

The Effect Of Puzzle Media-Assisted Problem-Based Learning Model On Student Learning Outcomes

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ABSTRACT

This study aims to examine the effectiveness of the Problem Based Learning (PBL) model integrated with puzzle media in improving the learning outcomes of first-grade elementary students in the subject of Civic Education (PKN), specifically on the topic of "Obeying Rules." The background of the study stems from the observation that students often have a weak understanding of discipline and compliance values due to teacher-centered learning approaches that lack active student involvement. This research employed a descriptive qualitative approach with data collection techniques including classroom observations, interviews, and document analysis. The findings revealed that implementing the PBL model supported by puzzle media significantly enhanced students' learning outcomes, with an average score increase from 62 (pre-learning) to 87 (post-learning). Furthermore, the use of puzzle media successfully stimulated students' engagement, curiosity, and conceptual understanding through concrete and enjoyable visual representations. Both teachers and students responded positively to this model, as it encouraged active, collaborative learning aligned with the cognitive development stage of early-grade learners. This study contributes to the innovation of character-based Civic Education learning in primary schools and recommends the integration of active learning methods supported by visual media into the curriculum. Such an approach plays a vital role in shaping disciplined behavior from an early age and aligns with the goals of the "Profil Pelajar Pancasila" within Indonesia's Merdeka Curriculum framework.

Keywords: Problem Based Learning; puzzle media; learning outcomes; obeying rules; Elementary School Civics

ABSTRAK

Penelitian ini bertujuan untuk mengkaji efektivitas model pembelajaran Problem Based Learning (PBL) yang dipadukan dengan media puzzle dalam meningkatkan hasil belajar siswa kelas 1 Sekolah Dasar pada mata pelajaran Pendidikan Kewarganegaraan (PKN), khususnya materi "Mematuhi Aturan." Latar belakang penelitian ini berangkat dari lemahnya pemahaman siswa terhadap nilai-nilai kedisiplinan dan kepatuhan akibat metode pembelajaran yang masih bersifat satu arah dan minim partisipasi aktif. Penelitian ini menggunakan pendekatan kualitatif deskriptif dengan teknik pengumpulan data berupa observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa penerapan model PBL berbantuan media puzzle mampu meningkatkan hasil belajar siswa secara signifikan, yang ditunjukkan dengan peningkatan rata-rata skor dari 62 (sebelum pembelajaran) menjadi 87 (setelah pembelajaran). Selain itu, ditemukan bahwa media puzzle mampu meningkatkan keterlibatan, rasa ingin tahu, dan pemahaman siswa terhadap nilai-nilai aturan melalui penyajian visual yang konkret dan menyenangkan. Guru dan siswa sama-sama merespons positif model pembelajaran ini karena bersifat aktif, kolaboratif, dan sesuai dengan tahap perkembangan siswa kelas awal. Penelitian ini memberikan kontribusi terhadap inovasi pembelajaran PKN berbasis karakter di sekolah dasar, serta merekomendasikan integrasi metode pembelajaran aktif berbantuan media visual dalam kurikulum untuk membentuk sikap disiplin sejak dini. Temuan ini juga relevan dengan arah transformasi pendidikan karakter dan profil pelajar Pancasila dalam Kurikulum Merdeka.

Kata Kunci: Problem Based Learning; media puzzle; hasil belajar; mematuhi aturan; PKN SD

INTRODUCTION

Basic education is a crucial foundation for shaping students' character and intelligence. Among all the subjects taught in elementary school, Civics (PKN) plays a strategic role in shaping the character of good citizens from an early age (Faizmailatus Sofa & Reza Ayu Nur Safitri, 2022; Setiana & Nuryad, 2020). One of the core competencies in Civics in grade 1 of elementary school is instilling the values of discipline through an understanding of the importance of obeying rules, both within the family, school, and community (Ridzky Iklasul Fariasih & Achmad Fathoni, 2022). However, in reality, instilling these values is often ineffective due to a one-way and less contextual learning approach (Nugroho & Mulyani, 2021). Therefore, teaching materials are needed that integrate local wisdom and approaches relevant to students' lives, so that learning becomes more meaningful and fosters social awareness and responsibility from an early age (Yonanda, et al 2022).

