Implementing the STAD Cooperative Learning Model to Improve Motivation and Social Studies Learning Outcomes among Sixth-Grade Elementary Students

Emi Hermawati; Sekar Purbarini Kawuryan; Wuri Wuryandani

Primary Education Study Program, Universitas Negeri Yogyakarta, Yogyakarta, Indonesia

Corresponding author: emihermawati.2024@student.uny.ac.id

Abstract

This classroom action research aimed to improve sixth-grade students' motivation and learning outcomes in social studies on the topic of "struggles to defend Indonesian independence" through the implementation of the Student Teams Achievement Division (STAD) cooperative learning model. The study employed the Kemmis and McTaggart spiral model of classroom action research consisting of planning, acting and observing, and reflecting, conducted in two cycles. The participants were 28 sixth-grade students (14 boys and 14 girls) in a public elementary school in Yogyakarta, Indonesia, who were organized into heterogeneous STAD teams. Data were collected through a learning achievement test, observation sheets of students' learning activities, and a learning motivation questionnaire. Quantitative data were analyzed descriptively by calculating mean scores, mastery percentages, and normalized gain (N-gain), while qualitative data from observations and field notes were analyzed through data reduction, data display, and conclusion drawing. The results revealed a substantial improvement in students' learning outcomes, with the mean score increasing from 73.64 in Cycle I to 84.29 in Cycle II, and the percentage of students achieving the minimum mastery criterion rising from 32.14% to 92.86%. The N-gain value reached 0.40 (40.40%), which falls into the medium category. Students' motivation also increased from 70.2% to 84.48%, and learning activity rose from 62.5% to 82.7%. The implementation of STAD successfully created a more active, collaborative, and enjoyable classroom climate, fostered individual responsibility and teamwork, and strengthened students' intrinsic motivation. These findings indicate that STAD is an effective instructional model for enhancing cognitive outcomes, social skills, and learning motivation in social studies within the framework of the Merdeka Curriculum.

Keywords: STAD; Cooperative Learning; Learning Motivation; Social Studies Learning Outcomes; Merdeka Curriculum; Elementary School

Introduction

Social studies at the elementary level plays a crucial role in shaping a generation that understands social life, history, and national values, and is able to interact positively in a pluralistic society. However,

Implementing the STAD Cooperative Learning Model to Improve Motivation and Social Studies Learning Outcomes among Sixth-Grade Elementary Students

166

in practice, social studies learning is still frequently dominated by lecture-based methods, which position students as passive recipients of information. As a result, students often feel less motivated, rarely ask questions or express their opinions, and tend to perceive social studies as a monotonous and uninteresting subject.

This condition was also observed in the sixth-grade social studies class where this research was conducted. Preliminary observations showed that many students were reluctant to participate actively in class, seldom volunteered answers, and displayed low enthusiasm during group discussions. Consequently, their learning outcomes were below the minimum mastery criterion, and classical mastery had not yet been optimally achieved. Teacher-centered learning gave students limited opportunities to collaborate, think critically, and construct knowledge meaningfully.

One alternative model that can address these issues is the Student Teams Achievement Division (STAD) type of cooperative learning. According to Slavin, STAD is a cooperative learning model that emphasizes collaboration in small, heterogeneous groups to achieve shared goals. Students work in teams, help each other understand the material, and receive recognition based on the group's performance, particularly on the improvement of individual scores. Through this mechanism, STAD is expected to enhance students' motivation, engagement, and learning achievement.

Within the context of the Indonesian Merdeka Curriculum, which emphasizes student-centered, collaborative, and meaningful learning oriented toward the Profile of Pancasila Students, the application of STAD becomes highly relevant. Group work trains students to cooperate, take responsibility, respect differences, and participate actively in the learning process. Such learning does not only affect cognitive aspects (learning outcomes) but also contributes to affective and social development, including empathy, tolerance, and a sense of belonging in the classroom community.

Based on this background, the present study was conducted to improve sixth-grade students' motivation and social studies learning outcomes through the implementation of the STAD cooperative learning model. The research is expected to provide practical insights for teachers and educational practitioners in selecting and developing instructional strategies that are more effective and aligned with curriculum demands and the characteristics of elementary school students. At the same time, the study highlights the role of cooperative learning in supporting multicultural and collaborative values in a diverse classroom setting.

