ETDC Indonesian Journal of Research and Educational Review
Volume 5, No. 3, 2026, pp 1921 - 1933
e–ISSN 2809-3682
p–ISSN 2809-7505

https://doi.org/10.51574/ijrer.v5i3.4853

Discovery Learning Model on Improving Social Studies Learning Outcomes at Primary School

Intan Sari Kowarin[1], Nathalia Yohana Johannes[2], Leonid Ritiauw[3]
[1, 2, 3] Department of Primary School Teacher Education, Universitas Pattimura, Indonesia

Article Info

Article history:

Received March 23, 2026
Accepted May 20, 2026
Published June 05, 2026

Keywords:

Discovery Learning;
Learning Outcomes;
Primary School;
Social Studies;
Teaching Model.

ABSTRACT

Social Studies (IPS) learning is often passive and teacher-centered, resulting in low student engagement and suboptimal learning outcomes. This study aims to examine the effect of the Discovery Learning model on improving Social Studies learning outcomes in fifth-grade students of Warwut Public Primary School, Maluku Province, Indonesia. The approach used was quantitative with a pre-experimental design (One-Group Pretest-Posttest Design). The research subjects included all 21 fifth-grade students, selected using a total sampling technique. Data were collected through a validated multiple-choice learning outcome test instrument (Cronbach's Alpha = 0.862) and an observation sheet. Data analysis was conducted using descriptive statistics, the Shapiro-Wilk normality test, and a paired-samples t-test using SPSS version 27. The results showed a significant increase in the average score from 65.10 in the pretest to 87.38 in the posttest, with a mean gain of 22.28 points. The normality test confirmed that both data were normally distributed ($p > 0.05$). The hypothesis test obtained a significance value of 0.000 ($p < 0.05$), so the null hypothesis was rejected. These findings confirmed that the application of Discovery Learning through six syntactic stages—stimulation, problem identification, data collection, data processing, proof, and drawing conclusions—significantly improved students' social studies learning outcomes. Practically, this study successfully transformed the conventional passive instruction pattern into active, student-centered learning. This model was proven effective in increasing student engagement, critical thinking skills, and conceptual understanding at all levels of academic ability.

Corresponding Author:

Intan Sari Kowarin,
Department of Primary School Teacher Education, Universitas Pattimura, Indonesia
Email: kowarinintan8@gmail.com

1. INTRODUCTION

Social Studies (IPS) is essentially an integrative subject group that conveys various social phenomena, empirical facts, humanities concepts, and generalizations that are closely intertwined with the realities of community life (Alabi et al., 2025; Siagian, 2025). At the Primary School level, IPS pedagogy is oriented toward equipping students with a holistic understanding of the nation's social environment, culture, and historical trajectory, while also internalizing the values of nationalism, social empathy,

and civic responsibility. Gunawan et al. (2024) emphasize that IPS education plays a central role in stimulating students' social awareness from an early age, serving as a key pillar of national wisdom-based character education. Therefore, the effectiveness of instructional achievement in IPS learning in Primary Schools is a crucial benchmark for the success of developing a cognitively intelligent and socially sensitive young generation.

Despite its high urgency, the empirical reality of IPS learning implementation in the field often shows significant discrepancies from the expected ideal conditions. Various contemporary studies confirm that low student academic achievement in social studies is a recurring systemic problem within the elementary education ecosystem (Kissling & Bell, 2020; Levy et al., 2023). Fauziah et al. (2024) indicated that the suboptimal quality of social studies instruction at the Primary School level stems from a lack of innovative learning models and weak utilization of interactive media, which linearly impacts student retention and conceptual understanding. A similar phenomenon was identified at Warwut Public Primary School, where initial observations showed that most fifth-grade students achieved social studies evaluation scores below the Learning Objective Achievement Criteria. The learning process in this classroom is still co-opted by a conventional approach based on one-way lectures, which reduces students to passive recipients of information, becoming bored, and alienated from the active process of knowledge construction.

The problem of low student learning outcomes cannot be separated from the use of learning models that are less accommodating and tend to be monotonous. Nabillah and Abadi (2020) identified that one of the dominant factors contributing to students' poor academic performance is low active participation in the classroom, triggered by the implementation of decontextualized teaching methodologies. A teacher-centered learning approach radically limits students' freedom to explore, conduct independent investigations, and construct their own understanding—even though these activities are the essence of meaningful learning (Ghafar, 2023). Therefore, the urgency of innovating learning models is essential to transform students' roles from mere passive consumers of information to active and independent learning agents (Sharma et al., 2023).

