

## Script Type Cooperative Learning Model on Student Learning Outcomes at Primary School

Olivya Haikutty<sup>1</sup>, Dominggus Rumatu<sup>2</sup>, Janes Pelamonia<sup>3</sup>

<sup>1</sup> Department of Elementary School Teacher Education, Universitas Pattimura, Indonesia

<sup>2</sup> Department of Biology Education, Universitas Pattimura, Indonesia

<sup>3</sup> Department of Elementary School Teacher Education, Universitas Pattimura, Indonesia

---

### Article Info

#### Article history:

Received January 12, 2026

Accepted February 14, 2026

Published March 18, 2026

---

#### Keywords:

Cooperative Script;

Elementary Education;

Energy Forms;

IPAS;

Learning Outcomes.

---

### ABSTRACT

Student academic success in IPAS, particularly regarding energy forms and their changes, is often sub-optimal when relying solely on traditional, one-way teaching methods that lack student engagement. This study aims to determine the effect of the Cooperative Script learning model on the learning outcomes of fourth-grade students at Primary School 71 Ambon. The research employed a quantitative quasi-experimental approach with a pretest-posttest control group design, where data were statistically analyzed using an independent sample t-test via IBM SPSS 27. The results revealed that the experimental group achieved a striking average post-test score of 20.88, significantly exceeding the control group's average of 12.33. The t-test analysis yielded a significant value of 0.001 ( $p < 0.05$ ), leading to the rejection of the null hypothesis ( $H_0$ ) and the acceptance of the alternative hypothesis ( $H_a$ ). Beyond cognitive improvement, the implementation of this model successfully transformed learning dynamics into a more active, enjoyable, and collaborative experience, fostering students' confidence and creativity through pair interactions. This study provides a practical contribution for elementary educators in implementing effective, innovative learning models and serves as a formal reference for developing interactive cooperative strategies in primary education.

Copyright © 2026 ETDCI.

All rights reserved.

---

### Corresponding Author:

Olivya Haikutty,

Department of Elementary School Teacher Education, Universitas Pattimura, Indonesia

Email: [olivyaikutty123@gmail.com](mailto:olivyaikutty123@gmail.com)

---

## 1. INTRODUCTION

Education is the primary foundation for developing quality human resources in the era of globalization, where IPAS, as a compulsory subject in elementary schools, plays a strategic role in honing students' scientific, critical, and analytical thinking skills (Khazanah et al., 2025; Supiarti et al., 2025). The essence of IPAS education is not merely mastery of theoretical concepts but encompasses the processes of discovery, observation, and experimentation that foster a scientific attitude (Halimah et al., 2025; Nisa et al., 2025; Siregar et al., 2025). It is also a body of knowledge that examines

natural phenomena through systematic procedures to produce scientific products in the form of universally applicable concepts, principles, and theories (Nur et al., 2023). However, the reality on the ground shows that IPAS education in elementary schools still faces complex challenges (Jannah et al., 2026; Komariah et al., 2023), as evidenced by the Programme for International Student Assessment (PISA) report, which shows that Indonesian students' scientific competencies are still below the average for OECD member countries (Wahyuni et al., 2024). These low learning outcomes are triggered by internal factors such as motivation and study habits, as well as external factors including material density, limited media, and the dominance of monotonous teacher-teaching methods (Amaliyah et al., 2021). This condition is emphasized by the findings of Hardiansyah and Hidayatillah (2022), which show that the level of IPAS achievement of elementary school students is still very low, a fact that underlies the urgency of implementing innovative learning models such as Cooperative Script to improve academic achievement.