Research Method

Research Design

This study employed a classroom action research (CAR) design using the Kemmis and McTaggart spiral model, which consists of planning, acting, observing, and reflecting. The action was carried out in two cycles. Each cycle encompassed a complete sequence of social studies lessons using the STAD model, and the implementation in Cycle II was refined based on reflection on the strengths and weaknesses of Cycle I.

Participants and Research Setting

The participants were 28 sixth-grade students (14 boys and 14 girls) at a public elementary school in Yogyakarta during the 2025/2026 academic year. The class consisted of students with diverse academic abilities. The participants were selected purposively because preliminary studies indicated that this class experienced low motivation and suboptimal learning outcomes in social studies.

The research took place in a regular classroom equipped with basic facilities such as a whiteboard, LCD projector, and social studies textbooks, supplemented by other relevant learning resources (e.g.,

visual media and worksheets). The topic taught was the struggle to defend Indonesian independence, which is closely related to national history and social values.

Procedures of the Action

In general, the procedures in each cycle followed four main stages:

1. **Planning**
   The researcher collaborated with the classroom teacher to prepare lesson plans (RPP) that incorporated the STAD model, design social studies learning materials, develop student worksheets, and construct research instruments (achievement test, motivation questionnaire, activity observation sheet, and documentation guidelines). Indicators of success were also determined, including expected improvements in learning outcomes, motivation, and classroom activity.

2. **Acting**
   The teacher implemented STAD-based social studies lessons. The stages of STAD included:
   (a) presentation of the material by the teacher using explanations, visual media, and stories related to historical events;
   (b) formation of heterogeneous teams (STAD groups) based on students' academic ability and gender;
   (c) group work on tasks and worksheets in which students discussed and solved problems collaboratively;
   (d) individual quizzes to assess each student's understanding; and
   (e) group rewards based on the improvement of individual scores contributing to the team's overall performance.

3. **Observing**
   During the learning process, the researcher and/or observer monitored students' activities using observation sheets, focusing on indicators such as participation in discussions, cooperation within groups, responsibility for tasks, asking and answering questions, and communication during presentations. Field notes and documentation (e.g., photos and attendance records) were also collected to support the data.

4. **Reflecting**
   After each cycle, the researcher and teacher conducted a reflection session to evaluate the implementation of the STAD model and students' responses. The reflection focused on aspects such as time management, clarity of instructions, composition of groups, students' participation patterns, and the effectiveness of reward strategies. The results of this reflection were then used as a basis for improving the next cycle.

Research Instruments

The instruments used in this study consisted of:

1. **Learning achievement test**, in the form of multiple-choice and/or short-answer items, developed based on the indicators of the relevant social studies basic competencies. The tests were administered at the end of each cycle to measure students' cognitive achievement.

2. **Learning motivation questionnaire**, using a Likert scale, designed to capture students' motivation toward social studies learning with the STAD model. The questionnaire covered aspects such as persistence, autonomy, interest, need for achievement, and satisfaction.

3. **Observation sheet of learning activities**, used to assess students' engagement during the learning process, including participation in discussions, cooperation in groups, ability to express opinions, responsibility for completing tasks, and willingness to ask questions.

4. **Documentation**, including photos of learning activities, attendance records, and other documents relevant to the implementation of the research.

Data Collection and Analysis Techniques

Learning achievement data were obtained from test scores in each cycle and analyzed descriptively by calculating the mean score, the percentage of students achieving the minimum mastery criterion (KKM), and the increase in learning outcomes between cycles. Normalized gain (N-gain) was also calculated to categorize the magnitude of improvement.

Motivation and activity data were obtained from the questionnaire and observation sheets, then analyzed descriptively by calculating percentages and categorizing them as low, moderate, or high.

Qualitative data from observations and field notes were analyzed through three stages: data reduction, data display, and conclusion drawing. The qualitative findings were used to support and enrich the interpretation of quantitative data, particularly in describing changes in students' behavior, interaction patterns, and classroom dynamics after the implementation of STAD.

The indicators of success in this research were:

(1) an increase in the average social studies achievement score and the classical mastery percentage in each cycle;
(2) an increase in students' motivation to at least the moderate–high category; and
(3) an increase in students' learning activity to the active category.

