



Application of The Make A Match Model to Improve The Learning Outcomes of Class II Students in Elementary Schools

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ABSTRACT

Purpose of the study: This research aims to improve the learning outcomes of class II students through the Make a Match learning model at State Elementary School 07 Palembang. This type of research is classroom action research carried out over two cycles. The subjects of this research were 30 students.

Methodology: The techniques used for data collection are tests, observation, and documentation. The data analysis technique used is qualitative and quantitative data analysis. The research results show that learning outcomes using the Make a Match type cooperative learning model have increased in Indonesian language subjects.

Main Findings: This can be seen from before the action. The average student score was only 61.83, with a completion percentage of only 60%. In cycle I, the average student score was 68, 47, with a completion percentage reaching 73%. In cycle II, the average student score was 76.30, and the completion rate reached 83%.

Novelty/Originality of this study: The latest research applies the make-a-match learning model to Indonesian language subjects. Thus, using the make-a-match type cooperative learning model can improve the learning outcomes of class 2 students in Indonesian language subjects.

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1. INTRODUCTION

Education is a learning process designed to improve the quality of life of the attitudes, knowledge, and skills that exist in humans [1]. One means of forming human resources who are moral, skilled, independent, creative, responsible, and active is through the learning process. National education aims to grow the potential of students to become human beings who have faith, are devoted to God Almighty, have noble character, and are knowledgeable, capable, creative, independent, democratic, and responsible. Education plays an essential role in educating the nation's life; therefore, education must be continuously improved to achieve quality education that aligns with national education goals [2]. Currently, the government has introduced a new curriculum, namely the independent curriculum [3].

The curriculum is a set of learning plans related to objectives, content, teaching materials, and methods used as guidelines in implementing learning to achieve national education goals [4]. The Merdeka Curriculum is expected to develop students' competencies with the aim of improving the quality of learning, forming independent characters, and reducing gaps in education. Applying the independent curriculum means that learning outcomes are one of the satisfaction values obtained by students from an effort undertaken. Therefore,

the application of the independent curriculum to learning outcomes prioritizes character strength as a value that is developed [5]. In the independent learning curriculum, learning has a positive influence which is implemented so that it has an impact on improving student learning outcomes [6].

Learning outcomes are student success after students learn specific learning material regarding cognitive, psychomotor, and affective aspects. Learning outcomes are used as feedback for teachers to reflect on whether the learning material presented is acceptable to students [7]. Learning outcomes show learning achievement through changes in student behavior [8]. Learning outcomes are the abilities possessed by students based on the learning process that has taken place. Student learning outcomes are influenced by the student's skills and the learning carried out by the teacher. The quality of learning possessed by a teacher includes basic skills in the areas of intellectual, attitude, and behavior, therefore, teachers must develop their abilities in the teaching process in the classroom so that student learning outcomes can increase under the expected learning objectives.

Based on the results of observations made in class II of Elementary School 07 Palembang, in the Indonesian language subject, the teacher applies the lecture method and assignments dominate so that there is no variation in learning models. The teacher only uses the lecture method to convey the material and provide explanations and continues by giving practice questions. At the beginning of the lesson, the teacher explains the material and then gives assignments. The teacher and the students discuss the problem, then the students only pay attention to the teacher's explanation in solving it after the teacher has finished explaining the material.

The learning model applied should develop students' basic abilities and positive attitudes, thereby fostering a pleasant learning atmosphere. Determining the appropriate learning model for students at a certain educational level needs to be adjusted to the level of development and feedback of students [9]. The learning model is one of the determinants of student learning outcomes and aims to improve the quality of the learning process effectively and optimally [10]. The cooperative learning model is a learning strategy where students work in groups collaboratively [11]. One learning model that can overcome the problem of low learning outcomes is implementing the Make a Match-type cooperative learning model.

