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Cooperative Learning Model in Improving Thematic Learning Outcomes of Grade III Students of SDN 02 Bojong Cikupa Tangerang

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Abstract

This study aims to examine the effectiveness of the Student Teams Achievement Division (STAD) cooperative learning model in improving thematic learning outcomes of third-grade elementary school students. The study is motivated by the dominance of one-way lecture methods in thematic learning, which results in low student participation and suboptimal learning outcomes. A quasi-experimental method with a One Group Pretest–Posttest design was employed, involving 25 third-grade students at SDN 02 Bojong Cikupa, Tangerang. Data were collected through thematic learning achievement tests administered before and after the implementation of the STAD model and analyzed using a paired sample t-test. The results show a significant improvement in students' learning outcomes after the application of the STAD model ($p < 0.05$). Therefore, it can be concluded that the STAD cooperative learning model is effective in enhancing students' thematic learning outcomes and promoting active participation in elementary school classrooms.

Keywords: *Learning Outcomes, Learning Cooperative, Learning Thematic, STAD.*

Abstrak

Penelitian ini bertujuan untuk mengetahui efektivitas penerapan model pembelajaran kooperatif tipe Student Teams Achievement Division (STAD) dalam meningkatkan hasil belajar tematik siswa kelas III sekolah dasar. Penelitian ini dilatarbelakangi oleh pembelajaran tematik yang masih didominasi metode ceramah satu arah sehingga siswa kurang aktif dan hasil belajar belum optimal. Penelitian menggunakan metode eksperimen semu dengan desain One Group Pretest–Posttest terhadap 25 siswa kelas III SDN 02 Bojong Cikupa, Tangerang. Data dikumpulkan melalui tes hasil belajar sebelum dan sesudah penerapan model STAD dan dianalisis menggunakan uji Paired Sample t-test. Hasil penelitian menunjukkan adanya peningkatan hasil belajar yang signifikan setelah penerapan model STAD ($p < 0,05$). Dengan demikian, model pembelajaran kooperatif tipe STAD efektif meningkatkan hasil belajar tematik siswa serta mendorong keterlibatan aktif dalam pembelajaran.

Kata Kunci: *Hasil Belajar, Pembelajaran Kooperatif, Pembelajaran Tematik, STAD.*

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INTRODUCTION

Thematic learning at the elementary school level is an integrated learning approach designed to connect various basic competencies from several subjects into one specific theme so that students have a more meaningful learning experience. Thematic learning requires the active involvement of students in the learning process so that students not only receive information, but play a role in building understanding through contextual and student-centered activities (Kemendikbudristek: 2021). This approach is in line with the demands of the Pancasila Student Profile and the needs of the 21st century which require students to have critical thinking skills, creativity, communication skills, collaboration, and technological literacy.

Philosophically, thematic learning is rooted in the theory of constructivism which emphasizes that knowledge is constructed by students through experience and social interaction in the learning environment (Siregar & Nara: 2021). Thus, learning is not only oriented to academic results, but also to the development of character, social skills, and problem-solving skills that arise in daily life. Through the integration of themes as a binding between disciplines, students are expected to be able to understand the relationships between concepts and apply them in real contexts, rather than learning concepts separately in fragmented subjects.

However, the reality of the implementation of thematic learning in Indonesian schools shows that there are still serious challenges. Many teachers still apply traditional learning models such as one-way lecture and question and answer methods that do not provide enough space for students to think critically or collaborate in learning. This habit is often caused by several factors such as the limited understanding of teachers about active learning strategies, limited infrastructure, and a learning culture that still places students as learning objects (Siregar & Nara: 2021).

As a result, thematic learning that is supposed to foster active participation and creativity of students has not been fully achieved. Several evaluative studies have noted that low student involvement during the learning process has a direct impact on the low achievement of thematic learning outcomes, especially on the ability to understand concepts and their application in real-life contexts (Putri & Mulyono: 2023). This condition shows that there is a gap between the idealism of curriculum policy and learning practices in the field, so that learning model

innovation is needed that is able to increase student learning participation to support the success of the implementation of thematic learning optimally.

One of the learning strategies that is believed to be able to increase active participation and student learning outcomes is the cooperative learning model. This model emphasizes cooperation in small groups with the principle of positive interdependence and individual accountability, where the success of the group is largely determined by the contribution of each of its members (Slavin: 2019). The basic principle is based on the view that learning will be more effective when students can discuss, exchange ideas, provide feedback, and help each other in understanding the subject matter. Therefore, cooperative learning places students as active subjects who construct knowledge with their group members, in line with the theory of social constructivism that emphasizes the role of interaction in intellectual development.