One methodological intervention empirically proven effective in resolving this pedagogical impasse is the Discovery Learning model. Initiated by Jerome Bruner, this model emphasizes the educational process on students' independent activities in discovering and reconstructing knowledge concepts through a series of systematic scientific investigations, including observation, data collection, information processing, verification, and drawing conclusions (Nur et al., 2025; Ozdem-Yilmaz & Bilican, 2025). Laili et al. (2024) define Discovery Learning as an instructional approach that significantly escalates conceptual understanding through in-depth cognitive engagement in the discovery process, resulting in more permanent knowledge retention. Within this model's framework, the teacher transforms from the epicenter of knowledge (the stage on the stage) to a facilitator and guide (the guide on

the side), guiding students toward independent conceptual understanding (Garcia Jimenez et al., 2023).

Operationally, the Discovery Learning model integrates six structured syntactic stages: (1) stimulation, (2) problem statement, (3) data collection, (4) data processing, (5) verification, and (6) generalization. These six phases are specifically formulated to stimulate both cognitive and affective engagement in students throughout the teaching process. Waridi et al. (2025), in their research on the effectiveness of Discovery Learning on fourth-grade students' learning outcomes in Natural and Social Sciences (IPAS) related to cultural diversity content, found that implementing this model significantly boosted students' conceptual mastery and learning outcomes. This finding further solidifies Discovery Learning's position as one of the most relevant and compatible learning models for implementation at the Primary School level.

The effectiveness of this model has also received strong legitimacy from various studies, both domestically and internationally. Astriani et al. (2023) demonstrated a significant positive effect of Discovery Learning on fifth-grade students' social studies learning outcomes. Similarly, Fauziah et al. (2024) found that integrating video media into Discovery Learning optimized the activities and conceptual understanding of Primary School social studies material. Internationally, Aldalur and Perez (2023) demonstrated that Discovery Learning combined with gamification effectively stimulates students' intrinsic motivation, while Sisi et al. (2025) emphasized the superiority of this model in accelerating the adaptive conceptual understanding of fifth-grade students. However, although global literature has validated the effectiveness of this model, research specifically examining its impact on social studies learning outcomes in fifth-grade students at Warwut Public Primary School—an educational institution located in a remote island region with unique sociocultural characteristics and limited instructional facilities—has never been explored before. Panjalu and Winanto (2025) emphasized that the contextual and institutional characteristics of the school ecosystem greatly dictate the operational efficiency of a model, thus requiring specific local empirical evidence. Based on this research gap, the novelty of this research rests on testing the contextualization of the Discovery Learning model in a remote island region to produce a precise empirical basis for making local pedagogical policies at Warwut Public Primary School.

2. METHOD

This study employed a quantitative approach utilizing a pre-experimental research design. The specific design adopted was the One-Group Pretest-Posttest Design, selected because the research was conducted with a single sample group in the absence of a comparison (control) group, while still incorporating pre-intervention (pretest) and post-intervention (posttest) measurements to assess changes in student learning outcomes. The research design pattern is presented in Table 1.

Table 1. One-Group Pretest-Posttest Design

Pretest	Treatment	Posttest
O_1	X	O_2

Note:

O_1 = Pretest score (prior to treatment);

X = Treatment (implementation of the Discovery Learning model);

O_2 = Posttest score (following treatment).

This research was conducted at Warwut Public Primary School, Ohoi Warwut, Hoat Soebay District, Southeast Maluku Regency, Maluku Province. The subjects were all 21 fifth-grade students at Warwut Public Primary School. Participants were selected using a saturated sampling technique (total sampling), where the entire population was included as subjects. This technique was chosen due to the relatively small population size and the school's single fifth-grade class, making it impossible to form separate experimental and control groups.

This study involved two variables: the independent variable and the dependent variable. The independent variable in this study was the Discovery Learning model (X), implemented through six syntactic stages: stimulation, problem statement, data collection, data processing, verification, and generalization. Meanwhile, the dependent variable studied was students' Social Studies (IPS) learning outcomes (Y), operationalized through changes in scores between the pretest and posttest.

