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Increasing Students' Interest and Learning Outcomes with the Make a Match Learning Model in Junior High School Physics Science Learning

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ABSTRACT

Science education can build knowledge, add insight, think creatively, and critically. Science also contains abstract concepts, so that students' interest and learning outcomes in science learning are not optimal. Teachers have not varied in using learning models, causing students to feel bored and less active in participating in learning. This study aims to increase the students' interest and learning outcomes in the substance pressure and its application in everyday life using the Make a Match learning model. A total 34 students of VIII grade participate in this study. The research method uses a classroom action research design which consists of two cycles, namely cycle I and cycle II. Each cycle consists of four stages, namely 1) planning, 2) implementation, 3) observation, and 4) reflection. The research subjects were students of class VIII H of SMP Negeri 2 Majenang. Data collection techniques using cognitive tests, observation, documentation, and field notes. Quantitative data were analyzed using quantitative data analysis techniques and qualitative data were analyzed using qualitative data analysis techniques. The results of the first cycle research showed that 68% of students' interest in learning meant that they had not reached the success criteria, 71% of students' learning outcomes had not reached the KKM and 29% of the subjects had reached the KKM, which meant that they had not reached the success criteria. Cycle II shows that 75% of the students' interest in learning means that they have reached the success criteria, 78% of the students' learning outcomes have reached the KKM, which means they have reached the success criteria. The conclusion of the study shows that the application of the Make a Match learning model can increase the interest and learning outcomes of students in learning science on substance stress and its application in everyday life for class VIII SMP.

INTISARI

Pendidikan sains dapat membangun pengetahuan, menambah wawasan, berpikir kreatif, dan kritis. Sains juga memuat konsep yang abstrak, sehingga minat dan hasil belajar peserta didik dalam pembelajaran IPA belum maksimal. Guru belum bervariasi dalam menggunakan model pembelajaran menyebabkan peserta didik merasa bosan dan kurang aktif mengikuti pembelajaran. Penelitian ini bertujuan untuk meningkatkan minat dan hasil belajar peserta didik pada materi tekanan zat dan penerapannya dalam kehidupan sehari-hari pada 34 siswa kelas VIII dengan menggunakan model pembelajaran Make a Match. Metode penelitian menggunakan desain penelitian tindakan kelas yang terdiri dari dua

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siklus, yaitu siklus I dan siklus II. Setiap siklus terdiri dari empat tahapan, yaitu 1) perencanaan, 2) pelaksanaan, 3) observasi, dan 4) refleksi. Subjek penelitian adalah siswa kelas VIII H SMP Negeri 2 Majenang. Teknik pengambilan data menggunakan tes kognitif, observasi, dokumentasi dan catatan lapangan. Data kuantitatif dianalisis menggunakan teknik analisis data kuantitatif dan data kualitatif dianalisis menggunakan teknik analisis data kualitatif. Hasil penelitian tahap siklus I menunjukkan bahwa minat belajar peserta didik sebesar 68% berarti belum mencapai kriteria keberhasilan, hasil belajar peserta didik sejumlah 71% subjek belum mencapai KKM dan 29% subjek telah mencapai KKM berarti belum mencapai kriteria keberhasilan. Siklus II menunjukkan bahwa minat belajar peserta didik sebesar 75% berarti telah mencapai kriteria keberhasilan, hasil belajar peserta didik sejumlah 78% subjek telah mencapai KKM berarti mencapai kriteria keberhasilan. Simpulan penelitian menunjukkan bahwa penerapan model pembelajaran Make a Match dapat meningkatkan minat dan hasil belajar peserta didik dalam pembelajaran IPA materi tekanan zat dan penerapannya dalam kehidupan sehari-hari kelas VIII SMP.

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A. Introduction

Science education can construct students' knowledge build knowledge, even though it contains abstract concepts. In order to discover a scientific fact, science is a dynamic way [1]. Science lesson is one of the subjects that students find bored and difficult. The learning process will be optimal if the teacher is able to plan the implementation up to the evaluation [2].