The Make a Match type cooperative learning model is a learning model that invites students to find answers to a question or a pair of concepts through a pair card game within a specified time limit [12]. The Make a Match learning model has advantages compared to other learning models. According to Shoimin [13], The advantage of the Make-a-Match learning model is that a pleasant atmosphere grows in the learning process, which contains elements of play. The application of the Make-a-Match model can arouse curiosity and cooperation among students and is able to create pleasant conditions that can motivate students to learn. The Make-a-Match learning model can be an innovative learning aimed at creating an active and fun learning atmosphere [14].

From the results of research conducted by Sunedi [15], in the title Implementation of the Make a Match type Cooperative Learning Model in class IV students is stated to have increased, this is proven by an increase in learning outcomes between cycle I (number 1860, average 66, absorption capacity 66%, learning completeness 54%) and cycle II (number 2005, average 72, absorption capacity 72%, learning completeness 86%). There was an increase in learning outcomes between Cycle I and Cycle II, showing an average increase in absorption capacity of 6% and learning completion an increase of 32%. Conclusion: Applying the Make a Match type cooperative learning model to fourth-grade elementary school students can improve mathematics learning outcomes. Relevant research used by researchers as a consideration for carrying out research on the application of the Make a Match learning model is the same. However, the research conducted by researchers is different from the relevant research. The research carried out by the researcher has a unique feature, namely that in carrying out the research, he applied the Make a Match type cooperative learning model in class II Indonesian language subjects in elementary schools.

This research is hoped to benefit various parties, including gifts for teachers, students, schools, and future researchers. The advantage of this research for teachers is that it can provide insight into knowledge regarding innovative learning models as a consideration when teaching other learning materials applying the Make-a-Match learning model. The benefit of this research is that it can foster students' interest in learning when taking part in lessons, especially in Indonesian language subjects, making it easier for students to understand the learning material. The benefit of this research for schools is that it can provide input and consideration for overcoming problems when improving student learning outcomes and can improve and improve the quality of education in schools.

2. RESEARCH METHOD

The type of research used by researchers is classroom action research. Action research in the classroom can be interpreted as action research carried out by teachers and researchers in the classroom or together (collaboratively) with other people, through designing, implementing and reflecting on collaborative and participatory actions aimed at improving or perfecting the learning process in the classroom [16]. Classroom

action research is research conducted to overcome problems that arise in the classroom. This research is one of the efforts to create various activities to improve and enhance classroom learning [17].

The research was carried out at Elementary School 07 Palembang, which is located at Jalan Seruni Bukit Siguntang Palembang. This research was carried out in the 2023/2024 academic year in the odd semester. The timing of this research refers to the school's academic calendar because classroom action research requires 2 cycles which require an effective teaching and learning process in the classroom. The subjects in this research were class II students at Elementary School 07 Palembang with a total of 30 students.

Classroom action research is characterized by action. This action is carried out not only once but repeatedly until the research objectives are achieved. Action research is carried out through four stages, namely preparation, action implementation, observation and reflection [18]. In classroom action research, each action consists of four activities as follows:

Planning

At this planning stage the researcher coordinated with the second-grade homeroom teacher and then designed in detail what and how to take action done. In this activity the author prepares teaching modules, teaching materials, Student Worksheets (LKPD), learning media and learning evaluation as well as preparing other things needed in the learning process.

Action

At this stage the researcher conducted action research in class II of Elementary School 07 Palembang through preliminary activities, core activities and closing activities. Researchers carried out actions in two cycles and each cycle consisted of 3 meetings.

Observation

At this stage the author collects information that is used to find out whether the actions taken have gone according to the expected plan. Observation can take the form of collecting data through observation and tests.

Evaluation and Reflection

At the reflection stage, the problem findings in cycle I are described and the improvement plans made based on the evaluation results are carried out by reflection, to find out what is missing in the implementation of the actions that have been taken. Reflection results used to make improvements to planning in the next cycle.

