

The Implementation of the STAD (Student Team Achievement Divisions) Learning Model Assisted by Wordwall to Improve Student Engagement in IPAS for Fifth-Grade Students

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ABSTRACT

Learning engagement is one of the important factors that influence student success in the learning process, so this study objective to improve student learning engagement through the application of the STAD (Student Team Achievement Divisions) type cooperative learning model assisted by Wordwall media in IPAS learning. This type of research is a classroom action research (CAR) which is carried out in two cycles. Data collection techniques were carried out through observation, documentation, and student engagement observation sheets. The study's findings show that implementing the STAD cooperative learning model with Wordwall support can raise students' engagement in learning. This approach fosters an active, interactive, and enjoyable classroom environment and promotes strong student participation. Evidence for this improvement appears in the progressively higher categories obtained from observations across cycles: the implementation of the STAD learning process was categorized as sufficient in the first cycle and improved to good in the second cycle, while student learning engagement was categorized as active in the first cycle and reached very active in the second cycle. Therefore, the STAD cooperative model assisted by Wordwall is effective in enhancing students' learning engagement in the IPAS subject

INTRODUCTION

Education plays a fundamental role in improving the quality of human life and enabling a nation to compete globally, as it is directed toward developing students' potential through purposeful learning activities (Samala et al., 2022). Along with the dynamic development of the times, the Indonesian education system continues to renew itself, one form of which is the implementation of Kurikulum Merdeka, a curriculum designed to optimize every student's potential through intracurricular learning and the Pancasila Student Profile Strengthening Project (Rosiyati et al., 2025). At the elementary school level, one of the characteristics of this curriculum is the integration of natural and social sciences into a single subject called IPAS (Ilmu Pengetahuan Alam dan Sosial), so that students can understand their surrounding environment holistically, both natural phenomena and social conditions (Tresnawati et al., 2023). In practice, however, IPAS instruction is still frequently delivered through a conventional, teacher-centered approach, which positions students merely as recipients of information rather than active participants (Susilowati, 2023). Conventional teaching methods tend to make students less engaged, so that conceptual understanding remains low and learning activeness does not develop optimally (Amran & Sahabuddin, 2025). Low student engagement is also influenced by the limited variation of instructional media; media that are unattractive, such as reliance on textbooks and verbal explanation alone, tend to make learning feel monotonous so that students easily lose focus (Kencono & Ratnasari, 2021).

Preliminary observation conducted at UPTD SD Negeri 65 Parepare confirmed this problem. Of the 15 fifth-grade students observed, 9 students were categorized as less active, 6 students as fairly active, and only 3 students as active, indicating that more than half of the students were still passive during the learning process. This condition was found to stem from two sides: from the student side, low engagement was caused by a lack of involvement and self-confidence, while from the teacher's side, learning had not fully encouraged active student participation, shown by the limited variation of learning models and the underutilized instructional media. One alternative that can be applied to address this problem is the cooperative learning model of the STAD (Student Team Achievement Divisions) type, a simple and easy-to-implement cooperative model suitable for teachers who are beginning to apply cooperative learning (Apriani & Permatasari, 2023). In addition to the learning model, the use of instructional media also plays an important role in creating a more active and engaging learning process. One medium that can be used to encourage student engagement is Wordwall, a website-based platform that provides a variety of interactive learning activities, such as text displays, images, diagrams, and educational games that can be adjusted to the needs of the material (Marisa et al., 2024).

Several previous studies have examined the implementation of the STAD cooperative model assisted by Wordwall media to improve student engagement. Research by Jannah et al., (2024) showed that combining STAD with Wordwall reduced teacher dominance because students were encouraged to work together, exchange information, express opinions, ask questions, and respond more