Students' interest in learning and the results of grade VIII science scores are not satisfactory based on data from schools in the last two years. Interest in learning can be seen in the lack of enthusiasm of students when participating in learning in class. As for learning outcomes, it can be seen from the average results of the general test for the last 2 years, namely the 2016/2017 academic year (6.74) and the 2017/2018 academic year (6.67). This average is still below the specified KKM (Minimum Completeness Criteria) (7.00). The low score can be caused by the teacher not motivating students maximally, the use of learning models is less precise or still using teacher-centered learning models. Therefore, innovation and variation in the learning process are needed to eliminate the saturation of students in the classroom. The learning process must invite students to be more active, creative, and fun. Many learning models can be chosen and made varied for each meeting. One of the learning models that contribute to activities is the use of the Make a Match model.

Teachers must interact in class during learning. The Make a Match learning model is one of cooperative learning. The learning process occurs thanks to students getting something that is in the surrounding environment [3]. The application of the Make a Match learning model can be used to improve student learning outcomes in science learning [4].

Basic natural sciences are very necessary in instilling a scientific attitude in students. Basic sciences such as physics and biology began to be considered and

developed more deeply in junior high school (SMP). Basic sciences are very important to master, because mastering the concept correctly will be very meaningful to support and develop an application. The development of western countries in mastering science and technology by prioritizing research centers.

Science learning in elementary schools is not only taught conventionally but also through various practices where students can understand the changes that occur in the surrounding environment so as to increase student interest in learning [5]. This learning model provides opportunities for students to share ideas and consider the most appropriate answers. This appropriate learning model makes the class more conducive and students are more enthusiastic and interested in learning, so that satisfactory learning outcomes are obtained [1]. The Make a Match learning model is a teaching and learning model by looking for partners where students look for partners while learning about a concept or topic in a pleasant atmosphere [6].

Considering the concepts, principles and laws of science, both Physics, Biology, and Chemistry, are produced from the results of observations, experiments and measurements in the learning process. These activities require the active role of students so that students can find their own ideas, ideas and concepts that are carried out. The science learning process requires a learning model that involves the activeness of students such as cooperative methods with Make a Match learning models, simulations, discussions, discovery learning, inquiry, and others. Learning activities must be carried out differently so that students do not get bored. The use of the model in the learning process is very necessary so that the transfer of messages is easier for students to accept [7].

Cooperative learning is a learning strategy that involves the participation of students in small groups to interact with each other. Cooperative learning accommodates students to work in groups, group goals are common goals [7]. The make and match model is a learning model in which the teacher prepares cards containing questions or problems and prepares answer cards, then students look for pairs of cards [8]. The make and match learning model are one of cooperative learning. The cooperative learning model is based on the philosophy of homo homini socius, this philosophy emphasizes that humans are social creatures [9]. The make and match model trains students to have good social attitudes and trains the ability of students to work together and train the speed of thinking.

The challenge for science teachers in particular is not in the changes that occur in nature, but the curriculum changes that occur in Indonesia at this time, which previously used the 2006 curriculum or KTSP, now changes to the 2013 curriculum (K-13) and has even been revised several times every year. The latest curriculum (K-13) uses a learning process that requires most teachers to be active, creative and innovative in implementing classroom learning to make students more active. The learning process used is made centered on the learner.

Learning outcomes are changes in overall behaviour and abilities possessed by students after learning, in the form of cognitive, affective and psychomotor abilities (not just one aspect of potential) caused by experience [2]. Improving student learning outcomes can use one of the Make a Match learning models that are applied to science learning in junior high school physics [10].

Ideally, a learning process requires appropriate strategies, methods, media, especially in science learning which have been designed to develop knowledge, understanding, and analytical skills of the surrounding natural conditions. The optimal science learning process can invite students to know firsthand the surrounding natural conditions that occur in everyday life. Learning must be able to provide provisions for students to think critically, logically, analytically, systematically, and creatively. This can be realized if the science learning process in the classroom is innovative, interesting and fun for students. Students can think of science subjects as subjects that only listen, take notes, count, and memorize so that it makes them bored and boring.

Based on observations made at SMP Negeri 2 Majenang, especially in class VIII in science lessons, students tend to be quiet and less active in participating in learning. This is possible because teachers are less varied in the use of facilities and infrastructure in the learning process in the classroom, also due to environmental factors. Students sometimes ask for other learning models that are more interesting because they feel bored with the learning process carried out and students feel bored in following the lesson.