Results and Discussion

This section presents a structured description of empirical findings obtained from the two cycles of classroom action research designed to systematically evaluate the effectiveness of the STAD cooperative learning model in improving the quality of social studies learning in elementary school. The analysis adopts a descriptive quantitative approach to map changes in learning outcomes, motivation, and learning activity, accompanied by conceptual interpretations of how the core characteristics of STAD—heterogeneous collaboration, individual accountability, and group rewards—contribute to increased student engagement and academic performance.

To provide a concise and comprehensive picture, the findings are summarized in several combined tables.

Social Studies Learning Outcomes

Table 1. Descriptive Analysis of Social Studies Learning Outcomes

Stage	Average Score	Mastery (%)	Improvement	Category
Cycle I	73.64	32.14%	–	Moderate
Cycle II	84.29	92.86%	+8.57	High
Average N-Gain	–	–	40.40%	Moderate

The mean score increased from 73.64 in Cycle I to 84.29 in Cycle II. The percentage of students achieving mastery rose sharply from 32.14% to 92.86%. The normalized gain (N-gain) of 0.40 (40.40%) falls into the medium category (Hake, 1999), indicating a meaningful improvement in learning outcomes.

These findings support Slavin's (2014) theory that heterogeneous group work and individual accountability in cooperative learning significantly enhance mastery of content. Similarly, Johnson and Johnson (2009) argue that social interdependence and structured interaction in cooperative settings

facilitate conceptual understanding and personal responsibility. In this study, students with higher prior achievement were able to assist peers with lower achievement within their teams, creating opportunities for peer tutoring and shared problem-solving. The combination of individual quizzes and group rewards motivated each student to contribute maximally to the team's success, which in turn improved overall academic performance.

Learning Motivation

Table 2. Descriptive Analysis of Students' Learning Motivation

.Aspect	Cycle I (%)	Cycle II (%)	Improvement (%)	Category
Perseverance	68.5	84.3	+15.8	High
Independence	70.2	82.0	+11.8	High
Learning Interest	69.4	84.5	+15.1	High
Need for Achievement	72.1	85.4	+13.3	High
Learning Satisfaction	71.0	86.2	+15.2	High
Average Motivation	70.2	84.48	+14.28	High

Students' learning motivation increased from 70.2% (moderate) in Cycle I to 84.48% (high) in Cycle II. The largest gains occurred in interest and satisfaction, indicating that STAD made social studies learning more attractive and rewarding for students.

These findings align with Self-Determination Theory (Deci & Ryan, 2000), which posits that intrinsic motivation grows when learners perceive support for autonomy, competence, and relatedness. In the STAD context, group work and interdependence foster relatedness, while individual quizzes and group rewards support students' sense of competence and responsibility. Students reported feeling more valued, having important roles in their teams, and enjoying the learning process, which strengthened both intrinsic and extrinsic motivation.

Learning Activity

Table 3. Descriptive Analysis of Learning Activity (Observation)

Activity Aspect	Cycle I (%)	Cycle II (%)	Improvement (%)	Category
Participation in Discussion	61.0	78.5	+17.5	Active
Group Collaboration	65.4	83.6	+18.2	Active
Ability to Express Opinions	60.7	82.1	+21.4	Active
Individual Responsibility	63.0	84.0	+21.0	Active
Questioning Skills	63.3	84.5	+21.2	Active
Average Activity	62.5	82.7	+20.2	Active

The mean level of learning activity increased from 62.5% (fairly active) to 82.7% (active). Students became more involved in discussions, more willing to ask and answer questions, and more responsible for their group tasks. These changes are consistent with Johnson and Johnson's (2009) assertion that cooperative learning enhances social interaction and emotional engagement.

In the first cycle, some students were still passive and tended to rely on more active peers. However, after reflection and adjustment—such as redistributing roles, clarifying expectations, and improving time management—student participation in Cycle II became more evenly distributed across groups. The classroom atmosphere became livelier, with students reading materials, discussing issues, taking notes, and presenting group work.

Overall Interpretation of the Findings

Overall, the implementation of the STAD cooperative learning model was effective in:

1. Increasing social studies learning outcomes (N-gain = 0.40, medium category);

2. Enhancing students' learning motivation from moderate to high; and

3. Raising learning activity from fairly active to active.

These results are consistent with previous studies (e.g., Ngatman et al., 2024; Fikri, 2025; Wulandari et al., 2022) which reported that STAD improves cognitive, affective, and social engagement in elementary school contexts. Conceptually, STAD aligns with the principles of deep learning in the Merdeka Curriculum, as it promotes collaboration, reflection, and learner autonomy.