actively, creating a more active and interactive classroom atmosphere. Similarly, Azzahiro & Setyawan (2022) found that STAD improved student engagement because students learned in heterogeneous groups, helped one another understand the material, and felt more confident expressing opinions and asking questions. Furthermore, Rokhanah et al., (2021) demonstrated that STAD is effective in improving student engagement because learning is centered on the student through group discussion, teamwork, and group rewards that motivate students to participate more actively. However, these studies generally examined STAD and Wordwall separately or in other subjects, and empirical evidence regarding their combined effect on student engagement in IPAS learning at the elementary level, particularly on the topic of Indonesiaku Kaya Raya, remains limited. Based on this description, this study is important to conduct because low student engagement in IPAS learning affects not only the classroom learning process but also the achievement of Kurikulum Merdeka's goals, which emphasize active, collaborative, and student-centered learning. This study, therefore, aims to (1) describe the process of implementing the STAD learning model assisted by Wordwall media in improving student engagement in the fifth-grade IPAS subject at UPTD SD Negeri 65 Parepare, and (2) determine the improvement in student engagement after the implementation of the STAD learning model assisted by Wordwall media.

LITERATURE REVIEW

Cooperative Learning Model STAD (Student Team Achievement Divisions)

STAD is a cooperative learning model that emphasizes structured small-group collaboration among students. Rokhanah et al., (2021) explain that STAD places students into heterogeneous groups so that each member can help one another understand the material, thereby training students to be actively involved through interaction and communication within the group. Jannah et al., (2024) add that STAD provides students with the opportunity to be more active through teamwork, allowing students to support one another in understanding the material, including helping peers who face difficulties. STAD emphasizes not only learning outcomes but also the learning process itself and cultivates a sense of individual responsibility within the group. According to Ramadhani & Jamaan (2021), the main characteristic of STAD is group learning activity in heterogeneous teams that emphasizes both individual responsibility and group achievement, combined with teacher explanation, group work, and individual assessment. Rahmadillah & Mamu (2024) add that STAD includes an evaluation and reward system that can increase student motivation, since students not only learn together as a team but also take individual quizzes that determine an improvement score, which then contributes to the team's score. Haritsah (2022) outlines five syntax steps of STAD: (1) presenting learning objectives and motivating students, (2) presenting information or material, (3) organizing students into groups and group activities, (4) administering individual tests or quizzes, and (5) providing group recognition/rewards.

The advantages of STAD include fostering positive interdependence among students, encouraging appreciation of differing abilities and

characteristics, involving students in the planning of learning activities, and building closer teacher-student and peer relationships (Rozzy et al., 2024). Sulistiani et al., (2025) further note that STAD allows students to act as peer tutors, strengthens communication skills and the courage to express ideas, and develops individual and group competencies in a balanced way. Nevertheless, STAD also has limitations, such as requiring more thorough teacher preparation, adequate facilities, and careful time management, since group activities can sometimes be dominated by certain students.

Wordwall Interactive Media

Wordwall is a website-based interactive learning media platform that provides various forms of educational games and quizzes that can be adapted to instructional needs. Mujahidin et al., (2021) explain that the use of Wordwall as an online learning medium can increase learning enthusiasm, engagement, and student achievement, as it helps teachers deliver material and conduct evaluation more effectively through easily accessible game features. Marisa et al., (2024) state that Wordwall provides a variety of interactive activities, such as text, images, diagrams, and educational games, allowing teachers to present learning in a more varied way that captures student interest, and its display can be projected in the classroom so that all students can view the material clearly. Pramesti et al., (2025) note that the advantages of Wordwall include creating a more engaging learning atmosphere through play-based learning, increasing student interest, being easy to use, boosting enjoyment and memory retention, and encouraging student creativity and engagement. Imanulhaq & Prastowo (2022) add that Wordwall makes learning more meaningful and easy to follow for elementary students because it is packaged as an educational game, can be used for various subjects, is accessible via laptop or smartphone, requires no installation, and increases student interest and motivation. Its limitations include the potential for dishonesty during quizzes, limited display customization, the use of English instructions that may require teacher guidance, some features requiring payment, and dependence on adequate devices and internet access.