If such conditions continue to occur, the goal of education will be farther to be achieved. This can be overcome by developing more interesting learning strategies, so that students can be interested in participating in the learning process. They are not only interested but also can play an active role in the learning process in the classroom. The teacher's task is to create and design learning so that students are more interested and play an active role in the learning process. One way of learning that is considered suitable to solve the above problems is to use the Make a Match learning model. This model can be used as a good and fun learning medium without losing the essence of ongoing learning. The active learning model can be used to overcome problems that occur in science subjects for class VIII at SMP Negeri 2 Majenang. The purpose of this study was to find out the Increase in Interest and Learning Outcomes of Students with the Make a Match Learning Model on the Material Pressure of Substances in everyday life science material for class VIII SMP Semester 1 for the 2019/2020 academic year.

B. Method

This research uses Classroom Action Research consisting of two cycles. Each cycle is carried out once face-to-face, a total 34 students of VIII H grade at SMP Negeri 2 Majenang with two observations, using an observation instrument containing indicators about learning that encourage students to dare to ask questions and have

opinions. This research contains the stages: planning, action implementation, observation and reflection.

The Action Plan using classroom action research procedures consists of 2 cycles, namely cycle 1 and cycle 2, each cycle consisting of 4 stages, namely planning, implementation, observation and reflection. These stages can be described as follows:

1. Cycle I
   a. Planning Stage
      1) Determine the class as the research subject, namely class VIII H SMP Negeri 2 Majenang.
      2) Determine the learning model, namely Make A Match.
      3) Make a Learning Implementation Plan (RPP) which includes competency standards, basic competencies, indicators and learning steps according to the syllabus.
      4) Assign observers as members and photographers.
      5) Make an observation sheet as a means of collecting qualitative data and make pretest and posttest questions as a means of collecting and quantitative.
      6) Determine the date of the research implementation.
   b. Implementation Stage
      1) Implementation of pretest
      2) Implementation of the learning process with the Make a Match learning model with the stages.
      3) Implementation of posttest.
   c. Observation Stage

      The observation stage is carried out simultaneously with the learning process taking place. Observations were assisted by two observers as members of the research team and one person as a photographer to obtain optimal results. Observers bring observation sheets and record the implementation of activities during the learning process
   d. Reflection stage

      The learning process is evaluated to be discussed with observers regarding the weaknesses that arise.
2. Cycle 2

Cycle 2 is carried out after there are reflections from cycle 1, so that the implementation of the learning process in cycle 2 is an improvement from the weaknesses in the implementation of the learning process in cycle 1. The flowcart of this research can be seen in Figure 1.

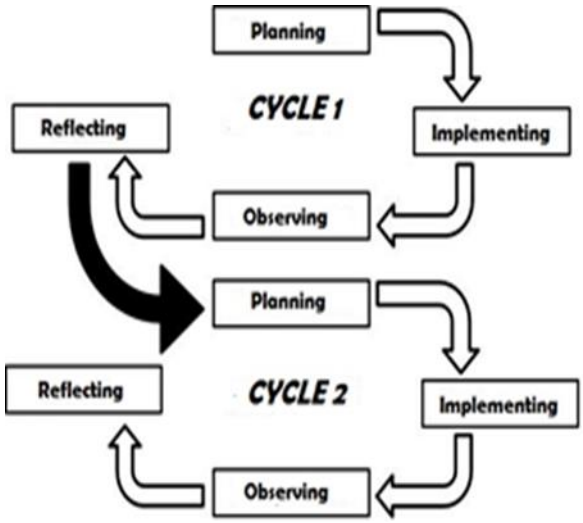

Figure 1. Flowchart of Research Implementation

The research instruments used were observation sheets, documentation, and field notes. There are two data analysis techniques used. The first analysis technique is using qualitative data analysis with the steps of data reduction, data presentation, and drawing conclusions. The second data analysis technique is quantitative data analysis so as to provide an overview of learning outcomes and student interest in learning.

C. Result and Discussion

The results of the initial conditions of learning science regarding the material pressure of substances and its application in everyday life in class VIII SMP Negeri 2 Majenang can be said to still not show maximum results. Based on the observations of researchers in the teaching and learning process there are still misconceptions, besides that the learning interaction is still unidirectional, namely the teacher to the students, there has not been a three-way learning interaction, namely the teacher to the students, the students to the teacher, and the students to the students. This has an impact on the learning process and student learning outcomes in the classroom. Where the learning process is monotonous, students only become passive listeners so that the material presented by the teacher is not conveyed to students optimally. Prove from the results of the formative tests conducted by the teacher that the level of mastery of the material being taught shows a low level of mastery of the material being taught, from a total of 34 students only 16 students (47.06%) reach the minimum completeness criteria (KKM) 70, and 18 students (52.94 %) is still below the KKM.

