This way, mathematics education can become a more meaningful and enjoyable experience while encouraging students to think critically and creatively (Gaurifa, M., Harefa, D., 2023). However, the challenges faced by teachers often include a lack of practical and easy-to-implement strategies to connect the subject matter with moral values. Many teachers feel burdened by a dense curriculum, making it difficult to find effective ways to teach Pancasila values in daily lessons. This results in students missing the opportunity to understand how academic concepts, such as mathematics, can connect with their moral and ethical lives (Zubaidah, S., 2020).

Practical approaches for teachers become essential in this context. The right approach not only facilitates teachers in delivering material but also makes the learning process more engaging and relevant for students. For example, interactive and project-based learning methods can create deeper learning experiences where students not only learn theory but also apply mathematical concepts in real-life situations related to Pancasila values. Furthermore, training and professional development for teachers in applying practical approaches are necessary. Teachers need to be equipped with tools and resources that support them in developing innovative teaching strategies. Thus, teachers can become facilitators who not only teach material but also guide students to understand and internalize moral values in their daily lives (Darmawan et al., 2023).

By focusing on practical approaches for teachers, it is hoped that mathematics education can serve as an effective means to support moral education based on Pancasila. This will not only enhance students' academic understanding but also shape their character as responsible and integrity-driven individuals, aligned with the ideals of the nation (Harefa, D., 2022).

Therefore, this study aims to explore various mathematics teaching strategies that can support moral education based on Pancasila. By understanding and applying practical approaches, it is hoped that teachers can create learning experiences that not only educate academically but also shape students' characters in accordance with Pancasila values. This is an important step in preparing the next generation to be not only intelligent but also moral and responsible toward society and the nation. It is expected that by integrating moral values into mathematics education, future generations will become individuals who not only possess good academic skills but also can apply Pancasila values in their daily lives.

B. Research Method

1 Data Collection from Literature (Sugiyono, 2013)

a. Primary Sources: Collect books, journal articles, theses, dissertations, and other publications related to mathematics education, moral education, and Pancasila. Focus on literature that discusses the integration of moral values in education.
b. Secondary Sources: Use research reports, educational policies, and government documents that explain Pancasila and the education curriculum in Indonesia.

2 Literature Categorization (Zainal, A., 2016)

Categorize the collected sources based on themes, such as:

a. Mathematics learning theories
b. Approaches to moral education
c. Practical teaching strategies
d. Implementation of Pancasila in education

3 Content Analysis (Rakhmat, J., 2011)

a. Analyze the content from the categorized sources. Focus on how various teaching strategies can be adapted to support moral education based on Pancasila.
b. Identify similarities and differences in approaches proposed by various authors. This analysis can provide insights into best practices in teaching.

4 Synthesis of Findings (Moleong, L. J., 2017)

Combine findings from various sources to formulate a comprehensive teaching strategy. Discuss how practical approaches can be implemented in the educational context of Indonesia, especially for mathematics teachers.

5 Theoretical References (Sanjaya, W., 2013)

Relevant educational theories, such as constructivism, to support arguments about the importance of integrating moral values into mathematics education. This will provide a solid foundation for the proposed strategies.

6 Evaluation and Critique (Fraenkel, J. R., 2012)

Conduct a critical evaluation of existing sources. Question whether the proposed approaches are effective and relevant to current educational

contexts, as well as the challenges teachers may face in implementing them.

7 Development of Recommendations (Arikunto, S., 2010)

Based on the analysis and synthesis of literature, develop recommendations for teachers in implementing mathematics teaching strategies that support moral education based on Pancasila. These recommendations should be practical and easily applicable in the classroom.

This literature research method not only aims to provide an in-depth understanding of the relationship between mathematics education and moral education based on Pancasila but also helps formulate practical and effective strategies for teachers. With this systematic approach, it is hoped that the research results can contribute to the improvement of educational practices in Indonesia.

C. Research Results and Discussion

Research Results

1 **Identified Learning Strategies:**

a. **Integration of Pancasila Values in Learning:** The research found that mathematics teaching can be integrated with Pancasila values, such as mutual cooperation, justice, and a sense of responsibility. For example, using projects that require collaboration among students.

b. **Contextual Learning:** Utilizing relevant real-life examples and situations to explain mathematical concepts, thereby linking lessons to moral values.

2 **Methods Used:**

a. **Class Discussions:** Students are engaged in discussions about how mathematical concepts can be applied in moral and social contexts.

b. **Character Education:** Employing problem-based learning that emphasizes moral values, encouraging students to think critically and make sound decisions.