Student Learning Engagement

Learning engagement refers to students' involvement in the learning process, reflected through physical and mental activity during instruction. Rejeki & Wantoro (2024) explain that learning engagement can be observed through student participation such as asking questions, discussing, completing tasks, and responding to the material presented, since engagement is an important indicator of learning success. Agavin et al., (2024) add that student engagement can be observed through involvement in the learning process, whether through asking questions, answering questions, expressing opinions, participating in discussions, or contributing to problem-solving activities during instruction. Factors influencing student learning engagement can be internal or external. Rahmadani et al., (2023) categorize internal factors as physiological (physical and sensory condition) and psychological (attention, memory, and student responses), while external factors include the teaching methods and media used by the teacher, classroom conditions, and social interaction among students. Prasetyo & Abdu (2021) describe indicators of student engagement as including active participation in completing classroom tasks, involvement in problem-

solving during instruction, courage in asking questions when facing difficulties, effort in seeking additional information, active participation in group discussion, and the ability to evaluate one's own learning outcomes.

Previous Research

Research by Jannah et al., (2024) on the implementation of the Cooperative Learning Type STAD assisted by Wordwall in Social Studies learning found that the combination reduced teacher dominance and encouraged students to work together, exchange information, and respond more actively during learning. Azzahiro & Setyawan (2022) found that STAD improved both engagement and learning achievement in science through heterogeneous group learning that fostered mutual assistance and self-confidence. Furthermore, Rokhanah et al., (2021) demonstrated that STAD is effective in increasing student engagement because learning becomes student-centered through group discussion, teamwork, and group rewards. These prior studies reinforce that STAD combined with interactive media such as Wordwall is a relevant alternative for improving student engagement in elementary-level instruction, including in the fifth-grade IPAS subject. Low student engagement caused by teacher-centered instruction and limited use of instructional media has become a persistent problem in IPAS classrooms. The implementation of the STAD learning model assisted by Wordwall media, which combines structured cooperative group work with an interactive digital quiz platform, is expected to create a more active, collaborative, and enjoyable learning environment, thereby improving student engagement in the IPAS subject.

METHODOLOGY

This study employs a qualitative methodology in the form of Classroom Action Research (CAR). A qualitative approach is closely related to the activities of students and teachers when carrying out the learning process, and this type of research does not utilize statistical methods but instead emphasizes aspects of quality, meaning, and process during data collection. CAR is applied here as a systematic, cyclical, and reflective set of interventions based on the Kurt Lewin model, aimed at progressively enhancing student learning engagement through the implementation of the STAD (Student Team Achievement Divisions) learning model assisted by Wordwall media. Each cycle in this research consists of four interconnected stages, namely planning, action, observation, and reflection, which are repeated until the predetermined success indicators are achieved. The research was carried out at UPTD SD Negeri 65 Parepare, located in Sumpang Minangae Village, West Bacukiki District, Parepare City, South Sulawesi Province. The research was carried out in the even semester of the 2025/2026 Academic Year. This research setting was chosen based on initial findings showing that students' learning engagement in the IPAS subject was still relatively low and that STAD-style cooperative learning assisted by interactive media such as Wordwall had not been effectively applied by the teacher.

The study involved one fifth-grade teacher and 15 fifth-grade students at UPTD SD Negeri 65 Parepare, consisting of 6 boys and 9 girls, with the homeroom teacher serving as a collaborator throughout the research process. All

students participated in the intervention because the research sought to enhance student learning engagement by implementing a STAD-style cooperative learning model supported by Wordwall during classroom instruction on the IPAS topic of Indonesiaku Kaya Raya. Data in this study were collected through observation and documentation. Observation was carried out by directly observing teacher and student activities, including students' learning engagement, during lessons that used the STAD cooperative learning model supported by Wordwall. Documentation was carried out by collecting photographs, group worksheets, and other records of classroom activities as supporting evidence of the learning process. In addition, reflection was conducted as the stage of reviewing, evaluating, and analyzing the results of the actions and observations that had been made; at this stage, the researcher, together with the collaborating teacher, identified the factors that contributed to success as well as the obstacles encountered during the learning process, which then served as the foundation for implementing improvements in the subsequent cycle.