The implementation of learning in each cycle can run smoothly, increasing student learning activities so that student learning outcomes increase, using the following learning actions (scenarios).

a) The teacher prepares learning media
b) The teacher ensures that students are ready to learn
c) The teacher creates a conducive learning atmosphere

d) The teacher conveys the main material to be discussed
e) The teacher conveys the learning objectives to be achieved
f) The teacher asks questions to students about the material
g) The teacher conveys a little material at a glance
h) The teacher and students conclude the subject matter
i) The teacher carries out the assessment task
j) The teacher carries out follow-up in learning
k) The teacher closes the learning activity

Table 1. Results of Observation of Student Interest in Cycle I

No	Aspect	Indicator	Percentage	Average Percentage Indicator	Success Criteria
1	Attention	Paying attention to the teacher during the learning process	68%	68%	75%
2	Curiosity	Asking material that you don't understand	66%		
3	Desire	Answering and responding to teacher questions	65%		
4	Pleasure	Doing assignments from the teacher	73%		

Calculation of the average percentage of indicators of student interest in learning cycle I as in Table 1 as follows:

$$NP = \frac{R}{SM}\ x\ 100\%$$

$$NP = \frac{R}{SM}\ x\ 100\% = 68\%$$

Based on Table 1, it can be seen that in the first cycle the average percentage of students' interest in learning indicators has not been optimal or has not reached the specified success criteria, which is 75%. The average percentage of indicators of student interest in learning in the first cycle only reached 68%. The percentage of each indicator of student interest in learning in the first cycle is 68% attention, 66% curiosity, 65% desire, and 73% pleasure.

Table 2. Group Learning Outcomes of each Student Cycle I

Score	Total Student Score	Total Students	Percentage	Success Criteria
≤ 70	24	34	100%	71%
≥ 70	10	34	100%	29%

Based on Table 2, it can be seen that the number of students who achieved the KKM score in the first cycle was 10 out of 34 students or only reached the percentage of 29%. Therefore, it has not succeeded in achieving the success criteria set, namely 75%. While 71% of people who have not reached the KKM there are as many as 24 students.

At the beginning to the middle of the learning process, the attention of the Make a Match learning model was not fully focused on the subject matter. Students still do not understand the applied learning model. The enthusiasm of students is still lacking. The application of the Make a Match learning model in the first cycle has not been fully implemented optimally. Based on observations, the average percentage of indicators of student interest in learning in the first cycle has not reached the predetermined success criteria, which is 75%. The average percentage of students' interest in learning indicators in the first cycle is 68%. Some of the obstacles found in cycle I include:

a) The teacher is not optimal in explaining and conditioning learning with the Make a Match learning model.
b) The teacher has not been able to control the class properly when applying the Make a Match learning model.
c) The teacher has not been able to use time optimally and effectively during class learning.
d) The average percentage of indicators of interest in learning has not yet reached the criteria for the success of the action because it has only reached 68%.

Observations on students' interest in learning in participating in learning activities can be said to have increased from cycle I. The average percentage of indicators of student interest in learning in cycle II has also reached the predetermined success criteria, although it is right on the threshold. This is proven as Table 3.

Table 3. Results of Observation of Student Interest in Cycle II

No	Aspect	Indicator	Percentage	Average Percentage Indicator	Success Criteria
1	Attention	Paying attention to the teacher during the learning process	68%	75%	75%
2	Curiosity	Asking material that you don't understand	77%		
3	Desire	Answering and responding to teacher questions	84%		
4	Pleasure	Doing assignments from the teacher	70%		

The calculation of the average percentage of students' learning interest indicators in cycle II is in Table 3 as follows:

$$NP = \frac{R}{SM}\ x\ 100\%$$

$$NP = \frac{R}{SM}\ x\ 100\% = 75\%$$

Based on Table 3, it can be seen that in the second cycle the average percentage of indicators of student interest in learning is optimal even though it only reaches the minimum success criteria set, which is 75%. The percentage of each indicator of student interest in learning in cycle II is 68% attention, 77% curiosity, 84% desire and 70% pleasure.

Table 4 explains the group learning outcomes of students after the implementation of the Make a Match learning model added with pictures in cycle II.