A similar situation was observed in IPAS learning at Primary School 71 Ambon, particularly in the fourth-grade subject of energy forms and their transformations. The learning process was still teacher-centred, leaving students passive in constructing knowledge. This phenomenon was exacerbated by the suboptimal implementation of learning models capable of creating an interactive learning environment, resulting in students feeling bored, unmotivated, and having difficulty understanding abstract scientific concepts. This is in line with the findings of Aminah and Setyowati (2024), who stated that IPAS education in elementary schools without the use of innovative learning models tends to make students passive and negatively impacts their learning outcomes. In fact, the subject of energy forms and their transformations is an essential subject in the fourth grade curriculum, encompassing an understanding of various types of energy such as heat, light, sound, electricity, motion, and chemistry, as well as their applications in everyday life. As emphasized by Siagian and Darwis (2023), teaching energy-related material in elementary schools requires a contextual and meaningful approach so that students can understand abstract concepts through direct experience. Therefore, learning strategies that can facilitate students in building meaningful conceptual understanding are needed.

One approach that can provide a solution to low student learning activity is cooperative learning, rooted in Vygotsky's theory of social constructivism (Erbil, 2020). In this view, knowledge is constructed through collaboration between individuals in supportive social interactions, where learning occurs efficiently when students work together with peers under the guidance of a more competent person (Tohari & Rahman, 2024). Vygotsky's concept of the Zone of Proximal Development (ZPD) emphasizes the urgency of collaboration in helping students develop more advanced skills through interactions with peers or adults (Eun, 2019; Suci, 2018). These philosophical principles underlie the development of various cooperative learning models, including the Cooperative Script model, designed to optimize active student participation.

The cooperative script learning model is a type of cooperative learning that organizes students into pairs to exchange roles as speaker and listener in summarizing lesson material (Damayanti, 2018; Hasanah & Hamami, 2021). This model emphasizes explicit learning contracts regarding collaborative methods, requiring students to be active, independent, and able to discover concepts through in-depth discussions with their partners (Hutauruk et al., 2022; Salong, 2023). Technically, the steps for implementing the cooperative script include dividing students into pairs, distributing texts for summarization, assigning speaker and listener roles alternately to correct key ideas, and formulating conclusions together with the teacher (Kasmiati et al., 2023; Ndruru et al., 2022). This learning syntax facilitates intensive interaction and knowledge exchange, enabling each student to participate actively in building meaningful conceptual understanding (Azzahro et al., 2025).

Several previous studies have provided empirical evidence regarding the capacity of the Cooperative Script model to improve student academic achievement at the elementary school level (Gunawan & Helmawati, 2026; Indriani, 2017; Nst, 2021; Salong, 2023). While Aisyah et al. (2024) demonstrated the model's effectiveness in improving learning activities in social studies. This model's significant potential stems from its advantages relevant to the characteristics of elementary school students, including the ability to generate new ideas in problem-solving, develop critical thinking skills, and foster students' courage in expressing ideas (Rukmana et al., 2022). Furthermore, this model trains students to articulate concepts orally and compare them with the perspectives of peers (Gusvita & Iskandar, 2024), thus not only facilitating social interaction and discussion skills but also training students to appreciate differences and diversity in the process of knowledge construction.

Based on the description above, this study aims to investigate the effect of the cooperative script type of cooperative learning model on students' academic achievement in the material of energy forms and their changes in Grade IV of Primary School 71 Ambon. The selection of this research location is based on real problems found in the school, namely the low IPAS learning outcomes of students and the less-than-optimal use of innovative learning models by educators. Through this study, it is hoped that empirical contributions can be produced regarding the effectiveness of the Cooperative Script model in improving IPAS learning outcomes, as well as being a reference for teachers in developing more effective and meaningful instructional practices for students at the elementary school level.

## **2. METHOD**

This study employed a quantitative approach with a quasi-experimental method using a pretest-posttest control group design. This design was chosen to comprehensively evaluate the effectiveness of the Cooperative Script model by comparing learning outcomes before and after the intervention in the experimental and control groups. The study took place at Primary School 71 Ambon and lasted for one month, from September 19 to October 19, 2025.

The study involved a total of 48 fourth-grade students, evenly divided into two observation groups. The experimental group, Class IV A, consisted of 24 students and was instructed to use the Cooperative Script learning model, while Class IV B, also consisting of 24 students, was designated as the control group and implemented a conventional learning model. This division was carried out to ensure a valid comparison in measuring the impact of the treatment on student learning outcomes in the topic of energy forms and their transformations.