The learning process observation sheet is a research instrument used to systematically observe and record the teacher's activities and the implementation of the STAD syntax during the learning process. The student engagement observation sheet is a research instrument used to observe the level of students' learning engagement during the learning process, based on indicators such as attentiveness, enthusiasm, courage in asking and answering questions, and participation in group work. Documentation, in the form of photographs and student work, was used as supporting data to confirm that the research had been carried out in accordance with the procedures and stages of the STAD learning model. Data analysis in this study followed the interactive model of Miles, Huberman, and Saldana, which consists of three main stages. At the data condensation stage, the researcher selects, simplifies, and groups the data obtained during the implementation of actions in each cycle so that it becomes more focused and relevant to the research objectives. At the data presentation stage, the condensed data are systematically compiled so that they are easy to understand, allowing the researcher to identify patterns and determine the next steps in the research. At the conclusion drawing stage, the researcher formulates the research findings based on the data that has been presented, verified through re-checking against evidence obtained in the field. The research was declared successful if the learning process, through the application of the STAD-type cooperative learning model assisted by Wordwall, was carried out in the good category, reaching a minimum of 76% implementation of the STAD learning steps. In addition, student learning engagement was declared to have increased if it reached a minimum of 51% of students in the active category, in accordance with the criteria that had been established.

Table 1. Success Indicator Criteria for the STAD Learning Process

Percentage Range	Category
76% - 100%	Good (B)
60% - 75%	Sufficient (C)

0% – 59%	Poor (K)
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Source: adapted from Djamarah and Zain, in Sirait (2021)

Table 2. Success Indicator Criteria for Student Learning Engagement

Percentage Range	Category	Conversion
75% – 100%	Very Good (SB)	Very Active
51% – 74%	Good (B)	Active
25% – 50%	Sufficient (C)	Fairly Active
0% – 24%	Poor (T)	Inactive

Source: adapted from Arikunto, in Prasetyo and Abduh (2021)

RESULTS

This study was conducted through two cycles of classroom action research, each consisting of planning, action, observation, and reflection stages, to improve student engagement in IPAS through the STAD learning model assisted by Wordwall media. Prior to the intervention, preliminary observation showed that of the 15 students, 8 students (60%) were categorized as less active, 5 students (40%) as fairly active, and only 2 students (20%) as active, indicating low initial engagement, as presented in Table 3.

Table 3. Initial Condition of Student Learning Engagement (Pre-Cycle Observation)

Engagement Category	Number of Students	Percentage
Active	2	13,33%
Fairly Active	5	33,33%
Less Active	8	53,33%
Total	15	100%

Cycle I

In Cycle I, the researcher implemented the STAD syntax over two meetings, covering the topics of Indonesia as an archipelagic country and its geographical location and boundaries. Observation results showed that teacher activity in implementing the STAD model reached 73%, categorized as Sufficient (C); the teacher had carried out most of the STAD stages from conveying objectives and motivation, presenting material, organizing groups, administering quizzes, to providing group rewards although not yet optimally. The overall implementation of the STAD syntax from the student's perspective reached 69.78%, also categorized as Sufficient (C), indicating that although all stages of STAD had been applied, refinement was still needed, particularly in time management, guidance for students, and utilization of the Wordwall media.

Observation of student engagement in Cycle I showed that students were beginning to participate, such as paying attention to the teacher's explanation, joining group discussions, and completing worksheets, although some students still lacked the confidence to ask questions, express opinions, or collaborate optimally with group members. The overall student engagement in Cycle I

reached 57.15%, categorized as Active (B). Reflection identified several issues to be improved: classroom management during group formation, uneven guidance across groups, and limited student confidence during presentations and peer feedback.

Cycle II

Following reflection and improvement, Cycle II showed marked progress. The teacher provided clearer instructions on group formation and task distribution, circulated more actively to guide each group, and gave stronger encouragement to less confident students. Teacher activity in implementing the STAD model increased to 87%, categorized as Good (B), reflecting a more systematic and focused execution of each learning stage supported by the Wordwall platform. The implementation of the STAD syntax as observed from the student's side increased to 83.11%, also categorized as Good (B), showing improved teacher effectiveness in managing learning, providing clearer instructions at every STAD stage, and optimally utilizing the Wordwall media. Student engagement in Cycle II increased substantially to 92.86%, categorized as Very Active (SB), exceeding the $\geq 51\%$ success indicator established for this study. This improvement was reflected in students' greater courage in expressing opinions, participating in discussion, answering questions, presenting group work, and collaborating more effectively with group members. A comparative recapitulation of the results across the two cycles is presented in Table 4.