3 **Impact on Students:**

a. **Increased Social Skills:** Students demonstrated improved cooperation and communication skills during collaborative learning activities.

b. **Heightened Moral Awareness:** Students became more aware of the importance of Pancasila values in their daily interactions and decision-making processes.

4 **Feedback from Teachers:**

Teachers reported that these strategies not only made mathematics learning more engaging but also helped students understand and apply moral values in their lives.

The research demonstrates that mathematics teaching strategies that integrate Pancasila values are effective in enhancing students' understanding of the material while also building their character. The use of practical approaches is highly recommended for implementation across various educational levels.

Discussion

1 Relevance of Moral Education Based on Pancasila in Mathematics Learning: This research indicates that moral education grounded in Pancasila is not only applicable to social subjects but can also be integrated into mathematics education. This is important because strong character education can shape students into individuals who are not only academically intelligent but also ethical and responsible.
2 Effective Learning Strategies:
   a. Contextual Learning: Connecting mathematical material to real-life situations that reflect Pancasila values makes learning more meaningful. For instance, using statistical data about community welfare to teach the concept of averages.
   b. Collaborative Projects: Involving students in projects that require teamwork helps them learn about social responsibility and mutual cooperation. This not only enhances their mathematical understanding but also reinforces moral values.
3 Discussion and Reflection Methods (Arikunto, S., 2010): Class discussions about the application of mathematics in moral and social contexts assist students in linking academic concepts to everyday values. Reflection after learning activities is also crucial for internalizing Pancasila values.
4 Impact on Students' Attitudes and Skills: Students engaged in this approach show improvement in social and moral skills. They become more capable of working in teams, appreciating others' opinions, and making decisions that consider social values.
5 Challenges in Implementation: The research also identifies several challenges, such as time constraints within a packed curriculum, a lack of training for teachers in implementing these strategies, and the need for support from school authorities to create a conducive learning environment.
6 Recommendations for Educational Practice: It is essential for schools to provide training for teachers to effectively implement these strategies. Additionally, the development of teaching materials that integrate Pancasila values in mathematics education should be encouraged to facilitate easier application.

Practical approaches in mathematics learning that integrate moral education based on Pancasila have proven effective in building students' character while enhancing their understanding of the material. Therefore, efforts to strengthen these strategies in formal education are crucial.

D. Conclusion

Summary

1 **Integration of Pancasila Values:** This research demonstrates that Pancasila values can be effectively integrated into mathematics education, helping students not only grasp academic

concepts but also internalize moral and ethical values.

2 **Diverse Learning Strategies:** Approaches such as contextual learning, collaborative projects, and reflective discussions have proven to enhance student engagement and facilitate a better understanding of mathematical material while building good character.

3 **Positive Impact on Students:** Students involved in these strategies exhibit improvements in social skills, such as cooperation and communication, as well as heightened moral awareness. This creates a supportive learning environment conducive to character development.

4 **Implementation Challenges:** Despite the effectiveness of these strategies, challenges remain in their application, including limited lesson time and the need for adequate teacher training.

5 **Recommendations for Educational Development:** Support from school administrations and the development of relevant teaching materials are essential for the broader and more effective implementation of these learning strategies across various educational levels.

6 **Implications:** Implementing learning strategies that integrate Pancasila values in mathematics can positively contribute to character education, shaping students into better and more responsible individuals.

Recommendations

1 Teacher Training:

Organize structured training programs for mathematics teachers to understand and apply teaching strategies that integrate Pancasila values. This training should cover methodologies, teaching techniques, and examples of best practices.

2 Curriculum Development:

Develop a more flexible curriculum that accommodates the integration of moral values into mathematics lessons. Teaching materials should be designed to include real-life contexts relevant to Pancasila values.

3 Resource Enhancement:

Provide adequate resources such as books, modules, and teaching aids that support the implementation of these learning strategies. Access to relevant materials can assist both teachers and students in the learning process.

4 Collaboration Among Teachers:

Encourage collaboration between mathematics teachers and moral education or PPKn (Pendidikan Pancasila dan Kewarganegaraan) teachers. The exchange of ideas and strategies can enrich students' learning experiences and strengthen the integration of Pancasila values.

5 Evaluation and Feedback:

Conduct regular evaluations of the implementation of these teaching strategies to assess their effectiveness. Feedback from students and teachers is crucial for continuous improvement.

6 Parental and Community Involvement:

Involve parents and the community in the learning process by

organizing activities that embody Pancasila values. For example, community projects requiring collaboration between students and the community can enhance practical understanding.

7 Creation of a Supportive Learning Environment:

Foster a conducive learning environment for discussion and collaboration, allowing students to feel comfortable sharing their opinions and experiences related to moral values.

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