Table 4. Group Learning Outcomes of each Student Cycle II

Score	Total Student Score	Total Students	Percentage	Success Criteria
≤ 70	7	34	100%	22%
≥ 70	27	34	100%	78%

Based on Table 4, it can be seen that the number of students who achieved the KKM score in cycle II was 25 students from 34 students who reached a percentage of 78%. Therefore, it has not succeeded in achieving the success criteria set, namely 75%. While 22% of students who have not reached the KKM there are 7 students.

Efforts to increase students' interest in learning by applying the Make a Match learning model in class VIII H SMP Negeri 2 Majenang in cycle II have succeeded in achieving the predetermined success criteria of 75% and there is an increase in the percentage from cycle I. This is evidenced by the average the percentage of indicators of student interest in learning which increased by 7% from the first cycle to 75%. The increase in the percentage of interest indicators also has an effect on increasing the percentage of learning outcomes indicators for groups of students who increase.

The increase occurred after the Make a Match learning model was applied by adding pictures in the question or answer sheet to make it more interesting as motivation and to attract the attention of students. In addition, because the teacher was able to explain and organize learning with the Make a Match learning model better than cycle I. Some actions that resulted in less than optimal even though it had been going well were as follows: 1) Some students were still busy at the time of learning at class; 2) Only a few students dare to ask and respond to questions from the teacher.

Observations on the activities of students in the classroom in cycle II showed that the teacher was able to carry out learning activities well. Students are no longer only objects of learning but as subjects of learning. The classroom management carried out by the teacher in the second cycle is much better than the first cycle. The teacher is able to explain and organize learning with the Make a Match learning model well. In

addition, the teacher also encourages students to play an active role in the classroom. The Make a Match learning model can help students to be active in learning activities, both in groups and individually. Besides, the Make a Match makes the learning process student centered so that it is no longer teacher centered and the teacher is only a facilitator and motivator. Junior high school students will be more enthusiastic about participating in learning by playing like the Make a Match learning model applied at SMP Negeri 2 Majenang. The Make a Match learning model can have a positive effect on student learning outcomes [11].

Students seem more interested in participating in the learning process in class. Students look happy and very excited [12] that the Make a Match learning model can be used as a good and fun learning strategy without losing the ongoing learning focus. In addition, students are also more daring to ask questions and respond to the teacher questions. The students in the previous cycle looked passive and had started to be active. In the final activity, students play an active role in concluding the subject matter together with the teacher. The results of the research conducted showed that there was a significant difference between the science learning outcomes of students using the Make a Match type of cooperative learning model and the learning model commonly used in junior high schools [13]. The Make a Match learning model can make students active during learning so that it can affect learning outcomes, if students feel happy, enthusiastic, active during learning, it will affect learning outcomes [14]. The Make a Match learning is an alternative teaching and learning model that emphasizes shared attitudes or behavior in working or helping among others in an organized structure of cooperation in groups [15]. This learning model can be used as an alternative learning method. This learning model can be adapted to other science materials by matching cards and making other types of game cards [16].

D. Conclusion

Based on the results of the description and data exposure, it can be conlude that The application of the Make A Match learning model can increase students' interest and learning outcomes in science learning in VIII grade of junior high school. This is evidenced by an increase in the average percentage of indicators of student interest in learning each cycle. In the first cycle the average percentage of students' interest in learning indicators was 68% and increased in the second cycle to 75% or an increase of 7%. This means that the average percentage of indicators of student interest in learning has exceeded the criteria for the success of the action set, which is 75%. The application of the Make A Match learning model also can improve student learning outcomes. This is showed by the percentage of students who achieve the KKM score in the first cycle of 28%, increasing to 78% in the second cycle. This means that the number of students who achieve the KKM score (70) has exceeded the established success criteria of 75%.

References

[1] R. Bunga, A. Nasar, and Ilyas, "Model Pembelajaran Kooperatif Tipe Make A Match untuk Meningkatkan Hasil Belajar IPA Siswa Kelas VIII SMPN Mautenda," *Opt. J. Pendidik. Fis.*, vol. 3, no. 2, pp. 2726–272910–16, 2019.

[2] S. Sulhan, "Penerapan Model Pembelajaran Make A Match untuk Meningkatkan Hasil Belajar IPA Materi Organ Peredaran Darah dan Fungsinya," *J. Ilm. Sekol. Dasar*, vol. 4, no. 1, pp. 1–8, 2020, doi: 10.23887/jisd.v4i1.23735.