Table 4. Recapitulation of Research Results in Cycle I and Cycle II

Aspect Observed	Cycle I	Category	Cycle II	Category
Teacher Activity	73%	Sufficient (C)	87%	Good (B)
Implementation of STAD Syntax	69.78%	Sufficient (C)	83.11%	Good (B)
Student Learning Engagement	57.15%	Active (B)	92.86%	Very Active (SB)

Based on Table 4, all three aspects observed teacher activity, implementation of the STAD syntax, and student learning engagement showed a consistent increase from Cycle I to Cycle II, with student engagement surpassing the established success indicator of $\geq 51\%$ students in the Active category. Accordingly, the action research was concluded after two cycles, as the predetermined success indicators had been achieved.

DISCUSSION

Implementation of the STAD Model Assisted by Wordwall on the Learning Process

The findings indicate that the implementation of the STAD learning model assisted by Wordwall media improved progressively across cycles, with teacher activity increasing from 73% (Sufficient) in Cycle I to 87% (Good) in Cycle II, and syntax implementation increasing from 69.78% to 83.11%. This finding aligns

with Azzahiro & Setyawan (2022), who state that the STAD model can help students learn more effectively, think critically, and become actively involved in learning activities. The improvement between cycles reflects the teacher's growing ability to manage the classroom systematically, provide clearer instructions at each STAD stage, and make optimal use of the Wordwall platform. The use of Wordwall in the evaluation stage also proved effective in stimulating student attention and enthusiasm; students appeared enthusiastic when learning through the various features offered by Wordwall. This supports Jannah et al., (2024), who note that as an alternative interactive learning medium, Wordwall can make the teaching and learning process more enjoyable and less monotonous for both students and teachers. Overall, the combination of the STAD model with Wordwall media created a more conducive, interactive, and focused learning environment, and made the sequence of learning activities clearer, allowing students to more easily understand what they were learning.

Implementation of the STAD Model Assisted by Wordwall on Student Learning Engagement

Regarding student engagement, the results showed a substantial increase from 57.15% (Active) in Cycle I to 92.86% (Very Active) in Cycle II. This improvement was reflected in students' growing courage to express opinions, discuss, answer questions, present group work, and collaborate more effectively with group members. This finding supports Rokhanah dkk., (2021), who state that the STAD model, which involves the formation of heterogeneous groups, can help improve student engagement, since every student is given an equal opportunity to participate and is encouraged to help one another; based on individual quiz scores, the group reward system also encourages students to participate more actively. This finding is also consistent with Rahmadillah and Mamu (2024), who argue that the learning steps within the STAD model can create a learning environment that encourages students to participate actively, as cooperative group activities allow students to share ideas, solve problems, and cultivate a healthy sense of competition that improves learning outcomes both individually and as a group. Based on the results obtained in Cycle I and Cycle II, the action hypothesis of this study is confirmed: at every stage of planning, action, observation, and reflection, student engagement consistently improved. The STAD model supported by Wordwall has been shown to strengthen group collaboration, learning participation, and student confidence in expressing opinions, answering questions, and presenting discussion results. This condition indicates that the combination of the STAD model with Wordwall media successfully created a more active, interactive, and collaborative learning process, and is therefore proven effective in improving student participation in the IPAS subject at UPTD SD Negeri 65 Parepare.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings and discussion, it can be concluded that the implementation of the STAD (Student Team Achievement Divisions) learning model assisted by Wordwall media improved the quality of the IPAS learning process on the topic of Indonesiaku Kaya Raya in the fifth grade of UPTD SD

Negeri 65 Parepare, as reflected in the increase in teacher activity from 73% to 87% and syntax implementation from 69.78% to 83.11% between Cycle I and Cycle II. Furthermore, the implementation of the STAD model assisted by Wordwall media is proven effective in improving student learning engagement, which increased from 57.15% (Active) in Cycle I to 92.86% (Very Active) in Cycle II, surpassing the established success indicator of $\geq 51\%$. Based on these findings, teachers are recommended to apply the STAD learning model on an ongoing basis, utilizing Wordwall media as one alternative learning tool, while continuing to develop varied learning activities that encourage students to be more active in discussion, cooperation, and participation so that the classroom atmosphere becomes more interactive and meaningful. Students are expected to maintain and further improve their engagement by participating in group discussions, being brave in expressing opinions, asking questions when facing difficulties, and cooperating with group members to achieve learning objectives. Schools are expected to support the implementation of interactive learning media by providing adequate facilities and infrastructure. Furthermore, future researchers are advised to develop this research by combining STAD with other media or technologies, applying it to different subjects or educational levels, and examining other learning variables such as learning outcomes, critical thinking skills, and creativity, so as to enrich the study of effective learning innovation in elementary schools.