The data collection techniques used in this research are test, observation and documentation techniques. The data analysis techniques used are qualitative data analysis and quantitative data analysis techniques. Analysis of research results is presented through qualitative descriptive analysis using data obtained from observations and documentation originating from the students' conditions and the way teachers teach using the Make a match model. The quantitative data analysis technique is in the form of data obtained from learning outcomes in the form of tests carried out after the end of the cycle. The data is in the form of numbers and is obtained from the results of the learning process. Student test results are analyzed quantitatively and qualitatively.

Quantitative analysis is a form of analysis in the form of numbers or figures taken from test result data. Quantitative analysis in this research is used to determine student learning outcomes in Indonesian language subjects. Then after knowing the average score of students in one class, quantitative data analysis also calculates the number of students who have reached the Minimum Completeness Criteria [19].

1. Calculate the value of each student

$$\text{Value} = \frac{\text{Total score obtained}}{\text{Maximum total score}} \times 100\%$$

2. Calculate the class average score

$$\text{Average} = \frac{\text{Total Score}}{\text{Total Students}}$$

3. Calculating students' learning completeness

$$P = \frac{\text{Number of students who completed}}{\text{Total Students}} \times 100\%$$

Table 1. Criteria for Student Learning Success Level in %

Level of success	Category
≥ 80	Very high
60 – 79	Tall
40 – 59	Currently
20 – 39	Low
≤ 20	Very low

Qualitative analysis is an analysis of the results of observations carried out in the learning process. The data obtained, namely data about teachers and students in the learning process, was analyzed and concluded qualitatively. This research can be said to be successful if the research is considered successful if it meets the

Minimum Completeness Criteria for Elementary School 07 Palembang, namely 68. If student learning outcomes increase $\geq 80\%$, this research is considered successful.

3. RESULTS AND DISCUSSION

This classroom action research was carried out in two cycles in class II at SD 07 Palembang. Each cycle is held in two meetings with 2 hours of class time at each meeting. At the end of each cycle, an evaluation is carried out. Learning activities include preliminary, core, and closing activities with several stages. In the introductory training, the teacher opens the lesson with greetings and invites students to pray. The teacher asks how the students are doing and checks the students' attendance. The teacher motivates the students to be enthusiastic about learning, then conveys the learning objectives, provides motivation, and carries out apperception.

In the core activity, students listen to the teacher's explanation regarding the learning material. Students observe the learning PowerPoint displayed by the teacher. The teacher allows students to ask questions related to the material presented by the teacher. The teacher divides students into 6 groups, namely groups 1, 2, and 3 (Question Group) and 4, 5 and 6 (Answer Group). The teacher prepares a "finding partners" game in groups to increase students' understanding. The teacher gives a card to each group to mark the question and answer groups. The teacher explains the steps for implementing the game in the Make a Match learning model to students. The teacher distributes question cards and answer cards. Question cards are given to the question group, and answer cards are given to the answer group. The teacher instructs students to look for and match their partner cards according to the questions and answers they get. The teacher asks questions and answers to students who cannot find a partner regarding the difficulties they experience when finding a partner. The teacher confirms the correctness and suitability of the questions and answers of the pairs presenting. Students and teachers conclude the material they have studied, and then students are asked to do assignments from the activities they have carried out throughout the day in the form of evaluation questions. In the closing activity, the teacher invites students to make a summary. Teachers and students conduct questions and answers about the learning activities that have been carried out. The teacher reflects on the students and closes with a prayer together. Then, the teacher ends the lesson by saying closing greetings.

Based on the results of observations that have been made, there has been an increase in student learning outcomes for the better. Before taking action, students were less enthusiastic and enthusiastic about participating in learning. Students appear to be less physically active because students listen more to lectures from teachers. Students seem unfocused when the teacher explains the material, so that students do not understand the material presented by the teacher. With the findings of these problems, the researcher, together with the teacher, planned an improvement plan so that during the implementation of cycle I and cycle II, student learning outcomes improved. Students are enthusiastic and enthusiastic in participating in learning implementing the Make a Match learning model so that students' learning outcomes increase each cycle. The following is data on student learning outcomes in each process.