The main data collection instrument was a multiple-choice learning achievement test designed to assess students' cognitive achievement in fifth-grade social studies material. Before being used, the instrument was first tested for validity using the Pearson Product Moment correlation technique and reliability testing using the Cronbach's Alpha coefficient assisted by SPSS version 27 software. An item was declared valid if the r_calculated value > r_table, and the instrument was declared reliable if the Cronbach's Alpha value ≥ 0.60. In addition to the achievement test, an observation sheet was also used to monitor the implementation of the Discovery Learning model during the intervention.

This research procedure was implemented through three main stages. The first stage was preparation, which included preliminary studies, the development of learning materials (teaching modules), the development of research instruments, and testing the validity and reliability of the questions. The second stage was the implementation phase, which began with a pretest to measure students' initial abilities, followed by three Discovery Learning-based social studies learning sessions, and concluded with a posttest to measure learning outcomes after the intervention. The third stage included data processing and analysis, including data tabulation, prerequisite assumption testing, and hypothesis testing.

The data analysis technique in this study used descriptive statistics to measure individual absorption capacity, classical learning completion, average score (mean), and standard deviation. The prerequisite assumption test, a normality test, was conducted using the Shapiro-Wilk method in SPSS version 27 to ensure the data were normally distributed, with a decision criterion of Sig. (2-tailed) > 0.05. Once the conditions are met, hypothesis testing is conducted using a paired-samples t-test to determine the significance of the difference between pretest and posttest scores to test the working hypothesis (H_a) versus the null hypothesis (H_0).

3. RESULTS AND DISCUSSION

Results

Instrument Validity and Reliability

Validity Test

Validity testing was conducted to determine the extent to which each item in the research instrument accurately measures the variable under investigation. Validity reflects the degree to which an instrument measures the intended construct. In this study, validity testing was employed to verify that each test item genuinely assessed students' learning outcomes. The validity criterion was based on the r*calculated* value derived from item-total score correlations, compared against the r*table* value at a 5% significance level. Items were classified as valid if r*calculated* ≥ r*table*, and as invalid if r*calculated* < r*table*. Results of the validity analysis are presented in Table 2.

Table 2. Instrument Validity Test Results

Item No.	r-table	r-count	Status
S1	0.456	0.667	Valid
S2	0.456	0.531	Valid
S3	0.456	0.356	Invalid
S4	0.456	0.317	Invalid
S5	0.456	0.331	Invalid
S6	0.456	0.526	Valid
S7	0.456	0.254	Invalid
S8	0.456	0.529	Valid
S9	0.456	0.079	Invalid
S10	0.456	0.560	Valid

The validity analysis results presented in Table 2, of the 10 items tested, five were classified as invalid and five were classified as valid, having r*calculated* values ≥ r*table* (0.456). Accordingly, only the five valid items were retained for subsequent reliability testing to ensure the consistency and dependability of the research instrument.

Reliability Test

Reliability testing was conducted to assess the consistency of the research instrument. An instrument is considered reliable if it produces consistent results when administered to the same subjects under comparable conditions. The decision criterion was as follows: if Cronbach's Alpha > 0.60, the instrument is deemed reliable; if Cronbach's Alpha < 0.60, it is deemed unreliable. The reliability analysis results are presented in Table 3.

Table 3. Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
.862	5

The results of the reliability test, this research instrument was declared reliable for use in data collection because it had a Cronbach's Alpha coefficient of 0.862, which significantly exceeded the standard threshold of 0.60, thus indicating a high level of internal consistency.

Pretest and Posttest Learning Outcomes Data

The pretest and posttest learning outcome data for fifth-grade students at Primary School Warwut are presented in Table 4.

Table 4. Pretest and Posttest Learning Outcome Scores

Measurement	Total Score Amount	Mean	Mean N-Gain
Pretest (Before Intervention)	1,367	65.1	-
Posttest (After Intervention)	1,835	87.38	22.28

The data presented in Table 4 indicate that the total pretest score prior to the implementation of the Discovery Learning model was 1,367, yielding a mean of 65.10. This relatively low means reflects the prevailing use of conventional teacher-centered instructional methods, which rendered learning monotonous and limited student involvement in the learning process. Following the intervention with the Discovery Learning model, the total posttest score increased to 1,835, with the mean rising to 87.38 an improvement of 22.28 points. This increase demonstrates that the Discovery Learning model effectively stimulated student engagement and interest throughout the learning process.