FURTHER STUDY

This study has several limitations that should be considered in interpreting the results. First, this research was conducted in only one school with a relatively limited number of subjects 15 fifth-grade students so the findings cannot be generalized to a wider population with different school characteristics. Second, this study examined the effect of the STAD model assisted by Wordwall media only on student learning engagement in the IPAS subject, so it does not yet describe its effectiveness on other subjects or other learning aspects, such as learning outcomes or critical thinking skills. Third, the research was conducted over a relatively short period, namely two cycles across four meetings, so the long-term effect of the STAD model assisted by Wordwall media on student engagement could not be fully observed. Furthermore, the qualitative data collected through observation and documentation were not triangulated with other data sources such as in-depth interviews with students, which could provide a richer picture of changes in engagement. Based on these limitations, further research is recommended to involve a larger number of subjects from various schools and educational levels so that the findings can achieve broader generalizability. Future studies could also examine the effectiveness of the STAD model assisted by Wordwall media on other subjects or variables, such as learning outcomes, critical thinking skills, creativity, and problem-solving abilities. In addition, research conducted over a longer implementation period is strongly recommended so that the sustained impact of the STAD model assisted by Wordwall media on student engagement can be more thoroughly observed. Future researchers may also combine qualitative and quantitative approaches (mixed methods) to obtain a more comprehensive picture of how the STAD

model assisted by Wordwall media affects students' engagement and learning experiences.

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REFERENCES

- Agavin, M., Sofwan, M., Iskandar, D., & Wahyuni, I. (2024). Upaya Meningkatkan Keaktifan Belajar Peserta Didik Melalui Model Discovery Learning Berbantuan Media Pembelajaran.
- Amran, M., & Sahabuddin, E. S. (2025). Transformation of Basic Education: The Effectiveness of the Integrated Thematic Approach on Students' Literacy and Numeracy Science.
- Apriani, M., & Permatasari, C. L. (2023). Model Pembelajaran Kooperatif Tipe STAD untuk Meningkatkan Hasil Belajar dan Aktivitas Siswa.
- Azzahiro, M., & Setyawan, A. (2022). Peningkatan Keaktifan dan Prestasi Belajar IPA Melalui Penerapan Model Pembelajaran Kooperatif Tipe STAD pada Siswa Kelas IV MI Rudlotul Ulum. *Jurnal PGSD Indonesia*, 8(1).
- Haritsah, S. (2022). Penggunaan Model Pembelajaran Kooperatif Tipe STAD (Student Teams Achievement Division) untuk Meningkatkan Hasil Belajar Ipa Siswa Kelas IX D SMP Negeri 7 Alla Enrekang. *Sainsmat: Jurnal Ilmiah Ilmu Pengetahuan Alam*, 11(1), 46.
- Imanulhaq, R., & Prastowo, A. (2022). Edugame Wordwall: Inovasi Pembelajaran Matematika di Madrasah Ibtidaiyah.
- Jannah, A. M., Dodik Mulyono, & Asep Sukenda Egok. (2024). Penerapan Model Cooperative Learning Tipe STAD dengan Berbantuan Aplikasi Wordwall pada Pelajaran IPS Siswa Kelas IV SD Negeri 06 Lubuklinggau. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, 9(3), 707–713.
- Kencono, M. R., & Ratnasari, E. (2021). Pengaruh Media Pembelajaran Terhadap Keaktifan Peserta Didik. *Jurnal Buana Pendidikan*, 17(2).
- Marisa, M., Fauzia, N. N., & Hermawan, J. S. (2024). Implementasi Media Pembelajaran Wordwall dalam Meningkatkan Minat Belajar Peserta Didik. *Jurnal Pendidikan Tambusai*, 8(3).
- Mujahidin, A. A., Salsabila, U. H., Hasanah, A. L., Andani, M., & Aprillia, W. (2021). Pemanfaatan Media Pembelajaran Daring (Quizizz, Sway, dan