Table 1. Comparison of Learning Outcome Data Before Action, Cycle I, and Cycle II

Activity	Average value	Total Completeness	Completeness Percentage
Pre Action	61.83	14	60%
Cycle I	68.47	17	73%
Cycle II	76.30	25	83%

Based on the comparison table of learning outcomes data for the Indonesian language subject of 30 students above, it can be seen that in pre-action as many as 14 students (60%) had reached the KKM while 16 students (40%) had not yet completed it. In cycle I, there were 17 students (73%) who had reached the KKM, while there were 13 students (27%) who had not yet completed it. In cycle II, there were 25 students who had reached the KKM (83%) while there were 5 students who had not yet completed it (17%).

Meanwhile, the average student score between pre-action and cycle I increased by 6.64 from the average pre-action score of 61.83, increasing in cycle I to 68.47. The increase in the average score of students between cycle I and cycle II was 7.47 from the average score in cycle I of 68.47 to 76.30 in cycle II. The increase in learning outcomes in Indonesian language subjects from before the action to cycle II reached 14.41 with an average pre-action value of 61.89 and an average value for cycle II of 76.30. To find out the average value of students in pre-action, cycle I, cycle II, it can be presented in the graph below:

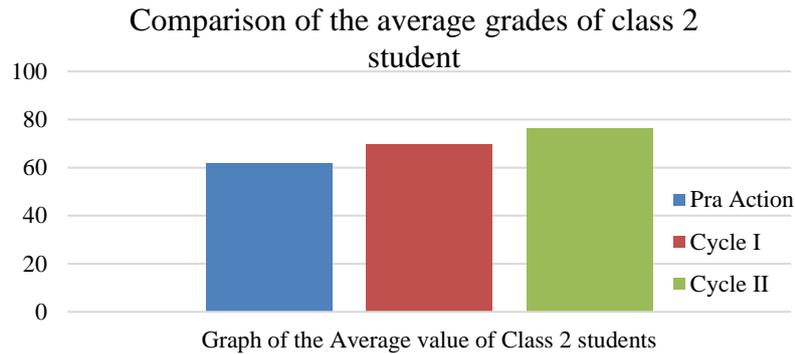


Figure 1. Comparison of Average Student Scores Before Action, Cycle I, and Cycle II

Based on the graph above, it shows that the average student score has increased well. This can be seen from the increase in the average value from before the action, namely 61.83, increasing to 68.47 after the action in cycle I then increasing again to 76.30 in cycle II. The percentage of completeness increased from pre-action 60% to 73% in cycle, increasing to 83% in cycle II. The following graph of the percentage of completeness of learning outcomes for class II students at SD Negeri 07 Palembang at the pre-action stage and cycle I is presented below:

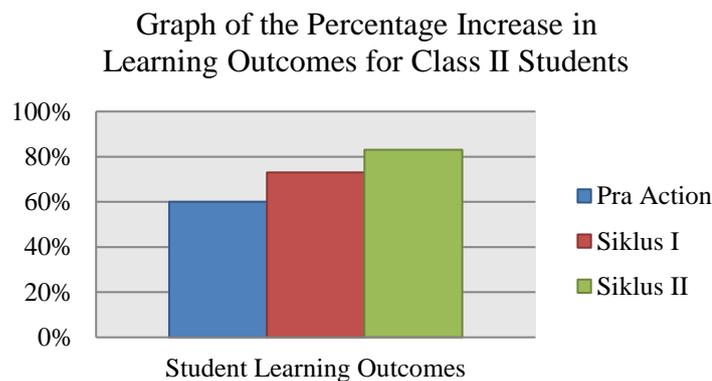


Figure 2. Comparison of Learning Results Data Before Action, Cycle I, and Cycle II