Various studies have proven that cooperative learning models are able to have a significant impact on academic achievement, learning motivation, problem-solving skills, and social skills of students at various levels of education (Tondok et al.: 2024). Recent meta-analyses show that cooperative learning has high effectiveness in improving learning outcomes, both in the cognitive and affective domains, especially when managed with a clear group structure and individual contribution-based assessments (Yaşar et al.: 2024).

Not only in the international context, research in Indonesian elementary schools also found that the application of cooperative learning can increase students' activeness in the learning process while improving their learning outcomes. Teachers who implement cooperative learning report an increase in student social interaction, confidence, and the ability to work together in completing group tasks (Wibawa: 2023). Research on low grades also shows that group work provides a comfortable learning environment for students who have academic weaknesses to learn from peers, thereby reducing gaps in learning achievement (Veldman et al.: 2020).

Thus, the application of the cooperative learning model is a relevant pedagogical solution to overcome the problem of low student learning participation in thematic learning in elementary schools. Heterogeneous group formation and collaborative assignments encourage each student to participate, share ideas, and develop academic and social abilities simultaneously. Therefore, cooperative learning has an urgency to be implemented as an effort to improve the quality of learning in elementary schools, including in the context of SDN 02 Bojong Cikupa Tangerang.

One of the learning strategies that can support the successful implementation of thematic learning is the cooperative learning model. Cooperative learning is an approach that organizes students in small groups heterogeneously to work together in achieving learning objectives, where each member is responsible for his or her own learning outcomes and the group's success (Johnson & Johnson: 2018). The principles of positive interdependence, individual accountability, and face-to-face interaction are the basis for facilitating the process of knowledge construction through social interaction. This concept is in line with Vygotsky's theory of social constructivism which asserts that students' cognitive development is strongly influenced by collaboration with others in the proximal developmental zone (Vygotsky: 1978 in Rustaman: 2020).

In Indonesia, research shows that cooperative models contribute significantly to improving students' learning activities, communication skills, and problem-solving skills in elementary schools (Suhadi: 2022). The cultural habits of mutual cooperation and group work learning inherent in the Indonesian socio-cultural context also make cooperative learning very relevant to be applied in elementary school classrooms (Kusumadewi: 2021). In addition, this approach has been proven to be able to overcome the problem of achievement inequality in heterogeneous classes, because students with high abilities can help weaker friends so that an equitable distribution of academic achievement is created (Majid: 2020).

Empirical evidence in primary schools suggests that cooperative learning consistently improves thematic learning outcomes. Students show a change in learning behavior from passive to more active when given the opportunity to discuss material, express opinions, and complete tasks collaboratively (Wahyuni: 2023). In addition, group interactions help students overcome comprehension barriers through peer tutoring and scaffolding strategies provided by peers, so that the understanding of concepts is deeper and lasts longer (Ramdani & Harun: 2022).

Looking at this context, the cooperative learning model is the right strategy to answer the challenges of implementing thematic learning in Indonesian elementary schools, especially in increasing student participation and learning outcomes. Therefore, the application of cooperative models such as the Student Teams Achievement Division (STAD) is seen as very potential to strengthen the quality of thematic learning at SDN 02 Bojong Cikupa Tangerang.

In the context of learning in Indonesia, the implementation of ideal thematic learning still faces challenges in the lower grades of elementary schools.

Although thematic learning requires students to actively relate various concepts meaningfully, its implementation in some elementary schools, including public schools in urban areas, still tends to use methods that lack interaction and collaboration. This is an important basis for making innovative efforts through the application of cooperative learning models such as STAD, especially at the third grade level of elementary school which is the initial stage of children's formal intellectual development (Yusnita: 2022).

In the context of SDN 02 Bojong Cikupa Tangerang, the composition of students shows heterogeneous characteristics both in terms of academic ability, learning motivation, and family socioeconomic background. This diversity is very suitable for the application of the STAD model, because group heterogeneity is one of the main principles of the success of cooperative learning (Mahfud: 2021). In addition, the Tangerang area as part of the urban area has educational dynamics that demand to improve the quality of learning through strategies that are able to build positive social interactions between students (Hidayati: 2023).

The research gap that is to be filled in this study is the lack of research that explicitly examines the effectiveness of the STAD model in grade III thematic learning in urban public schools in Indonesia. Most previous studies have placed more emphasis on learning a single subject such as Mathematics or Science, and the focus has been on high grades or junior high schools (Suhadi: 2022). Thus, this study presents a new perspective that is different from previous research.

In addition to analyzing the improvement of learning outcomes through pretest–posttest comparisons, this study also assesses the implementation of the model in the classroom, student responses, and supporting/inhibiting factors that arise in the implementation of STAD. This strengthens the methodological aspect because it not only measures the output (learning outcomes), but also the learning process that affects the success of the model (Ramdani & Harun: 2022).