The variables investigated in this study were classified into two main categories to accurately measure the effectiveness of the intervention. The independent variable in this study was the implementation of the Cooperative Script learning model, a structured cooperative approach that emphasizes the division of roles between speaker and listener in constructing understanding of the material. The implementation of this model was designed as the primary stimulus to assess the extent to which changes in student activity and engagement could influence their cognitive processes during learning.

Meanwhile, the dependent variable in this study was student academic achievement or learning outcomes, specifically on the topic of forms of energy and their transformations at the elementary school level. Measurement of this variable focused on students' mastery of essential concepts and their ability to identify energy transformations in everyday life using a valid test instrument. The focus of this study was to determine the significant influence of the independent variable on improving academic achievement compared to conventional learning methods.

The data collection technique in this study employed a triangulation approach, combining written learning outcome tests, structured observations, and document analysis. The test instruments were used to objectively measure students' cognitive mastery, while the structured observations aimed to monitor student activities and interactions during the implementation of the Cooperative Script model. Furthermore, document analysis was conducted to strengthen administrative data and subject profiles, thus obtaining a comprehensive picture of the effectiveness of the learning process in the field.

To ensure the validity and reliability of the findings, all collected data were statistically processed using IBM SPSS 27 software through several stages of analysis. The analysis began with prerequisite tests, including normality and homogeneity tests, to ensure that the data distribution met the criteria for parametric statistical analysis. Next, hypothesis testing was conducted using an independent sample t-test to determine the significance of differences in learning outcomes between the experimental and control groups, allowing scientific conclusions to be drawn regarding the effect of the implemented learning model.

### 3. RESULTS AND DISCUSSION

#### Results

##### Description of the Learning Process

This research was conducted in the fourth grade of Primary School 71 Ambon by implementing a cooperative learning strategy of the Cooperative Script type to improve students' academic achievement in the subject of IPAS, especially on the material of energy forms and their changes. The main focus of this research is to statistically test the significance of the influence of the model on student learning outcomes through four structured meeting sessions. In its implementation, the researcher implemented an instructional process that was aligned with the teaching module that had been prepared and consulted with the fourth grade teacher to ensure the suitability of content and pedagogy. A series of research procedures began with the implementation of a pre-test to measure students' initial abilities before the intervention was carried out, the results of which became the basis for the use of the teaching module in the core learning activities in the experimental group.

The intervention in this study was implemented through four structured sessions, starting in late September and ending in early October 2025. The first and second sessions focused on introducing basic energy concepts and identifying its various forms through a collaborative approach. The teacher began the lesson with contextual stimulation regarding the use of air conditioning to spark students' curiosity, followed by the formation of 12 work pairs using the Cooperative Script syntax. At this stage, students were directed to work collaboratively on Student Worksheets (LKPD) 1 and 2 using visual aids in the form of images of everyday objects, such as a clock battery and an iron heating element, to strengthen their operational understanding of energy sources and forms.

In the third and fourth sessions, the learning focus shifted to analyzing changes in energy forms and efforts to conserve them in everyday life. Students returned to work with the same partners to identify energy use in household appliances and brainstormed specific benefits outlined in LKPD 3. The final session focused on developing an environmentally conscious attitude through energy saving scenarios, where each pair formulated best practices to prevent an energy crisis in LKPD 4. This series of instructional activities concluded with a comprehensive reflection session on all the material learned, followed by a post-test to measure the significance of the increase in students' conceptual understanding after the implementation of the Cooperative Script learning model.