Furthermore, the findings of this study expand the understanding of deep learning in social studies by demonstrating that integrating STAD with reflective group activities can foster higher-order thinking skills and social empathy. Students not only improved their test scores but also developed communication skills, responsibility, and a sense of belonging to their groups. These outcomes resonate with international research on cooperative learning and its positive impact on academic performance, motivation, emotional experiences, and social interaction.

In the multicultural and socially diverse context of Indonesian classrooms, STAD also contributes to building a collaborative and inclusive learning culture. Students learn to listen to different perspectives, respect peers from various backgrounds, and work together toward shared academic goals. Thus, STAD has significant implications not only for learning effectiveness but also for strengthening social cohesion and democratic values in the classroom.

Conclusion

Based on the results of the classroom action research conducted in two cycles, it can be concluded that the implementation of the STAD cooperative learning model effectively improves sixth-grade students' motivation and learning outcomes in social studies. The mean achievement score increased from 73.64 in Cycle I to 84.29 in Cycle II, while the percentage of students achieving mastery rose from 32.14% to 92.86%. The N-gain value of 0.40 (40.40%) indicates a medium level of learning improvement.

In addition, students' learning motivation increased from 70.2% to 84.48%, and learning activity rose from 62.5% to 82.7%. The STAD model created a more active, collaborative, and enjoyable learning environment, fostering individual responsibility, teamwork, and intrinsic motivation.

Therefore, STAD can be recommended as an effective instructional alternative for social studies in elementary schools, particularly within the framework of the Merdeka Curriculum, which emphasizes meaningful, reflective, and student-centered learning. Teachers are encouraged to apply STAD adaptively, considering group dynamics, providing continuous formative feedback, and integrating digital media where possible to support collaborative learning.

References

Adawiyah, R., Zubaidah, S., Listyorini, D., & Astriani, M. (2021). *The potential of Remap STAD in improving motivation and academic achievement. In AIP Conference Proceedings (Vol. 2330). American Institute of Physics Inc.* https://doi.org/10.1063/5.0043280

Implementing the STAD Cooperative Learning Model to Improve Motivation and Social Studies Learning Outcomes among Sixth-Grade Elementary Students

171

Adawiyah, R., Zubaidah, S., Listyorini, D., & Astriani, M. (2021). *The potential of Remap STAD in improving motivation and academic achievement*. In *AIP Conference Proceedings* (Vol. 2330). American Institute of Physics Inc. https://doi.org/10.1063/5.0043280

Ali, S. K. B. S., & Siong, N. U. (2023). *Effectiveness of a comprehensive module in improving serving skills and lob shots during badminton training. Journal of Physical Education and Sport, 23(5), 1130–1141.* https://doi.org/10.7752/jpes.2023.05141

Anggraini, D. A., Mashfufah, A., Rahayuningsih, S., Kuswandi, K., & Ramli, M. (2025). *The effectiveness of the STAD-type cooperative learning model on student learning outcomes:* Systematic literature review with the PRISMA protocol. Eduvest: Journal of Universal Studies, 5(4), 4744–4761. https://doi.org/10.60127/edv.v5i4.50011

Arikunto, S. (2019). *Prosedur penelitian: Suatu pendekatan praktik* (Edisi Revisi). Jakarta: Rineka Cipta.

Bakhouyi, A., & El Fakdi, A. (2023). Collaborative technologies and reflective learning models for K–12 education. *Computers & Education, 196*, 104676. https://doi.org/10.1016/j.compedu.2023.104676

Bakhouyi, A., & El Fakdi, A. (2023). Integrating reflective digital tools in cooperative classrooms. *Education Sciences, 13*(8), 815. https://doi.org/10.3390/educsci13080815

Bakhouyi, A., El Fakdi, A., & Essaaidi, M. (2023). Reflective learning strategies and technological collaboration in primary education. *Education and Information Technologies, 28*(2), 1985–2002. https://doi.org/10.1007/s10639-022-11183-6