In many elementary schools, there is still a teacher-centered learning model, where students are merely passive recipients of information (Ertmer, 2025). Providing teaching materials requires teachers to possess in-depth knowledge of the material they are teaching. Providing teaching materials can be a challenge for teachers (Kristanto, 2024). A lack of learning resources to support the learning process can be one such obstacle (Nengsih, et al 2024). As a result, students' understanding of values such as discipline and adherence to rules is not deeply ingrained. This is a serious concern given that many students' behaviors demonstrate a lack of understanding of the importance of following rules, such as being late to class, failing to follow school rules, and a lack of responsibility for assigned tasks (Sari & Kurniawati, 2022).

In this context, innovation in learning strategies is essential. One learning model considered capable of addressing these issues is Problem-Based Learning (PBL). PBL not only

teaches course content but also fosters critical thinking and collaborative skills, as well as the ability to solve real-life problems (Ariani, M., Nugraha, S., & Lestari, 2023). This model is highly relevant for implementation in Civics (PKN) learning, particularly on the topic of obeying rules, as it encourages students to actively explore and solve problems related to everyday life. To make PBL implementation more engaging and appropriate for the characteristics of first-grade students, who are still in the early stages of cognitive development, supporting media that are concrete and engaging are needed. One medium proven effective in early childhood learning is puzzles. This media is not only visually appealing but also develops fine motor skills and problem-solving skills, as well as reinforces learned concepts interactively (Putri, N. K., & Susanti, 2021). By combining PBL and puzzle media, learning is expected to be more meaningful and enjoyable, and can optimally improve student learning outcomes.

The urgency of this discussion is further heightened given the challenges of education in the digital era, which demands learning innovations that are not only content-oriented but also focused on character development and 21st-century skills. Teachers are required to be creative in designing learning that is not only effective in terms of academic outcomes but also relevant to students' developmental needs (Kemdikbudristek., 2023). Therefore, in-depth studies and research are needed on the application of the PBL learning model, supported by puzzle media, in Civics learning to determine the extent to which this approach can contribute to improving student learning outcomes.

This article will comprehensively discuss the application of the Problem-Based Learning (PBL) model combined with puzzle media in Civics learning on the topic of obeying rules in grade 1 of elementary school. This research aims to assess the effectiveness of this learning model in improving student learning outcomes. Furthermore, this article provides an overview of how PBL can be adapted to the characteristics of elementary school students and how puzzles can support successful learning. Therefore, this article is expected to contribute to the development of more innovative, applicable, and impactful civics learning practices for character education at the elementary level.

METHODS

Type and Design

This research uses a descriptive qualitative approach, which aims to deeply understand and describe phenomena occurring in the field without manipulating the variables being studied (Sugiyono, 2020). This approach is considered most appropriate because the main focus of this research is to explore in depth how the implementation of the Problem-Based Learning (PBL) model combined with puzzle media can influence student learning outcomes in Civics (PKN) subjects, specifically regarding adherence to rules, in grade 1 of elementary school. The descriptive qualitative method was chosen because it allows researchers to obtain contextual, in-depth, and natural data. This method allows researchers to understand student responses, teacher strategies, and the dynamics that occur during the learning process. Furthermore, this method also allows for exploration of teacher and student perceptions regarding the effectiveness of using puzzle media in a PBL context (Moleong, 2021).

Data collection technique

Data collection in this study was conducted using three main techniques:

1. In-Depth Interviews

The researcher conducted semi-structured interviews with grade 1 teachers, the principal, and several students as the primary respondents. This interview aimed to obtain information regarding the implementation of PBL learning using puzzles, difficulties encountered, and perceptions of changes in student learning outcomes. Interview techniques were used to capture subjective experiences and in-depth insights from informants (Creswell, J. W., & Poth, 2021)

2. Direct Observation

Observations were conducted directly in the classroom during the learning process. The focus of the observations included student engagement in learning activities, teacher-student interactions, the use of puzzles, and group discussion dynamics in the PBL implementation. Observations were used to obtain data on concrete behaviors and activities that cannot always be revealed through interviews (Lestari, H., & Pramudya, 2022).