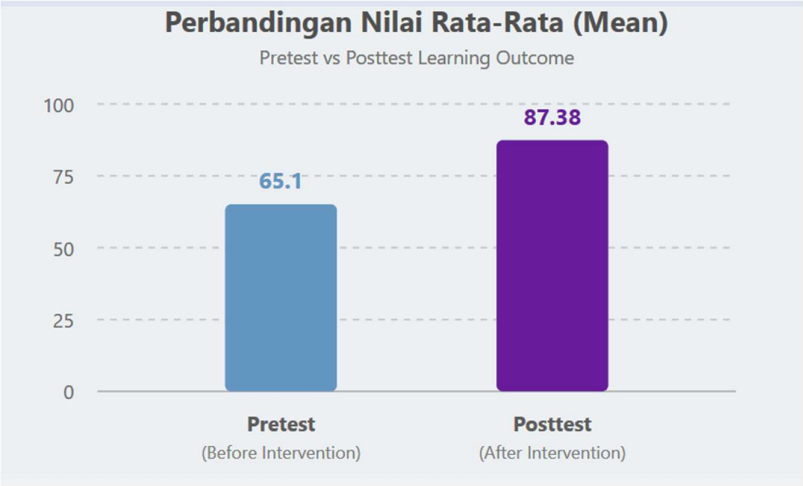

Figure 1. Comparison of Average Values

Normality Test

The normality of pretest and posttest data was assessed using SPSS version 27 via the Shapiro-Wilk method. The results are presented in Table 5.

Table 5. Normality Test Results (Shapiro-Wilk)

	Shapiro-Wilk		
	Statistic	df	Sig.

Preetest	.935	21	.171
Posttest	.953	21	.382

Table 5 shows that the Shapiro-Wilk significance values for pretest and posttest data were .171 and .382, respectively both exceeding the .05 threshold. These results confirm that both datasets are normally distributed, satisfying the parametric assumption required for hypothesis testing using the paired-samples t-test.

Hypothesis Testing

Hypothesis testing was performed using the paired-samples t-test via SPSS version 27. The decision criteria were as follows: (1) if Sig. < .05, H_0 is rejected and H_1 is accepted, indicating a significant effect; (2) if Sig. > .05, H_0 is accepted and H_1 is rejected, indicating no significant effect. The results are presented in Table 6.

Table 6. Paired Samples T-Test Results

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Preetest - Posttest	-23.048	6.569	1.433	-26.038	-20.058	-16.079	20	.000

The results of the paired samples t-test analysis presented in Table 6 show a mean difference between pretest and posttest scores of -23.048, with a standard deviation of 6.569 and a standard error of 1.433. This negative means indicates a significant increase in scores from pretest to posttest after treatment. Furthermore, the statistical test yielded a calculated t-coefficient of -16.079 with 20 degrees of freedom (df).

Furthermore, the hypothesis test results showed a significance value of 0.000 (Sig.) (2-tailed), well below the specified error threshold of alpha = 0.05 ($p < 0.05$). Based on these statistical decision-making criteria, the null hypothesis (H_0) is significantly rejected, and the working hypothesis (H_1) is confidently accepted. These findings provide strong empirical evidence that there is a significant positive influence of the application of the Discovery Learning model on improving the learning outcomes of Social Sciences (IPS) in fifth grade students at Warwut State Primary School.

Discussion

The findings of this study demonstrate that the implementation of the Discovery Learning model exerted a statistically significant effect on improving social studies learning outcomes among fifth-grade students at Primary School Warwut. This conclusion is empirically evidenced by a substantial increase in the total student learning score from 1,367 at the pretest stage to 1,835 at the posttest stage. Correspondingly, the mean score rose significantly from 65.10 prior to the intervention to 87.38 post-intervention, representing a mean gain of 22.28 points.

Furthermore, the paired-samples t-test yielded a calculated t-coefficient of -16.079 with 20 degrees of freedom (df = 20) and a significance value (Sig. (2-tailed)) of 0.000. Because this p-value falls well below the specified error threshold of alpha = 0.05 ($p < 0.05$), the null hypothesis (H_0) is significantly rejected, and the working hypothesis (H_1) is confidently accepted. These findings are highly consistent with those of Niman et al. (2024), who demonstrated that the Discovery Learning model significantly improves student learning outcomes while simultaneously enhancing active participation in the learning process.