[3] E. Lovisia, "Penerapan Model Make A Match pada Pembelajaran Fisika Kelas X Sma Negeri 2 Kota Lubuklinggau," *Sci. Phys. Educ. J.*, vol. 1, no. 1, pp. 7–22, 2017, doi: 10.31539/spej.v1i1.58.

[4] Y. Listiani, K. Ningsih, and R. G. P. Panjaitan, "Penerapan model pembelajaran make a match berbantuan video untuk meningkatkan hasil belajar peserta didik," *JPPK J. Equatorial Educ. Learn.*, vol. 9, no. 8, pp. 1–8, 2020.

[5] R. Rikmasari and F. Kamaliah, "Model Make A Match sebagai Solusi untuk Meningkatkan Hasil Belajar IPA Materi Gaya Siswa Sekolah Dasar," *Pedagogik*, vol. 9, no. 1, pp. 1–10, 2021.

[6] A. Mustajab, T. Syamsijulianto, and H. Susanti, "Penerapan Make a Match Terhadap Hasil Belajar Kognitif Pada Pembelajaran IPA," *Adi Widya J. Pendidik. Dasar*, vol. 6, no. 2, pp. 161–169, 2021, doi: 10.25078/aw.v6i2.2497.

[7] Setyaningsih, "Penerapan Model Pembelajaran Kooperatif Tipe Make A Match untuk Meningkatkan Hasil Belajar IPA Siswa Kelas VI SD Negeri 006 Tri Mulya Jaya Kecamatan Ukui," *J. Prim. Progr. Stud. Pendidik. Guru Sekol. Dasar*, vol. 5, no. 3, pp. 317–331, 2016.

[8] Suyatno, *Menjelajah Pembelajaran Inovatif*. Sidoarjo: Masmedia Buana Pusaka, 2009.

[9] A. Lie, *Cooperatif Learning: Mempraktekkan Cooperatif Learning di. Ruang-Ruang Kelas*. Jakarta: Gramedia, 2003.

[10] T. Wahyuni, T. Djudin, and Hamdani, "Meningkatkan Hasil Belajar Fisika Menggunakan Kooperatif Tipe Make a Match Berbantuan Flipchart di SMP," *Progr. Stud. Pendidik. Fis. FKIP Untan Pontianak*, pp. 1–12, 2016.

[11] D. N. Suprapta, "Penggunaan Model Pembelajaran Make A Match Sebagai Upaya Meningkatkan Prestasi Belajar Bahasa Indonesia," *Mimb. Pendidik. Indones.*, vol. 1, no. 2, pp. 240–246, 2020, doi: 10.23887/mpi.v1i2.30199.

[12] H. Zaini, *Strategi Pembelajaran Aktif di Perguruan Tinggi*. Yogyakarta: CTSD (Center for Teaching Staff Development), 2012.

[13] E. Winarti, M. Tawil, and R. Mamin, "Pengaruh Model Pembelajaran Tipe Make A Match terhadap Hasil Belajar IPA Peserta Didik Kelas VIII SMPN 31 Bulukumba (Studi pada Materi Pokok Sistem Pencernaan Manusia)," *J. IPA Terpadu*, vol. 4, no. 1, pp. 1–11, 2021.

[14] H. Fauhah and R. Brillian, "Analisis model pembelajaran make a match terhadap hasil belajar siswa," *J. Pendidik. Adm. Perkantoran*, vol. 9, no. 2, pp. 321–334, 2021, [Online]. Available: https://journal.unesa.ac.id/index.php/jpap/article/view/10080.

[15] M. Mikran, M. Pasaribu, and I. W. Darmadi, "Penerapan Model Pembelajaran Kooperatif Make A Match untuk Meningkatkan Hasil Belajar Siswa Kelas VII A SMP Negeri 1 Tomini pada Konsep Gerak," *JPFT (Jurnal Pendidik. Fis. Tadulako Online)*, vol. 2, no. 2, pp. 9–16, 2014, doi: 10.22487/j25805924.2014.v2.i2.2781.

[16] R. H. Pratiwi, "Metode Pembelajaran 'Make A Match' Dan Pengaruhnya Terhadap Hasil Belajar IPA," *Florea J. Biol. dan Pembelajarannya*, vol. 5, no. 1, p. 37, 2018, doi: 10.25273/florea.v5i1.2291.