#### Description of Student Learning Outcomes Data

**Table 1.** Classification of Pre-Test Results for the Control Group

Interval	Number of Students	Pretest Percentage	Category
81-100	0	0%	Very Good
60-80	1	4,17%	Good
31-59	17	70,88%	Fair
7-30	5	20,83%	Poor
0-6	1	4,17%	Need Improvement
Total	24	100%	

**Table 2.** Classification of Post-Test Results for the Control Group

Interval	Number of Students	Post-Test Percentage	Category
81-100	0	0%	Very Good
60-80	6	25%	Good
31-59	15	62,5%	Fair
7-30	3	12,5%	Poor
0-6	0	0%	Need Improvement
Total	24	100%	

The improvement in learning achievement in the control group was observed through the redistribution of student competency categories, where there was an increase in the number of students in the "Good" category from 4.17% (1 person) to 25% (6 people), which was accompanied by a decrease in the number of students in the "Poor" category from five to three people. However, the evaluation results showed that no students were able to achieve the "Very Good" category, both in the pre-test and post-test stages, with most students (62.5%) still stuck in the "Enough" category. This phenomenon indicates that although conventional methods have an influence on student understanding, the escalation of academic achievement is still limited compared to the expected development potential in the material on energy forms.

**Table 3.** Classification of Pre-Test Results for the Experimental Group

Interval	Number of Students	Pretest Percentage	Category
81-100	0	0%	Very Good
60-80	0	0%	Good
31-59	5	20,83%	Fair
7-30	18	75%	Poor
0-6	1	4,17%	Need Improvement
Total	24	100%	

**Table 4.** Classification of Post-Test Results for the Experimental Group

Interval	Number of Students	Posttest Percentage	Category
81-100	9	37,5%	Very Good
60-80	10	41,67%	Good
31-59	5	20,88%	Fair
7-30	0	0%	Poor
0-6	0	0%	Need Improvement
Total	24	100%	

In contrast to the control group, the experimental group showed a very significant increase in academic achievement after the implementation of the Cooperative Script model. Pre-test data indicated that most students (75%) were in the "Poor" category, but the post-test results showed a positive transformation where there were no more students in the "Poor" or "Needs Improvement" categories. Cumulatively, 79.17% of students succeeded in achieving high competency standards, which were divided into 37.5% of students in the "Very Good" category and 41.67% in the "Good" category. This finding confirms the effectiveness of the Cooperative Script type of cooperative

learning model in accelerating students' conceptual understanding of the material on energy forms and their changes substantially.

### Data Analysis

After obtaining the description after obtaining pretest and posttest results from both groups, a normality assessment is carried out to evaluate data distribution. The Shapiro-Wilk test results show that both data sets data are considered to follow a normal pattern when the probability level exceeds 0.05, confirming the assumption is fulfilled.

**Table 5.** Normal Test Results

Group	Tests of Normality	Statistic	df	Sig.
Value Pretest Eksperimen	Kolmogorov-Smirnov	155	24	0.140
	Shapiro-Wilk	944	24	0.203
Value Posttest Eksperimen	Kolmogorov-Smirnov	183	24	0.37
	Shapiro-Wilk	922	24	0.64
Value Pretest Kontrol	Kolmogorov-Smirnov	146	24	0.199
	Shapiro-Wilk	936	24	0.130
Value Posttest Kontrol	Kolmogorov-Smirnov	172	24	0.64
	Shapiro-Wilk	930	24	0.98

After conducting normality tests and obtaining after confirming distribution patterns, variance equality analysis was applied to the sample classes. The hypothesis for the post-test score homogeneity test is as follows:

**Table 6.** Results of Homogeneity Test

Value	Levene Statistic	df1	df2	Sig.
Based on Mean	.947	1	46	.336
Based on Median	.761	1	46	.388
Based on Median and with adjusted df	.761	1	42,717	.388
Based on trimmed mean	.941	1	46	.337

### Hypothesis Test

Due to the fulfillment of the criteria of normal distribution and homogeneity of variance, hypothesis testing was conducted using parametric analysis techniques in the form of Independent Samples T-test to test the effect of the Cooperative Script learning model on students' academic achievement in energy material in grade IV of Primary School 71 Ambon. This test serves as a decision-making instrument to accept or reject the research hypothesis, where the alternative hypothesis ( $H_a$ ) states that there is a significant difference between student learning outcomes in the control group and the experimental group after being given treatment. Through this statistical procedure, the effectiveness of the cooperative model intervention can be empirically verified to determine the significance of its impact on improving the quality of instruction in elementary schools.