The significant improvement in Social Studies learning outcomes is closely linked to the fundamental characteristics of the Discovery Learning model, which positions students as active agents in constructing their own knowledge. Through a six-stage syntactic framework—comprising stimulation, problem statement, data collection, data processing, verification, and generalization, students are systematically guided to observe social phenomena, articulate problems, collect and process data, and draw autonomous conclusions. This independent activity stimulates much deeper cognitive engagement compared to conventional teacher-centered approaches, which often render learning monotonous and limit student involvement. These empirical findings align closely with the theoretical foundations of Discovery Learning initiated by Jerome Bruner, who conceptualizes learning as an active process where students build new knowledge upon their prior foundations through direct experience (Ozdem-Yilmaz & Bilican, 2025). Tohari and Rahman (2024) reinforce this argument by emphasizing that discovery learning is an active knowledge-seeking approach capable of generating meaningful learning, especially when students are directly involved in actual problem-solving activities.

Operationally, the effectiveness of this model manifested clearly across each syntactic phase in the classroom. In the stimulation phase, the researchers provided initial stimuli in the form of guiding questions and social phenomena contextually relevant to the realities of students' daily lives in the Southeast Maluku archipelago. Internalizing this local context proved highly effective in sparking students' curiosity and intrinsic motivation. This observation is corroborated by the findings of Itsnaini et al. (2026), who showed that the Discovery Learning approach significantly increases student engagement. Entering the problem statement and data collection phases, students were guided to formulate inquiry questions and gather information from multiple sources, which linearly honed their analytical and critical thinking skills. Masnil et al. (2024) also confirmed that Discovery Learning effectively improves primary school students' critical thinking skills through independent problem identification and information retrieval activities.

In the data processing and verification phases, the classroom atmosphere transformed into a collaborative space where students discussed their group's findings and cross-checked their conclusions. This collaborative process not only enriches students' empirical experiences but also deepens their retention of conceptual understanding of social studies material. In the context of improving classroom quality, Latifah and Wahyudi (2025) reported that the consistent implementation of the

six stages of Discovery Learning was able to boost the quality of teacher instruction and student learning activities, which directly impacted learning outcomes. In the culmination phase, namely generalization, students are trained to independently formulate macro-conclusions from the entire learning process. The ability of students to generalize these abstract social studies concepts is a crucial indicator of achieving a holistic and comprehensive understanding.

From a constructivist theoretical perspective, the improvement in learning outcomes in this study can be explained by the principle that knowledge actively constructed by students through independent exploration and discovery is retained longer in long-term memory and more easily transferred to new contextual situations. This premise is strongly supported by the meta-analysis by Pangesti and Radia (2021), which concluded that the Discovery Learning model consistently has a significant positive impact on science learning outcomes in primary schools, with a significant effect size. The effectiveness of this model is further confirmed by a meta-analysis by Puspitasari and Nurhayati (2019), which confirmed that Discovery Learning has a positive impact on student academic achievement across various subjects, including those requiring high-level conceptual understanding such as Social Studies.

A thorough examination of the statistical distribution reveals that the paired differences between the pretest and posttest scores exhibited a standard deviation of 6.569 and a standard error mean of 1.433. This low standard error indicates that the observed increase in learning outcomes is highly stable and representative of the sample population. The data dispersion patterns demonstrate that Discovery Learning is not exclusively effective for high-achieving students but also exerts an inclusive, positive impact on students who previously performed below expectations. Prasetyo and Abduh (2021) stated that the application of Discovery Learning in primary schools effectively increases the learning engagement of all students inclusively, including those who previously tended to be passive in class. This equitable impact is reinforced by the narrow confidence interval of the differences, spanning from a lower bound of -26.038 to an upper bound of -20.058. This reduction in score dispersion reflects a more equitable and fair distribution of learning outcomes, in line with Khairat's (2021) conclusion that the Discovery Learning strategy in fifth-grade social studies significantly reduces disparities or gaps in learning outcomes among students.