- Wordwall) Kelas 5 di SD Muhammadiyah 2 Wonopeti. *Innovative: Journal Of Social Science Research*, 1(2), 552–560.
- Pramesti, R., Fathan, K. M. A., Purwanti, E., & Maisaroh, I. (2025). Implementasi Media Wordwall untuk Meningkatkan Minat Belajar Siswa pada Mata Pelajaran Bahasa Inggris Kelas III Sekolah Dasar. *Jurnal Ilmiah Pembelajaran Sekolah Dasar*, 7(1).
- Prasetyo, A. D., & Abduh, M. (2021). Peningkatan Keaktifan Belajar Siswa Melalui Model Discovery Learning Di Sekolah Dasar.
- Rahmadani, S., Mufarizuddin, M., & Kusuma, Y. Y. (2023). Analisis Faktor-Faktor yang Mempengaruhi Keaktifan Belajar Siswa Sekolah Dasar. *Jurnal Muassis Pendidikan Dasar*, 2(1), 45–53.
- Rahmadillah, A., & Mamu, M. (2024). Implementasi Model Pembelajaran Cooperative Learning Tipe STAD untuk Hasil Belajar Peserta Didik. *Jurnal Pendidikan dan Profesi Keguruan*, 4(1).
- Ramadhani, I., & Jamaan, E. Z. (2021). Model Pembelajaran Kooperatif Tipe Student Team Achievement Division (STAD) untuk Meningkatkan Pemahaman Konsep Matematis Peserta Didik. *Jurnal Edukasi dan Penelitian Matematika*, 10(1).
- Rejeki, I. K. S., & Wantoro, J. (2024). Peningkatan Keaktifan Belajar Melalui Penerapan Model Problem Based Learning dalam Kegiatan Pembelajaran pada Siswa Kelas II. *Jurnal Review Pendidikan dan Pengajaran*, 7(2).
- Rokhanah, N., Widowati, A., & Sutanto, E. H. (2021). Peningkatan Keaktifan Belajar Siswa dengan Menerapkan Model Pembelajaran Kooperatif Tipe Student Team Achievement Divisions (STAD). *EDUKATIF: JURNAL ILMU PENDIDIKAN*, 3(5), 3173–3180.
- Rosiyati, D., Erviana, R., Fadilla, A., & Sholihah, U. (2025). Pendekatan Deep Learning dalam Kurikulum Merdeka. 4(2).
- Rozzy, M. F., Kurniati, & Syarifuddin. (2024). Penerapan Model STAD untuk Meningkatkan Kemampuan Pemahaman Bahasa Arab pada Siswa Pondok Pesantren Nurul Iman Kabupaten Bogor. *Seminar Nasional Teknologi Pendidikan*, 4(1).
- Samala, A. D., Ambiyar, A., Jalinus, N., Dewi, I. P., & Indarta, Y. (2022). Studi Teoretis Model Pembelajaran: 21st Century Learning dan TVET. *EDUKATIF: JURNAL ILMU PENDIDIKAN*, 4(2), 2794–2808.
- Sulistiani, A., Sulaeman, Y., & Muliasari, A. (2025). Penggunaan Model Pembelajaran Cooperative Tipe STAD (Student Teams Achievement Division) untuk Meningkatkan Hasil Belajar Siswa dalam Mata Pelajaran IPAS tentang Materi Tokoh Sejarah di Kelas IV SDN Parigi 3. *Jurnal Pendidikan dan Penelitian*, 2(2).
- Susilowati, D. (2023). Peningkatan Keaktifan Belajar Peserta Didik Melalui Implementasi Metode Eksperimen pada Mata Pelajaran IPAS.
- Tresnawati, S. R., Naila, I., & Faradita, M. N. (2023). Analisis Pembelajaran IPA Kelas IV Sekolah Dasar dalam Kurikulum Merdeka. *Faktor: Jurnal Ilmiah Kependidikan*, 10(3), 365–372.