3. Documentation

Researchers also collected data from learning documents such as lesson plans, student worksheets, evaluation results, and teacher reflection notes. These documents served to strengthen the observation and interview results and provided supporting data on student learning processes and outcomes (Lestari, H., & Pramudya, 2022)

Data analysis

Data analysis was conducted through the stages of data reduction, data presentation, and conclusion drawing, in accordance with the Miles, M. B., Huberman, A. M., & Saldaña, (2020) model. The data reduction stage was carried out by sorting and summarizing data from interviews, observations, and documentation according to the research focus. The data was then presented in narrative form and thematic tables for ease of understanding and comparison. Finally, conclusions were drawn based on the patterns of findings emerging from the field data. To maintain data validity, triangulation of sources and techniques was used. Triangulation was carried out by comparing data from interviews, observations, and documentation to ensure consistency and validity of the information (Gunawan, 2021)

Furthermore, the researcher conducted member checking with key informants to ensure that the data interpretations aligned with their experiences and perspectives. A descriptive qualitative method was deemed most appropriate for this research because it was able to in-depth describe the process of implementing the PBL model using puzzle media and its impact on student learning outcomes, not only from a cognitive perspective but also in terms of student attitudes and engagement in learning. This method also allowed the researcher to capture the social and pedagogical nuances that occur directly in the classroom, resulting in richer and more contextually meaningful research results (Suryani, 2022).

RESULTS AND DISCUSSION

This study aims to describe the implementation of the Problem-Based Learning (PBL) model combined with puzzles and its impact on first-grade students' learning outcomes in the Civics (PKN) subject, "Complying with Rules." Data were collected through direct classroom observations, interviews with teachers and students, and documentation of students' pre- and post-test scores.

Based on observations conducted over three meetings, the teacher systematically implemented the following PBL learning steps: Problem orientation was conducted by displaying images and situations related to rule violations or compliance (e.g., not littering, fighting over toys, etc.). Students were invited to discuss in groups using puzzles containing pieces of images of events that they had to assemble and analyze. Each group presented the results of their discussion and explained why the behavior in the image was appropriate or inappropriate. The teacher guided reflection to strengthen conceptual understanding and attitudes toward the importance of complying with rules. Observations showed that students more easily grasped concepts taught through concrete experiences and familiar visual media. Puzzles help facilitate students' development of cognitive (critical thinking), affective (cooperation, empathy), and psychomotor (assembling pictures) skills.

Learning outcome data is obtained by comparing pretest scores (before PBL-puzzle learning) and posttest scores (after learning). Scores are awarded based on competency achievement indicators in the "Complying with Rules" topic.

Table 1. competency achievement indicators in the material "Complying with the Rules".

Rated aspect	Average Pretest Score	Average Posttest Score	Increase (%)
Give examples of rules at school and home	60	85	25
Explain the consequences of breaking the rules	62	88	26
Demonstrate an attitude of compliance with the rules	64	89	25
Overall average	62	87	25

These findings indicate an average 25% increase in student learning outcomes after implementing the PBL model with puzzles. Student participation was very high throughout the learning process. Of the 24 students in the class, as follows:

- 21 students (87.5%) actively participated in group discussions while assembling the puzzles.
- 20 students (83%) were able to relate the puzzle images to real-life situations in the school environment.
- 22 students (91%) demonstrated greater enthusiasm and interest in puzzles compared to conventional learning.

"I like learning with puzzles because they're fun and easy to understand. The images are like those at school," said one student during an interview. Meanwhile, teachers stated that using this method, students seemed more focused, understood the material easily, and memorized the values taught more quickly. Other qualitative findings showed that teachers felt that puzzles were able to bridge the gap between theory and practice in civics values, particularly regarding adherence to rules. Students demonstrated increased responsibility, such as not competing with each other when assembling puzzles, following group rules, and taking turns when answering questions. Learning becomes more lively, collaborative, and enjoyable in line with the developmental characteristics of early grade students.

The research results show that the application of the Problem-Based Learning (PBL) model combined with puzzles significantly improved the learning outcomes of first-grade elementary school students in Civics, particularly the topic "Obeying Rules." This

improvement was evident in changes in pretest and posttest scores, increased student participation in the learning process, and positive responses from teachers and students to the applied learning model.