Globally, the effectiveness of this model has gained strong empirical legitimacy across diverse educational contexts. Oglu and Babazade (2024) found that active discovery-based learning consistently increases students' academic commitment and transforms the teacher's role from merely conveying information to facilitating knowledge reconstruction. Similarly, Karan (2023) emphasized that a discovery-based approach is an optimal strategy for encouraging independent student participation while positioning teachers as guides for student skill development. The pedagogical success at Warwut State Primary School was also triggered by the teachers' adaptive responsiveness in aligning the model's syntax with local sociocultural realities. This aligns with a crucial factor underscored by Kainama et al. (2023) that local-wisdom-based Discovery Learning produces optimal outcomes because the learning material is

directly intertwined with students' life experiences. This finding also validates research by Ana (2018) and Astuti (2024) regarding the consistent driving force of this model on students' classical mastery. Overall, this study enriches the empirical evidence that the pedagogical shift from teacher-centered to student-centered learning through Discovery Learning is capable of transforming classroom dynamics in remote island areas with limited facilities, strongly resonating with the view of Woods and Copur-Gencturk (2024) that a student-centered pedagogical approach is profoundly more effective in fostering learning independence and academic achievement.

4. CONCLUSION

The implementation of this student-centered learning model has been statistically proven to have a significant positive effect in improving students' academic achievement and answering the proposed research hypothesis. Before the intervention, students' social studies learning outcomes tended to be low with an average pretest score of 65.10 and many students had not yet achieved the Learning Objective Achievement Criteria due to the dominance of conventional methods. However, after the Discovery Learning model was implemented through its six syntactic stages, there was a very real escalation in academic performance with a surge in the average posttest score reaching 87.38, driven by increased student activity, enthusiasm, and critical engagement throughout the concept discovery process. The significance of this effect was methodologically validated through the Shapiro-Wilk normality test which confirmed that the pretest (0.171) and posttest (0.382) data were normally distributed ($p > 0.05$), and was strengthened by the results of the hypothesis test using a paired-samples t-test which produced a significance value of 0.000 ($p < 0.05$), so that the null hypothesis (H_0) was rejected and the working hypothesis (H_1) was accepted. As a result, these findings comprehensively prove that the Discovery Learning model successfully achieved the research's instructional objectives by transforming passive classroom dynamics into an active, meaningful, and inclusive learning ecosystem for all levels of student ability in the remote island school.

As a suggestion, it is recommended for educators, especially in the Warwut State Primary School environment and schools with similar island characteristics, to begin shifting the conventional teaching paradigm by consistently integrating this discovery-based learning model as one of the main instructional strategies in the classroom. For school management and local education offices, it is recommended to facilitate pedagogical training programs and provide learning resources that are adaptive to the local context to support the role of teachers as responsive learning facilitators. Finally, for future researchers, it is recommended to replicate or expand the scope of this study by using a true experimental design involving a control group, as well as testing the effectiveness of the Discovery Learning model on other dependent variables such as critical thinking skills, collaboration, or students' intrinsic motivation in a wider population scale.

REFERENCES

Alabi, A. J., Adelekan, A. T., & Olotu, G. (2025). Transforming Social Studies Pedagogy: Artificial Intelligence-Based tool and Students' Academic Performance in Ondo State, Nigeria. *ETDC: Indonesian Journal of Research and Educational Review*, *5*(1), 45-54. https://doi.org/10.51574/ijrer.v5i1.3988

Aldalur, I., & Perez, A. (2023). Gamification and discovery learning: Motivating and involving students in the learning process. *Heliyon*, *9*(1). https://doi.org/10.1016/j.heliyon.2023.e13135

Astriani, A., Idris, M., & Suryani, I. (2023). Pengaruh Model Pembelajaran Discovery Learning Terhadap Hasil Belajar (IPS) Siswa Kelas V di SD Negeri 05 Sungai Rotan. *Indonesian Research Journal On Education*, *3*(2), 1026–1035. https://doi.org/10.31004/irje.v3i2.135

Astuti, D. (2024). Peningkatan Hasil Belajar Tema 9 Melalui Model Discovery Learning Pada Siswa Sekolah Dasar. *IBTIDA-Jurnal Kajian Pendidikan Dasar*, *4*(2). https://doi.org/10.33507/ibtida.v4i1.1988

Fauziah, R. H., Aeni, A. N., & Hanifah, N. (2024). Pengaruh Model Discovery Learning Berbantuan Video terhadap Pemahaman Konsep Siswa pada Pembelajaran IPS. *Jurnal Pendidikan Dan Pembelajaran Indonesia (JPPI)*, *4*(2), 515–523. https://doi.org/10.53299/jppi.v4i2.511

Garcia Jimenez, D., Poongavanam, V., & Kihlberg, J. (2023). Macrocycles in drug discovery─ learning from the past for the future. *Journal of medicinal chemistry*, *66*(8), 5377-5396. https://doi.org/10.1021/acs.jmedchem.3c00134

Ghafar, Z. N. (2023). The Teacher-centered and the student-centered: a comparison of two approaches. *International Journal of Arts and Humanities*, *1*(1), 18-23.