**Table 7.** Results of the Hypothesis Test

Value	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.947	.336	8,527	46	.001	8,542	1,002	6,525	10,558
Equal variances not assumed			8,527	43,644	.001	8,542	1,002	6,522	10,561

The results of the analysis using the Independent Samples T-test showed a significance value (2-tailed) of 0.001, which is well below the significance threshold of 0.05. This finding indicates that the intervention through the Cooperative Script learning model had a real and significant impact on improving student learning outcomes in the experimental group compared to the control group that did not receive the same treatment. The striking difference in post-test scores between the two groups proves that this cooperative model is more effective in improving students' conceptual understanding of energy.

Furthermore, comprehensive hypothesis testing yielded a probability value of 0.000, providing a strong basis for the researchers to reject the null hypothesis ( $H_0$ ) and accept the alternative hypothesis ( $H_a$ ). Acceptance of  $H_a$  confirms a statistically significant difference in learning outcomes among fourth-grade students at Primary School 71 Ambon after the implementation of the treatment. Empirically, these results confirm that the pairwork procedure in Cooperative Script can facilitate deeper knowledge construction compared to conventional learning methods.

**Discussion**

Evidence from the hypothesis evaluation indicates that instructional practices using the Cooperative Script model significantly impacted student academic achievement in the topic of energy forms and their transformations in fourth-grade students at Primary School 71 Ambon. This conclusion is supported by a comparative analysis of post-test scores, which showed significantly superior learning outcomes in the experimental group compared to the control group. These findings confirm that the pairwork structure in this model is effective in facilitating the understanding of complex science concepts through direct interactions between students.

These research findings align with a study by Rohani and Fatimah (2022), which stated that the cooperative script-type instructional strategy can encourage active

student engagement while substantially improving academic performance. This finding is reinforced by the opinion of [Kabatiah et al. \(2023\)](#) that the implementation of Cooperative Script produced measurable instructional impacts in improving student learning outcomes when compared to conventional learning models. Overall, the integration of this model positively contributes to creating a more dynamic and effective learning environment for elementary school students.

The implementation of the Cooperative Script model in discussing the material of energy forms and their changes has been proven to provide measurable instructional impacts, as indicated by the average post-test score of 20.88 in the experimental group, which far exceeds the control group with an average of 12.33. The results of the independent sample t-test on the post-test data confirmed the significance of the difference with a probability value of 0.000 ( $p < 0.05$ ), which confirms the real influence of the use of this type of cooperative model on the learning outcomes of fourth-grade students at Primary School 71 Ambon. This finding is in line with the thoughts of [Yuan et al. \(2025\)](#), who stated that cooperative scripting functions as an effective approach to foster interactive and meaningful classroom dynamics so that it can significantly improve the process and results of student learning comprehensively.

The implementation of the Cooperative Script model has been proven to increase the enjoyment of learning while allowing students to work actively together in pairs, which in turn strengthens their attention and understanding of the material and concepts presented by the teacher. This is in line with the view of [Cai et al. \(2025\)](#), and [Harefa et al. \(2020\)](#) that in this learning model, students gain greater confidence to articulate new views and insights and learn to respect each other's opinions while the teacher acts as a guide or instructor. The novelty of this study lies in the implementation of the cooperative script in integrated science instruction focusing on the material of energy forms and their changes in grade IV of Primary School 71, Ambon. This study provides a new contribution considering the use of this type of cooperative-based strategy in the context of IPAS learning in elementary schools, especially since in the Ambon region, it is still very rare.

The findings of this study demonstrate a significant improvement in academic achievement in IPAS, particularly in the topic of energy forms and their transformations, through the implementation of a cooperative script-based learning model. This model has been proven to hone students' creativity and skills in understanding IPAS concepts by directly involving them, enabling them to recognize their potential and build self-confidence through the discovery process. Furthermore, the active collaboration between teachers and peers in formulating new ideas confirms that implementing a script-based cooperative approach in instructional activities has implications for achieving higher learning outcomes in IPAS.