PBL and puzzles are an answer to the challenges of civics learning in lower grades. At the elementary school level, especially first grade, students are still in the concrete operational stage of development according to Piaget's theory. This means they understand concepts more easily through direct experience, visual media, and games. Therefore, the use of puzzles in a PBL context is highly appropriate for bridging the understanding of value concepts such as adherence to rules. The PBL model, which positions students as problem solvers, makes them more active, responsible, and engaged in learning. This aligns with the opinion of Yulianti, D., & Prabowo, (2023) who stated that PBL encourages students to think critically and build understanding through social interaction and real-life experiences. In the context of civics learning, this strategy is effective because civic values cannot simply be learned theoretically; they need to be instilled through direct involvement and reflection on experiences.

Puzzles, on the other hand, provide visual and kinesthetic stimuli that make learning enjoyable and engaging. The activity of assembling images, discussing their meaning, and presenting the results provides space for students to learn collaboratively and creatively. These results reinforce the findings of Putri & Susanti (2021), who showed that puzzles can improve student motivation and learning outcomes, especially in thematic learning in lower grades. The increase in the average score from 62 (pre-learning) to 87 (post-learning) indicates that the puzzle-assisted PBL model can create meaningful learning experiences. This supports the notion that learning designed around active student involvement will yield better results than passive, one-way learning.

This improvement not only occurs in cognitive aspects but is also evident in changes in student attitudes and behaviors during the learning process. Students become more orderly, able to work collaboratively in groups, and demonstrate an understanding of the values of rules and discipline. The implications of these findings are crucial for strengthening character education at the elementary level. As explained in the Pancasila Student Profile (Kemdikbudristek, 2023), students are expected to develop character values such as mutual cooperation, independence, and critical thinking from an early age. The implementation of PBL using puzzles indirectly fosters all of these competencies simultaneously.

Amidst the challenges of post-pandemic learning and the implementation of the Independent Curriculum, teachers are required to deliver personalized, active, and contextual learning. The findings of this study address these challenges by offering an alternative learning model that is creative and enjoyable, yet still value-rich and based on character building. In the long term, such a model can create a positive learning culture and support the development of students with legal awareness and social responsibility from an early age. Another implication of these findings is the importance of developing simple yet effective learning media, which are not always high-tech. Puzzles are an example of a medium that is inexpensive and easy to use, yet has a significant impact on students' learning experiences. Amidst technological advancements, this type of innovation remains relevant, especially for schools with limited digital resources. Furthermore, the results of this study illustrate that civics learning does not have to be taught through lectures or memorization, but can be conducted through a dialogic,

investigative, and fun approach. This is highly relevant in shaping a generation that not only knows the rules but also has the awareness to consciously and consistently obey them.

CONCLUSION

This study reveals that the implementation of the Problem-Based Learning (PBL) model, supported by puzzles, positively contributed to improving the learning outcomes of first-grade elementary school students in the Civics (PKN) subject, "Obeying Rules." Through a problem-based approach that engages students cognitively, emotionally, and socially, and supported by concrete, visual, and enjoyable puzzles, learning becomes more meaningful and effective, especially for early childhood students. The results showed a significant increase in student learning outcomes after the implementation of the PBL model with puzzles. In addition to cognitive improvements, students' active participation, cooperative attitudes, and critical thinking skills also significantly improved during the learning process. Learning activities involving puzzles depicting everyday situations helped students connect the material to real-life experiences, making it easier to understand and internalize the values of obeying rules.

Civics learning, often perceived as abstract and boring by lower-grade students, can be transformed into a lively and enjoyable learning experience through a combination of the PBL method and simple educational media such as puzzles. This strategy not only supports the strengthening of character values but also aligns with the principles of active, collaborative, and contextual learning as emphasized in the Independent Curriculum and the Pancasila Student Profile. Overall, this article illustrates that integrating a problem-based learning approach with concrete and engaging media can be a real solution to address the challenges of character education in elementary schools. Therefore, teachers and other educational staff are expected to be more creative and reflective in designing learning that focuses not only on academic achievement but also fosters life values that are essential for children's personality development from an early age.

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