Gunawan, A. P., Nurhalisyah, A., Madaniah, F. N., Putri, N. R., & Rustini, T. (2024). Membangun Kepedulian Sosial Melalui Pembelajaran IPS Sebagai Sentral Pendidikan Karakter di Sekolah Dasar. *Jurnal Manajemen Pendidikan Dan Ilmu Sosial*, *5*(4), 757–762. https://doi.org/10.38035/jmpis.v5i4.2095

Itsnaini, F. N., Lagandesa, Y. R., Lapasere, S., Rizal, Pratama, R. A., & Surahman. (2026). Integrating Discovery Learning with Kahoot to Enhance Elementary Science Learning Outcomes : A Classroom Action Research Study. *Journal of Innovation and Research in Primary Education*, *5*(1), 897–907. https://doi.org/10.56916/jirpe.v5i1.2910

Kainama, F., Johannes, N. Y., & Mahananingtyas, E. (2023). Penerapan Model Discovery Learning Berbasis Kearifan Lokal Untuk Meningkatkan Hasil Belajar Siswa Kelas Iv Di Sd Inpres 48 Ambon. *PEDAGOGIKA: Jurnal Pedagogik Dan Dinamika Pendidikan*, *11*(1), 149–156. https://doi.org/10.30598/pedagogikavol11issue1page149-156

Karan, E. (2023). Discovery-based approach combined with active learning to improve student learning experiences for STEM students. *International Journal of Education and Humanities (IJEH)*, *3*(4), 288–299. https://doi.org/10.58557/(ijeh).v3i4.163

Khairat, K. (2021). Upaya Meningkatkan Hasil Belajar Siswa Menggunakan Strategi Discovery Learning pada Pembelajaran IPS di Kelas V SDN 106803 Pematang Johar Kabupaten Deli Serdang. *Edu Society: Jurnal Pendidikan, Ilmu Sosial Dan Pengabdian Kepada Masyarakat*, *1*(3), 350–358. https://doi.org/10.56832/edu.v1i3.138

Kissling, M. T., & Bell, J. T. (2020). Teaching social studies amid ecological crisis. *Theory & Research in Social Education*, *48*(1), 1-31.

https://doi.org/10.1080/00933104.2019.1673267

Laili, A., Lestari, N. A. P., & Sudewiputri, M. P. (2024). Pengaruh Model Pembelajaran Discovery Learning Terhadap Hasil Belajar IPA Siswa SD. *Jurnal Ilmiah Pendidikan Citra Bakti*, *11*(1). https://doi.org/10.38048/jipcb.v11i1.2147

Latifah, R., & Wahyudi. (2025). Penerapan Model Pembelajaran Discovery Learning dengan Media Konkret untuk Meningkatkan Hasil Belajar Matematika Pengukuran pada Siswa Kelas II SD. *Kalam Cendekia: Jurnal Ilmiah Kependidikan*, *13*(3), 167–186. https://doi.org/10.20961/jkc.v13i3.104401

Levy, B. L., Busey, C. L., Cuenca, A., Evans, R. W., Halvorsen, A. L., Ho, L. C., ... & McGrew, S. (2023). Social studies education research for sustainable democratic societies: Addressing persistent civic challenges. *Theory & Research in Social Education*, *51*(1), 1-46. https://doi.org/10.1080/00933104.2022.2158149

Masnil, D., Mufarizuddin, Syahrul, M., & Rizal. (2024). Penerapan Model Discovery Learning Untuk Meningkatkan Kemampuan Berpikir Kritis Siswa Sekolah Dasar. *Jurnal Review Pendidikan Dan Pengajaran*, *7*(1). https://doi.org/10.31004/jrpp.v7i1.26078

Nabillah, T., & Abadi, A. P. (2020). Faktor penyebab rendahnya hasil belajar siswa. *Prosiding Seminar Nasional Matematika Dan Pendidikan Matematika Sesiomadika*, *2*(1c), 659–663. https://journal.unsika.ac.id/index.php/sesiomadika/article/view/2685