Based on the results of research that have been carried out in class II of Elementary School Negeri 07 Palembang, it can be concluded that learning through the application of the Make a Match type cooperative learning model can be successful in improving student learning outcomes that the aim of learning with the Make a Match model is to train students to be more careful and more substantial understanding of the material being taught [20]. Learning outcomes can increase after the teacher applies the Make a Match learning model, where the Make a Match learning model is a cooperative learning model that contains game elements, namely when looking for partners from the answers on the cards so that students work together more and are more active and not passive in participating in class learning [21]. This is in line with the use of the Make a Match type cooperative learning model in learning to make learning more meaningful and fun and bring out student activity because the Make a Match type cooperative learning model involves students playing an active role in finding answers to problems through the process of thinking and discussion [22].

The percentage of completeness of student learning outcomes increased from 60% to 73% and reached 83% in cycle II. In cycle II, the success indicator has been achieved because the percentage of students' learning completeness has met the requirements for student learning completeness, namely at least 70% of the total number of students who have completed the Minimum Completeness Criteria score. The Make a Match learning model has the advantage that the learning material is presented to attract more students' attention and can improve learning outcomes to achieve mastery [23]. Aligned research conducted by Andrianto [24] said that the advantage of the Make a Match type cooperative model is that students look for the cards they are holding while learning about the learning material to make the atmosphere fun and competitive. By applying the Make a Match learning model, you can increase cooperation and learning activities so that students don't just listen to the teacher's explanation but actively participate in learning and interact with each other for cooperation and discussion, not as rivals so that learning objectives are achieved [25].

The increase in student learning outcomes in cycle II is influenced by the findings of the cycle I problems and the improvement plans made. The learning process using the more innovative learning method Make a Match can provide meaning to student learning outcomes to help improve the learning process and outcomes [20]. The Make a Match learning model is appropriate for enhancing student learning outcomes. Using this model can make the learning atmosphere in the classroom more enjoyable because there are game elements so that students are more enthusiastic and motivated to participate in learning activities [26]. The application of this learning model also has the advantage of requiring all students to actively find partners in a concept/topic so that it will minimize passive students. Students will be braver in expressing opinions because implementing this Make a Match type cooperative learning model after Students find a pair. Each team is asked to express their opinion or explain the concept/topic of the cards they hold [27].

The Make a Match learning model is believed to improve student learning outcomes. Several researchers have proven that this learning model effectively enhances student learning outcomes. Researchers show that applying the Make a Match learning model for 2 cycles can improve student learning outcomes [28]. Other researchers revealed that using the Make a Match type cooperative learning model can improve student learning outcomes [29]. Other researchers also showed that applying the Make a Match type cooperative learning model can improve students' understanding, creativity, and learning outcomes [30]. Based on research findings, it can be stated that the Make a Match learning model can improve the learning outcomes of class II students at Elementary School Negeri 07, especially in Indonesian language subjects.

4. CONCLUSION

Based on the results of the research and discussion, it can be concluded that the Make a Match type cooperative learning model can improve the learning outcomes of class II students at SD Negeri 07 Palembang. Students can participate actively and have enthusiasm for learning in participating in learning activities through the Make a Match type cooperative learning model which is carried out through the game of finding pairs of cards. The results of the research show that learning outcomes using the Make a Match type cooperative learning model in Indonesian Language Subjects have increased. This can be seen before the action, the average student score was only 61.83 with a completion percentage of only 60%. In cycle I, the average student score was 68.47 with a completion percentage reaching 73%. In cycle II, The average student score was 76.30 and the percentage of completion reached 83%. The Make a Match learning model is able to increase student's understanding and can create an active and enjoyable learning atmosphere.