Bennett, L., & Al-Harthy, K. (2023). *Reflective and collaborative deep learning approaches in elementary education. International Journal of Educational Research Open, 5*, 100227. https://doi.org/10.1016/j.ijedro.2023.100227

Bennett, S., et al. (2024). *Integrating feedback and reflection to promote deep learning in higher education. BMC Medical Education, 24*(1), Article 662. https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-06648-3

Buchanan, T., & Hodge, S. (2023). *Deep learning through reflective practice in collaborative classrooms. Teaching and Teacher Education, 127*, 104103. https://doi.org/10.1016/j.tate.2023.104103

Chen, B. (2023). *Influence of cooperative learning on learners' motivation: the case of Shenzhen primary school. Education 3-13, 51(4), 647–671.* https://doi.org/10.1080/03004279.2021.1998179

Deci, E. L., & Ryan, R. M. (2000). *The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. Psychological Inquiry, 11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01

Desai, R. (2024). *Using STAD as an Assessment for Learning (AfL) in Mathematics. Journal of Engineering Education Transformations, 37(Special Issue 2), 993–997.* https://doi.org/10.16920/JEET/2024/V37IS2/24150

Eka Adnyana, M. (2020). *Implementasi model pembelajaran STAD untuk meningkatkan motivasi dan prestasi belajar. Indonesian Journal of Educational Development (IJED), 1(3), 496–505.* https://doi.org/10.5281/zenodo.4286979

Eslit, E. R. (2023). *The effects of cooperative learning on student achievement: A meta-analysis of randomized controlled trials. ResearchGate Preprint.* https://www.researchgate.net/publication/370401155_Effects_of_Cooperative_Learning_on_Student_Achievement_A_Meta-Analysis_of_Randomized_Controlled_Trials

Fikri, A. (2025). The effectiveness of the student teams' achievement divisions in social studies learning on activeness and learning outcomes. *Journal of Education and Learning, 19*(2), 954–962. https://doi.org/10.11591/edulearn.v19i2.21526

Ghafour, S., Al-Hermi, H., & Al-Mahrooqi, R. (2022). The impact of STAD cooperative learning on primary students' academic achievement and classroom engagement. International Journal of Instruction, 15(4), 587–604. https://doi.org/10.29333/iji.2022.15432a

Ghufron, S., Nafiah, Syahruddin, Kaswadi, & Mustofa. (2023). The effect of STAD-type cooperative learning based on a learning tool on students' critical thinking skills in writing materials. *International Journal of Instruction, 16*(1), 59–76. https://www.e-iji.net/dosyalar/iji_2023_1_4.pdf

Gilang Eko Setyo Suharjono & Chumi Zahroul Fitriyah. (2024). Peningkatan hasil belajar pendidikan Pancasila melalui model kooperatif tipe STAD pada siswa kelas V sekolah dasar. Jurnal Ilmiah Pendidikan Profesi Guru, 7(2), 257–269. https://doi.org/10.23887/jippg.v7i2.78492

Irawan, F., Zubaidah, S., Sulisetijono, & Astriani, M. (2021). *Does Remap-STAD have the potential to promote students' creative thinking skills. In AIP Conference Proceedings (Vol. 2330). American Institute of Physics Inc.* https://doi.org/10.1063/5.0043179

Jarolimek, J. (2001). Teaching social studies in elementary schools. Prentice Hall.

Johnson, D. W., & Johnson, R. T. (2009). *An educational psychology success story: Social interdependence theory and cooperative learning*. Minnesota: University of Minnesota.

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi (2025). Kurikulum Satuan Pendidikan 2025: Delapan Dimensi Profil Lulusan.

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. (2024). Panduan Profil Lulusan dan Capaian Pembelajaran Kurikulum Merdeka. Jakarta: Pusat Kurikulum dan Pembelajaran, Balitbang dan Perbukuan Kemendikbudristek.