The novelty of this research lies in the application of the STAD-type cooperative learning model specifically in thematic learning in grade III elementary school students, which was rarely the focus of previous research because most studies related to STAD were conducted more on single subjects and at higher levels. In addition, this research was conducted at SDN 02 Bojong Cikupa Tangerang as a public school in urban areas that has heterogeneous and dynamic characteristics, but there is still a lack of empirical studies related to the implementation of STAD in the context of the 2013 Curriculum and the Independent Curriculum. Another novelty is that this study not only evaluates

the improvement of thematic learning outcomes through the analysis of pretest and posttest scores, but also explores the dynamics of learning implementation in the classroom, student responses during the process, as well as supporting factors and obstacles that arise during the application of the model. Therefore, this research makes a more comprehensive contribution in understanding the effectiveness of the STAD model in improving the quality of thematic learning at the basic education level.

METHOD

This study uses a quantitative approach with a quasi-experimental design method. This method was chosen because the researcher could not fully control all external variables, but could still measure the effect of the treatment of the STAD learning model on students' thematic learning outcomes (Sugiyono: 2022). The research design used is One Group Pretest-Posttest Design, where before treatment, students are given an initial test (pretest) to measure initial ability, then after learning using the STAD model, students are given a final test (posttest) to find out if there are changes in learning outcomes (Arikunto: 2021).

The subjects of this study are all grade III students of SDN 02 Bojong Cikupa Tangerang which totals 25 students. The selection of classes was carried out purposively by considering the heterogeneous characteristics of students and the suitability of the thematic learning conditions in the class with the research objectives (Majid: 2020). The independent variable in this study is the STAD-type cooperative learning model, while the bound variable is the thematic learning outcomes of students (Suhadi: 2022).

The procedure for implementing learning with the STAD model follows the steps developed by Slavin, namely: presentation of material by teachers, formation of heterogeneous study groups and collaborative assignments, individual quizzes, calculation of individual development scores, and awarding awards to groups based on the achievement of the highest score (Slavin: 2019). During the learning process, the researcher conducted observations to observe the implementation of the model and the level of student participation in the group (Hidayati: 2023).

The main instrument used in this study was a multiple-choice test given during the pretest and posttest. The preparation of tests is adjusted to the competency indicators in the 2013 Curriculum. The validity of the content of the instrument was consulted with two lecturers of Elementary Education and one

grade III teacher, while the reliability of the instrument was tested using the KR-20 formula to ensure the consistency of the question items (Ramdani & Harun: 2022; Yusnita: 2022). In addition, supporting instruments such as student activity observation sheets, student response questionnaires to STAD learning, and field notes were used to obtain a more comprehensive picture of the learning process (Rustaman: 2020).

The data collection technique was carried out through learning outcome tests, group activity observations, and student response questionnaires, which as a whole complemented each other so as to strengthen the triangulation of the data in this study (Kusumadewi: 2021). Learning outcome data was analyzed using a paired sample t-test to determine the significance of improving student learning outcomes before and after treatment. Statistical analysis was carried out using the latest version of SPSS software (Indrayanto: 2024). In addition, the N-Gain Score calculation is also used to identify the level of improvement in student learning outcomes whether in the high, medium, or low categories (Hake: 1998 in Suhadi: 2022). Meanwhile, the results of observations and questionnaires were analyzed descriptively quantitatively to see the involvement and response of students to learning with the STAD model.

RESULTS AND DISCUSSION

Results

This study measures the effectiveness of the application of the Students Teams Achievement Division (STAD) type cooperative learning model on improving the thematic learning outcomes of grade III students of SDN 02 Bojong Cikupa Tangerang. The measurement was carried out by comparing *pretest* and *posttest* scores in 25 students as a research sample. *The pretest* is given before the application of the STAD model to determine the initial ability, while *the posttest* is given after the entire series of learning with a cooperative approach is fully implemented.

Based on the results of data analysis, it is known that student learning outcome scores have increased significantly. The average *pretest* score of 65.0 shows that students' initial abilities are still in the sufficient category and have not met the minimum completion target of thematic learning. After being given the STAD learning treatment, the average *posttest score* increased to 76.4, which was in the good category and showed an improvement in the mastery of the material by students. This improvement indicates that students better understand the material through a collaborative process, discussions between

group members, and individual evaluation in the STAD learning model *(Siregar: 2023).*

In addition, the improvement in learning score was analyzed using the N-Gain Score, where an average score of 0.32 or in the medium category according to the Hake classification (in Suhadi: 2022) *was obtained*. This means that STAD learning provides a moderate increase in effectiveness on students' intellectual ability to understand thematic concepts. The variation in score increase between students also showed that all students experienced an improvement, although with different levels of achievement according to their respective abilities.