The researcher provides several suggestions as follows: (1) for schools, it is best to provide outreach to teachers to use varied learning models, for example, the Make a Match type cooperative learning model, so that it can create active and enjoyable learning for students to achieve learning goals. which is optimal, (2) for teachers, it is best if the Make a Match type cooperative learning model can be applied by teachers as a variation of the learning model as well as to improve student learning outcomes. (3) For future researchers, it would be best to conduct a more in-depth study on the application of the Make a Match type cooperative learning model and develop it further so that it can better improve student learning outcomes.

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REFERENCES

- [1] L. Arofani, "Improving learning outcomes in mathematics content through the make a match learning model on theme 5 elementary school students," *Not. J. Educator. Base*, vol. 3, no. 1, pp. 17–24, 2023. <https://doi.org/10.20961/shes.v4i5.66059>
- [2] L. Sesfaot and et al, "Application of the Make a match Learning Model to Increase Students' Mathematics Learning Motivation," *J. Cendikia J. Educator. Matt*, vol. 4, no. 2, 2020. <https://doi.org/10.31004/cendekia.v4i2.236>
- [3] I. K. N. Kusuma, N. P. E. Astuti, I. W. Numertayasa, N. M. Widayani, "Lesson Study to Improve Student Learning Outcomes in the Implementation of the Independent Curriculum," *J. Education Action Research*, vol. 7., no. 2, pp. 192–200, 2023. <https://doi.org/10.23887/jeaar.v7i2.51318>
- [4] R. Rahayu et al, "Implementation of the Independent Learning Curriculum in Driving Schools," *J. Basicedu*, vol. 6, no. 4, pp. 6313–6319, 2022. <https://dx.doi.org/10.31004/basicedu.v6i4.3237>
- [5] V. R. Panginan and S. Susianti, "The Effect of Implementing the Independent Curriculum on Mathematics Learning Outcomes Seen from a Comparison of the 2013 Curriculum," *J. PGSD Univ. Lamappapoleonro*, vol. 1, no. 1, 2022.
- [6] O. Oktaviani, "The Effect of Implementing the Independent Curriculum on Social Studies Learning Outcomes Judging from the Comparison of the 2013 Curriculum," *J. Educ*, vol. 9, no. 1, pp. 341–346, 2023.