Kovač, V. B. (2025). The why, what, and how of deep learning. *Education Inquiry, 16*(1), 1–15. https://doi.org/10.1080/20004508.2023.2194502

Kusuma Arum, S., Sunardi, S., & Widyastono, H. (2021). *The Needs Analysis of Student Team Achievement Division Learning Model Development to Improve Science Learning Achievement of Children With Special Needs in Inclusive School. In ACM International Conference Proceeding Series. Association for Computing Machinery.* https://doi.org/10.1145/3516875.3516978

León, B., Fernández-Eizaguirre, E., Marcos-Mangas, C., & González-Paneque, E. (2023). *Cooperative learning, emotions, and academic performance in physical education.* Psychology in Spain. https://journals.copmadrid.org/psed/art/psed2023a2

Liu, Q., Zhang, T., & Huang, J. (2024). *Collaborative reflection and conceptual retention in social studies learning. Journal of Educational Research, 117*(3), 312–327. https://doi.org/10.1080/00220671.2023.2295678

Luthfi, F. Y., & Murtiyasa, B. (2024). *The effectiveness of STAD-type cooperative learning model on mathematical problem-solving ability of elementary school students. JTMT: Jurnal Tadris Matematika, 5*(1), 15–24. https://doi.org/10.381859103

Maelasari, E., & Wahyudin. (2017). *Effects of Cooperative Learning STAD on Mathematical Communication Ability of Elementary School Student. In Journal of Physics: Conference Series (Vol. 895). Institute of Physics Publishing.* https://doi.org/10.1088/1742-6596/895/1/012090

Maqsood, Z., Sajjad, M., & Yasmin, R. (2025). *Effect of feedback-integrated reflection on deep learning of undergraduate medical students in a clinical setting*. BMC Medical Education, 25, Article 66. https://bmcmededuc.biomedcentral.com/articles/10.1186/s12909-025-06648-3

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Thousand Oaks: Sage.

Ngatman, Salimi, M., Lintang, N. S., Hidayah, R., & Zainnuri, H. (2024). *The implementation of student teams' achievement divisions applying multimedia to improve learning outcomes for fifth grade students at elementary school.* Jurnal Prima Edukasia, 12(2), 204-215. https://doi.org/10.21831/jpe.v12i2.68448

Novita, R. (2023). *The effect of the Student Teams Achievement Division (STAD) learning method on student learning outcomes in Indonesian language lessons at school. Munaddhomah, 4*(2), 473–481. https://doi.org/10.31538/munaddhomah.v4i2.507

Nugroho, A., Mutiaraningrum, I., Wulandari, F. D., Agung, A. S. S. N., Muliyah, P., Sari, F. W., & Surtikanti, M. W. (2025). *WhatsApp-integrated student team achievement division (STAD) in teaching English communicative competence: impact on students' performance and perception. Computer Assisted Language Learning*. https://doi.org/10.1080/09588221.2025.2479142

Öztürk, B. (2023). *The effect of cooperative learning models on learning outcomes: A second-order meta-analysis.* Educational Policy Analysis and Strategic Research, 18(3), 49–65. https://doi.org/10.29329/epasr.2023.600.13

Prayitno, B. A., Sugiharto, B., & Titikusumawati, E. (2022). *Effectiveness of collaborative constructivist strategies to minimize gaps in students' understanding of biological concepts. International Journal of Emerging Technologies in Learning, 17*(11), 114–127. https://doi.org/10.3991/ijet.v17i11.29891

Putra, R. A., & Nisa, S. (2024). *Enhancing science education through the student teams achievement division (STAD) learning model. Al-Ishlah: Jurnal Pendidikan, 16*(2), 1178–1192. https://doi.org/10.35445/alishlah.v16i2.5372

Rabiatul Adawiyah, S., Siti Zubaidah, D., Dwi Listyorini, & Meli Astriani. (2021). *The potential of Remap STAD in improving motivation and academic achievement. AIP Conference Proceedings, 2330(1), 030032*. https://doi.org/10.1063/5.0043280

Ranmechai, S. (2023). *Enhancing measurement education in schools: A study on the efficacy of STAD in undergraduate mathematics education. Journal of Curriculum and Teaching, 12*(6), 330–337. https://doi.org/10.5430/jct.v12n6p330

Ridwan, A., Santosa, D., & Dewi, F. (2023). Implementasi model pembelajaran kolaboratif untuk memperkuat keterampilan sosial siswa SD. *Jurnal Pendidikan Dasar Nusantara, 5*(1), 12–20.