To test the significance of the difference in scores before and after treatment, a paired sample t-test was used. The results of the analysis showed a t-count value = 12.77 with a value p = 0.000 which was smaller than α = 0.05. Thus, it can be ascertained that there is a statistically significant difference between the learning outcomes before and after the application of the STAD learning model. This shows that the increase in learning outcomes does not occur by chance, but is a direct impact of the implementation of the STAD model (Indrayanto: 2024).

In addition to statistical tests, the data visualization in Figure 1 shows a relatively consistent pattern of improvement in almost all students. The *posttest* score curve that is far above *the pretest* for a large number of students illustrates that group collaboration, positive interdependence, and individual assessment applied in STAD can help students understand the material more meaningfully. These findings reinforce the view that interaction in group activities can improve the process of conceptual elaboration and students' deep understanding (Putri & Mulyono: 2023).

Thus, the overall results of the study show that the STAD-type cooperative learning model contributes significantly to improving student learning outcomes in grade III thematic learning of SDN 02 Bojong Cikupa Tangerang. The application of active, participatory, and collaborative learning strategies has been proven to increase students' motivation, participation, and understanding of thematic concepts more effectively than conventional learning with one-way lectures (Wibawa: 2023).

Discussion

The results of this study show that the *Students Teams Achievement Division* (STAD) type cooperative learning model has a significant influence on improving the thematic learning outcomes of grade III students at SDN 02

Bojong, Cikupa District, Tangerang. The increase occurred because STAD's cooperative learning encourages the development of positive interdependence between students, where each member of the group has a role and responsibility in completing the assigned tasks thus ensuring the contribution of each individual in achieving the group's goals (Slavin: 2019).

The application of STAD allows for the exchange of knowledge in small, heterogeneous groups, so that highly capable students can help their friends who have difficulty understanding the material. This kind of social interaction is an important factor in strengthening students' understanding of concepts and thinking skills because they not only passively receive information, but actively elaborate ideas with their peers (Sani: 2021). The effectiveness of this collaboration is reflected in the increase in average posttest scores and the achievement of the moderate N-Gain category, which shows that the majority of students experience an increase in understanding of thematic concepts through a learning model that is dialogical and participatory (Megawati & Purnomo: 2023).

In addition, in elementary school students, most of whom are still in the concrete operational stage, support from the peer social environment is one of the driving factors in achieving their cognitive and emotional development (Piaget in Andani: 2022). Interaction and discussion in groups provide opportunities for students to dialogue, clarify understanding, and solve problems together, which can ultimately increase motivation, confidence, and enthusiasm for learning (Ngalimun: 2020).

These findings also support the idea that collaboration-based learning can reduce the learning achievement gap between low- and high-ability students. Through the group reward system in the STAD model, all students are motivated to contribute because individual progress has a direct effect on the group's score (Wibawa: 2023). Thus, not only does the understanding of the material increase, but also the character of cooperation, care, and social attitude of students also develops.

More broadly, the results of this study are relevant to the implementation policy of the 2013 Curriculum and the Independent Curriculum which emphasizes the development of high-level thinking, communication, and collaboration skills in thematic learning. The application of the STAD model in the context of SDN 02 Bojong Cikupa Tangerang is empirical evidence that active learning strategies when implemented properly are able to encourage students to learn more meaningfully and independently (Putri & Mulyono: 2023).

Thus, STAD-type cooperative learning has proven to be not only effective in improving learning outcomes, but also a pedagogical approach that is in line with the demands of 21st century competencies and the needs of the development of social and emotional skills of elementary school students.

CONCLUSION

Based on the results of the research on the application of the STAD-type cooperative learning model in thematic learning in grade III of SDN 02 Bojong Cikupa Tangerang, it can be concluded that the STAD model is effective in improving student learning outcomes. This is evidenced by an increase in the average score of learning outcomes from 65.0 in the *pretest* to 76.4 in the *posttest*. In addition, the average N-Gain Score of 0.32 indicates an improvement in the medium category. The results *of the paired sample* t-test yielded a t-value of 12.77 with a p-value of 0.000 ($p < 0.05$), indicating that there was a statistically significant difference between the learning outcomes before and after the treatment.

This improvement in learning outcomes is supported by the implementation of mutually reinforcing group cooperation, individual accountability, social interaction in problem solving, and wider opportunities for all students to be active in the learning process. Thus, the STAD model can be an alternative learning model that is relevant and feasible to be applied in thematic learning in elementary schools, especially in supporting the implementation of the Independent Curriculum which is oriented towards activity-based learning and student collaboration.

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