- [7] N. N Riyanti, "Application of the Make a match Type Cooperative Learning Model to Improve Social Studies Learning Outcomes," *J. PGSD UNESA*, vol. 6, no. 4, pp. 440–450, 2018.
- [8] A. Sulastri, "Improving Student Learning Outcomes in Natural Science Learning Using Image Media in Class III," *J. Educator and Equatorial Learning*, vol. 5, no. 1, 2016.
- [9] D. Safitri, "Effective Learning Models in Elementary Schools," *J. Educator. and Da'wah*, vol. 2, no. 1, 2020.
- [10] A. P Pebrianti, "Application of Cooperative Learning Type Think Pair Share to Improve Student Learning Outcomes Regarding Adding Fractions with Different Denominators," *Pedadidaktika J. Ilm. Educator. School Teacher. Base*, vol. 5, no. 1, pp. 23–31, 2018.
- [11] Rahayu et al, "Improving Mathematics Learning Outcomes Through the Make a match Learning Model," *Holistics J. Ilm. PGSD*, vol. 4, no. 1, 2020.
- [12] T. Sulistyowati, "Improving Student Mathematics Learning Outcomes Through the Make a match Type Cooperative Learning Model," *J. Educator. School Teacher. Basic Ed. 30th Year 7.*, 2018.
- [13] M. Gosashi, "Make a match Learning Model Assisted by Picture Card Media Improves Mathematics Learning Outcomes," *Univ Ejournal. Educator. Ganesha*, vol. 3, no. 2, pp. 152–163, 2020.
- [14] H. Halidayani, "Application of the Make a match Type Cooperative Learning Model to Improve Student Learning Outcomes on Standard and Non-Standard Vocabulary Material in Class IV Min 16 Aceh Besar," *Univ. Islamic State of Ar-Raniry*, 2018.
- [15] D. P Sunedi, "Implementation of the Make a match Type Cooperative Learning Model to Improve Mathematics Learning Outcomes in Grade IV Elementary School Students," *J. Educ. Action Res*, vol. 7, no. 2, pp. 237–242, 2023.
- [16] E. Kurniasari, "Improving Mathematics Learning Outcomes Through the Make a match Model Assisted by Concrete Media for Grade 4 Elementary School," *J. Theor. and App. Matt. Univ. Muhammadiyah Mataram*, vol. 3, no. 1, 2019.
- [17] A. Magfirah, "Application of the Make a match type Cooperative Learning Model in Increasing Interest and Learning Outcomes in Mathematics," *Grand Master J. Educator. School Teacher. Base*, vol. 2, no. 2, pp. 9–18, 2021.
- [18] R. Taha, "Improving Student Learning Outcomes Through the Assisted Individualization Type Cooperative Learning Model," *Jumbara J. Math. Educ*, vol. 3, no. 2, pp. 147–154, 2023.
- [19] I. Rahmayanti, "Application of the Make a match Model to Improve Mathematics Learning Outcomes for Class IV Students at Diwak State Elementary School," *J. Educator. Matt*, vol. 5, no. 3, 2017.
- [20] D. Suprpta, "Using the Make a match Learning Model as an Effort to Improve Student English Learning Outcomes," *J. Educ. Action Res.*, vol. 4, no. 3, pp. 240–246, 2023.
- [21] D. H Aliputri, "Application of the Make a match Type Cooperative Learning Model Assisted by Picture Cards to Improve Student Learning Outcomes," *J. Bid. Educator. Base*, vol. 2, no. 70–77, 2018.
- [22] E. Rifanty, "Increasing Learning Activeness Using the Make a match Type Cooperative Learning Model in VB Class Students at SD Muhammadiyah Condongcatur," *J. JPSD*, 2019.
- [23] N. Dewi, "Make a match Type Cooperative Learning Model Assisted by Mind Map Media, Social Skills and Social Science (IPS) Knowledge Competencies," *J. Educator. IPS Indonesia.*, vol. 5, no. 1, 2021. 10.23887/pips.v5i1.242.
- [24] I. Andrianto, "Application of the Matching Type Cooperative Learning Model to Improve Learning Outcomes at SD Negei 03 Sambigede, Malang Regency," *J. Sociol. Educator. Humanist*, vol. 3, no. 1, pp. 9–15, 2018.
- [25] H. Fauhah, "Analysis of the Make a match Learning Model on Student Learning Outcomes," *J. Educator. Adm. Office*, vol. 9, no. 2, 2021.
- [26] R. Rafiudin, "Application of the Make a match Method to Improve the Learning Achievement of Class IX-1 Students of SMP Negeri 18 Buton," *J. Inov. Researcher. Class and School Actions*, vol. 3, no. 1, 2023.
- [27] N. Kamila, "Application of the Make a match Type Cooperative Learning Model Assisted by Interactive Video Media to Improve the Learning Outcomes of Class IV Elementary School Students in Science Subjects," *J. PGSD UNESA*, vol. 1, no. 1, pp. 34–48, 2022.
- [28] S. Sumarni, "Make A Match Learning Model To Improve Learning Outcomes In Adjustment To The Environment In Students," *J. Citizenship*, vol. 5, no. 1, pp. 39–44, 2021.
- [29] E. Zahara, "Application of the Make a match Type Cooperative Learning Model to Improve Student Learning Outcomes for Class VA MIN 19 Bireue," *J. PTK Porch*, vol. IX, no. 6, 2022.
- [30] H. Hamka, "Application of the Make a match Type Cooperative Learning Model," *J. Media Education*, vol. 12, no. 2, pp. 96–106, 2023.