#### 4. CONCLUSION

The implementation of the Cooperative Script cooperative learning model has been proven to significantly improve the science learning outcomes of fourth-grade students at Primary School 71 Ambon, particularly in the topic of energy forms and their

transformations. This significant influence is supported by empirical evidence in the form of a striking difference in academic achievement, with the experimental group achieving an average post-test score of 20.88, significantly exceeding the control group's score of 12.33. Statistically, the results of the Independent Sample T-Test supported this finding with a 2-tailed significance value of 0.001 ( $p < 0.05$ ), which implies the rejection of the null hypothesis ( $H_0$ ) and the acceptance of the alternative hypothesis ( $H_a$ ). Beyond the cognitive aspects, the implementation of this model successfully transformed the learning dynamics into a more active, enjoyable, and collaborative one, enabling students to construct a deeper understanding of concepts while simultaneously honing their confidence and creativity through pair interactions and the process of discovering new ideas.

As a recommendation, it is recommended for educators to implement the Cooperative Script model as an alternative innovative learning strategy, especially in conceptual and procedural materials, to accelerate active engagement and comprehensive student academic achievement. In line with this, schools should facilitate support for facilities and training programs for the development of cooperative-based learning tools for teachers to ensure continuous improvement in the quality of instruction in the educational environment. Finally, for future researchers, it is recommended to expand the scope of the study to different materials or grade levels and consider the integration of digital technology in the Cooperative Script scheme to evaluate its effectiveness in addressing the challenges of modern learning dynamics.

## REFERENCES

- Aisyah, S., Kusuma, Y. Y., Sumianto, Pebriana, P. H., & Ananda, R. (2024). Penerapan Model Pembelajaran Cooperative Script Untuk Meningkatkan Aktivitas Belajar Pada Muatan Pembelajaran Ips Siswa Sekolah Dasar. *Al-Madrasah: Jurnal Ilmiah Pendidikan Madrasah Ibtidaiyah*, 8(2), 622–631. <https://doi.org/10.35931/am.v8i2.3445>
- Amaliyah, M., Suardana, I. N., & Selamat, K. (2021). Analisis kesulitan belajar dan faktor-faktor penyebab kesulitan belajar IPA siswa SMP Negeri 4 Singaraja. *Jurnal Pendidikan Dan Pembelajaran Sains Indonesia (JPPSI)*, 4(1), 90-101. <https://doi.org/10.23887/jppsi.v4i1.33868>
- Aminah, S. A., & Setyowati, N. A. D. (2024). The influence of the Project Based Learning model using video on the creativity thinking ability and IPAS learning outcomes for elementary school students. *JP (Jurnal Pendidikan): Teori dan Praktik*, 9(1), 67-75. <https://doi.org/10.26740/jp.v9n1.p67-75>
- Azzahro, S. S., Burhanuddin, H., & Nisa, I. F. (2025). Effectiveness of Cooperative Script Learning Method on Students' Collaboration Skills. *Journal of Contemporary Islamic Education*, 5(1), 70-85. <https://doi.org/10.25217/jcie.v5i1.4937>
- Cai, R., Wu, C., & Jin, H. (2025). On the efficiency of adaptive collaborative scripts in learning: a systematic literature review on fading-out scripts, adaptive scripts, and self-adaptive scripts. *Interactive Learning Environments*, 33(2), 944-968. <https://doi.org/10.1080/10494820.2024.2371931>
- Damayanti, A. (2018). Implementing cooperative script type of cooperative learning model to improve students' activeness in learning social studies. *International Journal*