Samsuri, T., & Firdaus, L. (2017). Pengaruh pembelajaran kooperatif Student Teams Achievement Division (STAD) terhadap keterampilan berpikir kritis siswa. Prisma Sains : Jurnal Pengkajian Ilmu dan Pembelajaran Matematika dan IPA IKIP Mataram, 5(1), 15–19. https://doi.org/10.33394/j-ps.v5i1.1110

Siller, H. S. (2024). *Analyzing the impact of collaborative learning approach on grade-six students' mathematics achievement and attitudes. Eurasian Journal of Mathematics, Science and Technology Education.* https://www.ejmste.com/download/analyzing-the-impact-of-collaborative-learning-approach-on-grade-six-students-mathematics-14153.pdf

Slavin, R. E. (2014). *Educational psychology: Theory and practice* (10th ed.). Pearson Education Limited.

Slavin, R. E., & Madden, N. A. (2021). *Student team learning and success for all: A personal history and overview. In Pioneering Perspectives in Cooperative Learning: Theory, Research, and Classroom Practice for Diverse Approaches to CL (pp. 128–145). Taylor and Francis.* https://doi.org/10.4324/9781003106760-6

Slavin, R. E., & Madden, N. A. (2021). *Student team learning and success for all: A personal history and overview*. In P. J. Hartman & S. Sharan (Eds.), *Pioneering perspectives in cooperative learning* (pp. 128–145). Routledge. https://doi.org/10.4324/9781003106760-6

Sri Aprillia, B., *Arinilhaq, Komariah, A., & Ramdhani, M. (2020). The use of student team achievement divisions in improving the learning outcome in physics course. International Journal of Advanced Science and Technology, 29*(5 Special Issue), 1065–1075.

Suharjono, G. E. S., & Fitriyah, C. Z. (2024). Peningkatan hasil belajar pendidikan Pancasila melalui model kooperatif tipe STAD pada siswa kelas V sekolah dasar. *Jurnal Ilmiah Pendidikan Profesi Guru, 7*(2), 257–269. https://doi.org/10.23887/jippg.v7i2.78492

Sukerti, N. N. (2020). Penerapan model pembelajaran kooperatif tipe STAD untuk meningkatkan hasil belajar tematik pada siswa kelas III SD. *Jurnal Edutech Undiksha, 8*(1), 92–101. https://doi.org/10.23887/jeu.v8i1.27090

Syuhada, M. F. (2025). *Application of the STAD-type cooperative learning model enhances student learning outcomes and engagement in natural science classes. GEHU Journal, 5*(1), 112–123. https://journal-gehu.com/index.php/gehu/article/view/329

Tsingos, C., Bosnic-Anticevich, S., & Smith, L. (2015). *Learning styles and approaches: Can reflective strategies encourage deep learning? Currents in Pharmacy Teaching and Learning, 7*(4), 492–504. https://doi.org/10.1016/j.cptl.2015.03.004

Turnip, F., Simanjuntak, S. D., Lumbanraja, B., Sembiring, H., & Silaban, P. J. (2024). Pengaruh model pembelajaran kooperatif tipe STAD terhadap kemampuan berpikir kritis siswa pada pembelajaran matematika kelas IV SD. *Pendas: Jurnal Ilmiah Pendidikan Dasar, 9*(4), 233–242. https://www.journal.unpas.ac.id/index.php/pendas/article/download/19063/9270/79807

Vázquez-Toledo, S., Latorre-Cosculluela, C., & Liesa-Orús, M. (2020). *Analyzing "student team-achievement divisions" effects in learning and academic results. Revista Electrónica Educare, 25*(1), 1–19. https://doi.org/10.15359/ree.25-1.1

Widarti, H. R., & Amalia, E. R. F. (2024). *The implementation of integrated Instagram learning media with STAD on increasing learning outcomes. E3S Web of Conferences, 481*, 04002. https://doi.org/10.1051/e3sconf/202448104002

Wulandari, R., Putra, A., & Rahmawati, D. (2022). *The Student Teams Achievement Divisions (STAD) learning model in its influence on the motivation and science learning outcomes of elementary school students. Jurnal Pendidikan IPA, 11*(3), 289–298. https://www.researchgate.net/publication/363614237

Yaşar, M. D., Erdoğan, M., Batdı, V., & Cinkara, Ü. (2024). *Evaluation of cooperative learning in science education: A mixed-meta method study.* European Journal of Science and Mathematics Education, 12(3), 411–427. https://www.scimath.net/article/evaluation-of-cooperative-learning-in-science-education-a-mixed-meta-method-study-14872