Niman, E. M., Edison, A. Y., & Momang, B. (2024). The Effectiveness of the Discovery Learning Model on Student Learning Outcomes. *International Journal of Multidisciplinary Research and Analysis*, *07*(07), 3454–3458. https://doi.org/10.47191/ijmra/v7-i07-49

Nur, Z., Mulyadi, M., & Nurdiansyah, E. (2025). Show and Tell Learning Method Based on the Discovery Learning Model: Creativity and Learning Outcomes at Primary School. *ETDC: Indonesian Journal of Research and Educational Review*, *5*(1), 564-581. https://doi.org/10.51574/ijrer.v5i1.4350

Nurhaswinda, N., Zulkifli, A., Gusniati, J., Zulefni, M. S., Afendi, R. A., Asni, W., & Fitriani, Y. (2025). Tutorial uji normalitas dan uji homogenitas dengan menggunakan aplikasi SPSS. *Jurnal Cahaya Nusantara*, *1*(2), 55–68.

Oglu, H. A. H., & Babazade, Y. (2024). Transforming Science Education: The Impact of Active Learning on Student Engagement and Achievement. *Excellencia: International Multi-Disciplinary Journal of Education*, *2*(4), 506–514.

Ozdem-Yilmaz, Y., & Bilican, K. (2025). Discovery learning—jerome bruner. In *Science education in theory and practice: An introductory guide to learning theory* (pp. 173-187). Cham: Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-81351-1_11

Pangesti, W., & Radia, E. H. (2021). Meta Analisis Pengaruh Model Pembelajaran Discovery Learning Terhadap Hasil Belajar IPA Siswa Sekolah Dasar. *Elementary School Jurnal Pendidikan Dan Pembelajaran Ke-SD-An*, *8*(2), 281–286. https://doi.org/10.31316/esjurnal.v8i2.1313

Panjalu, J. B., & Winanto, A. (2025). Efektivitas Model Pembelajaran Discovery Learning dan Problem Based Learning Terhadap Kemandirian Belajar IPAS Siswa Kelas IV Sekolah Dasar. *Pendas: Jurnal Ilmiah Pendidikan Dasar*, *10*(1).

Prasetyo, A. D., & Abduh, M. (2021). Peningkatan Keaktifan Belajar Melalui Model Discovery Learning di Sekolah Dasar. *Jurnal Basicedu*, *5*(4). https://doi.org/10.31004/basicedu.v5i4.991

Puspitasari, Y., & Nurhayati, S. (2019). Pengaruh Model Pembelajaran Discovery Learning Terhadap Hasil Belajar Siswa. *Jurnal Pendidikan Dan Kewirausahaan*,

7(1), 167–186. https://doi.org/10.47668/pkwu.v7i1.20

Sharma, A., Mandot, P., & Singh, D. (2023). Innovative learning models and their impacts on the transformation in education. *International Journal for Research in Applied Science and Engineering Technology*, *11*(10). https://doi.org/10.22214/ijraset.2023.56318

Siagian, Y. M. P. (2025). Thematic Approach in Social Studies Learning to Increase Elementary School Student Activeness. *ETDC: Indonesian Journal of Research and Educational Review*, *4*(4), 1130-1142. https://doi.org/10.51574/ijrer.v4i4.3732

Sisi, L., Parisu, C. Z. L., & Aopmonaim, N. H. (2025). Pengaruh Model Pembelajaran Discovery Learning Dan Inkuiri Terhadap Hasil Belajar IPAS Siswa Kelas V Sekolah Dasar. *Jurnal Kajian Pendidikan Dan Cakrawala Pembelajaran*, *1*(3), 58–70. https://doi.org/10.64690/jakap.v1i3.299

Tohari, B., & Rahman, A. (2024). Konstruktivisme Lev Semonovich Vygotsky dan Jerome Bruner: Model Pembelajaran Aktif dalam Pengembangan Kemampuan Kognitif Anak. *Nusantara: Jurnal Pendidikan Indonesia*, *4*(1), 209–228. https://doi.org/10.14421/njpi.2024.v4i1-13

Woods, P. J., & Copur-Gencturk, Y. (2024). Examining the role of student-centered versus teacher-centered pedagogical approaches to self-directed learning through teaching. *Teaching and Teacher Education*, *138*(March 2023), 104415. https://doi.org/10.1016/j.tate.2023.104415