- Pedagogy of Social Studies*, 3(1), 129-136.  
<https://doi.org/10.17509/ijposs.v3i1.13498>
- Erbil, D. G. (2020). A review of flipped classroom and cooperative learning method within the context of Vygotsky theory. *Frontiers in psychology*, 11, 1157.  
<https://doi.org/10.3389/fpsyg.2020.01157>
- Eun, B. (2019). The zone of proximal development as an overarching concept: A framework for synthesizing Vygotsky's theories. *Educational philosophy and theory*, 51(1), 18-30. <https://doi.org/10.1080/00131857.2017.1421941>
- Gunawan, D., & Helmawati, H. (2026). Cooperative Script Management in Improving Students' Intensive Reading Skills. *Journal of Innovation and Research in Primary Education*, 5(1), 432-443. <https://doi.org/10.56916/jirpe.v5i1.2774>
- Gusvita, N., & Iskandar, H. (2024). Penerapan Metode Cooperative Script Untuk Meningkatkan Hasil Belajar IPAS Kelas V. *Lempu PGSD*, 1(1), 92-98.  
<https://doi.org/10.70713/lempu.v1i1.3341>
- Halimah, S., Nurulpaik, I., & Supriatna, E. (2025). The effectiveness of the STEAM approach on critical thinking skills in science and scientific attitudes in IPAS learning in primary schools. *Journal of Innovation and Research in Primary Education*, 4(3), 1736-1747. <https://doi.org/10.56916/jirpe.v4i3.1611>
- Hardiansyah, F., AR, M. M., & Hidayatillah, Y. (2022). Ipas learning assessment to measure science process skill in elementary school. *International Journal of Elementary Education*, 6(4), 612-623. <https://doi.org/10.23887/ijee.v6i4.54217>
- Harefa, D., Gee, E., Ndruru, M., Sarumaha, M., Ndraha, L. D. M., Ndruru, K., & Telaumbanua, T. (2020). Penerapan Model Pembelajaran Cooperative Script untuk Meningkatkan Hasil Belajar Matematika. *JKPM: Jurnal Kajian Pendidikan Matematika*, 6(1), 13-26. <http://dx.doi.org/10.30998/jkpm.v6i1.6602>
- Hasanah, Z., & Hamami, A. S. (2021). Model Pembelajaran Kooperatif Dalam Menumbuhkan Keaktifan Belajar Siswa. *IRSYADUNA: Jurnal Studi Kemahasiswaan*, 1(1), 1-13.  
<http://jurnal.stituwjombang.ac.id/index.php/irsyaduna/article/view/236>
- Hutauruk, A. F., Ginting, A. M., Asnewastri, & Nasution, A. A. B. (2022). Pengaruh Penerapan Model Pembelajaran Cooperative Script Dalam Meningkatkan Hasil Belajar Pada Mata Pelajaran Sejarah di SMA Negeri 3 Pematang Siantar. *Jurnal Penelitian, Pemikiran Dan Pengabdian*, 10(2), 19-23.
- Indriani, D. E. (2017). Cooperative Scripts Model in Civic Education for Elementary School Students. *Humaniora*, 8(2), 105-112.  
<https://doi.org/10.21512/humaniora.v8i2.3888>
- Jannah, I. K., Widarti, H. R., & Utama, C. (2026). Analysis Of Ipas Learning Problems In The Merdeka Curriculum At Grade V. *JHSS (Journal Of Humanities And Social Studies)*, 8(3), 371-376. <https://doi.org/10.33751/jhss.v8i2.9461>
- Kabatiah, M., Akmal, Suhertina, & Zaswita, H. (2023). Penerapan Metode Pembelajaran Coopertif Script Terhadap Hasil Belajar Siswa. *Tsaqifa Nusantara*, 02(02), 101-116. <http://dx.doi.org/10.24014/tsaqifa.v2i2.23243>
- Kasmiasi, S., Surdin, S., & Lestari, V. E. (2023). Increasing Students' Learning Outcomes Through the Script Model of Cooperative Learning in Secondary School. *AL-ISHLAH: Jurnal Pendidikan*, 15(2), 1924-1931.  
<https://doi.org/10.35445/alishlah.v15i2.3111>
- Khazanah, U. M., Baharudin, B., & Yanti, Y. (2025). Contextual Teaching and Learning Model: Explosion Box Media on Learning Activity in Elementary School Students' IPAS Subjects. *ETDC: Indonesian Journal of Research and Educational Review*, 5(1), 304-317. <https://doi.org/10.51574/ijrer.v5i1.4091>

- Komaridah, M., As'ary, M. Y., Hanum, C. B., & Maftuh, B. (2023). IPAS Implementation in Elementary Schools: How Teachers Build Student Understanding. *Edunesia: Jurnal Ilmiah Pendidikan*, 4(3), 1399-1412. <https://doi.org/10.51276/edu.v4i3.533>
- Ndruru, M., Harefa, T., & Harefa, N. A. J. (2022). Penerapan Model Pembelajaran Cooperative Script Dalam Meningkatkan Kemampuan Membaca Intensif Siswa. *Educativo: Jurnal Pendidikan*, 1(1), 96–105.
- Nisa, F., Fiteriani, I., & Ningrum, A. R. (2025). The Concept of IPAS with the LSQ Learning Method: Question Card Media for Primary School Students. *ETDC: Indonesian Journal of Research and Educational Review*, 4(4), 1269-1279. <https://doi.org/10.51574/ijrer.v4i4.3822>
- Nst, H. (2021). Application Of Cooperative Script Learning To Increase Science Learning Outcomes For View Class Students Of SD Negeri 0802 Tamiang TP 2020/2021. *Indonesian Journal of Basic Education*, 4(1), 121-125. <https://ejournal.stkiprokania.ac.id/index.php/IJOBE/article/view/482>
- Rohani, & Fatimah. (2022). Penerapan Model Pembelajaran Kooperatif Tipe Script Dalam Upaya Meningkatkan Aktivitas Guru Dan Siswa Serta Hasil Belajar Ppkn Siswa SD Negeri Liwung Kecamatan Janapria. *TEACHING: Jurnal Inovasi Keguruan Dan Ilmu Pendidikan*, 2(3), 258–265.
- Rukmana, I., Khoimatun, & Sugiro, H. (2022). Peningkatan Hasil Belajar Bahasa Indonesia dengan Model Cooperative Script pada Siswa Kelas IV. *Jurnal Educatio*, 8(2), 584–588. <https://doi.org/10.31949/educatio.v8i2.2125>
- Salong, A. (2023). The influence of script-type cooperative learning model on student learning activities. *Harmoni Sosial: Jurnal Pendidikan IPS*, 10(1), 32-39. <https://doi.org/10.21831/hsjpi.v10i1.53047>
- Siregar, N., Syahrial, S., & Wulandari, B. A. (2025). Designing IPAER learning model in IPAS learning: An effort to improve critical thinking skills in elementary school. *Jurnal Penelitian Pendidikan IPA*, 11(6), 333-339. <https://doi.org/10.29303/jppipa.v11i6.11721>
- Siagian, S. P., & Darwis, U. (2023). Penggunaan Metode Eksperimen untuk Meningkatkan Hasil Belajar Siswa Pada tema Selalu Berhemat Energi Di Kelas IV SD Negeri 105351 Bakaran Batu. *Jurnal Penelitian Pendidikan MIPA*, 8(1).
- Suci, Y. T. (2018). Menelaah Teori Vygotsky dan interdependensi sosial sebagai landasan teori dalam pelaksanaan pembelajaran kooperatif di sekolah dasar. *Naturalistic: Jurnal Kajian Dan Penelitian Pendidikan Dan Pembelajaran*, 3(1), 231-239. <https://doi.org/10.35568/naturalistic.v3i1.269>
- Supiarti, S., Selvi, N., & Fajrin, S. N. (2025). Problem Solving and Cooperative Learning Model of the Jigsaw Type: IPAS Learning Outcomes in Elementary School. *ETDC: Indonesian Journal of Research and Educational Review*, 5(1), 665-680. <https://doi.org/10.51574/ijrer.v5i1.4407>
- 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>
- Wahyuni, R., Zulirfan, Z., & Ma"aruf, Z. (2024). The Effect of Kelong-Oriented Contextual Approach on the Cognitive Science Learning Outcomes. *Journal of Indonesia Science Teachers*, 2(1), 1–10. <https://jist.ejournal.unri.ac.id/index.php/JIST/id/article/view/1051>
- Yuan, S., Huang, H., & Jiang, Y. (2025). Design of collaborative scripts to promote shared regulation in online collaborative learning activities. *Interactive Learning Environments*, 1-18. <https://doi.org/10.1080/10494820.2025.2589405>