

THE EFFECT OF MAKE A MATCH LEARNING MODEL ASSOCIATED WITH VIDEO MEDIA ON THE ABILITY TO UNDERSTAND SCIENCES CONCEPT FOR V GRADE ELEMENTARY SCHOOL

Andriani¹, Dina Anika Marhayani², Erdi Guna Utama³
^{1,2,3}STKIP Singkawang, Indonesia

Article Info

Article history:

Received: 28-06-2022

Revised: 12-09-2022

Published: 30-09-2022

Keywords:

Make A Match
Learning model
learning video
Learning Media
concept understanding

ABSTRACT

This study aims to determine the differences in using the Make A Match learning model assisted by learning video media on the ability to understand science concepts in fifth-grade elementary school. The type of research used is quantitative with a quasi-experimental type of experimental method in the form of a nonequivalent control group design. The research population was all fifth-grade students of SDN 18 Senturan, with a sampling technique in the form of a saturated sample technique (total sampling). This study used two classes, namely the experimental class, which was treated using the Make A Match learning model assisted by video learning media, totaling 24 students, and the control class using conventional methods totaling 24 students. The study results can be concluded that: (1) There are differences in learning outcomes between the experimental class, which was given treatment using the make-a-match learning model assisted by video media, and the control class, which was given conventional methods. Because there are differences, there is an effect of learning outcomes for the experimental class and the control class on the science lesson on how the body processes food for the fifth-grade students of SDN 18 Senturan, which was analyzed using the t-test parametric statistical test with count = 2.167 > table = 2.012. (2) Make learning model A Match assisted by video media has an influence on the learning outcomes of science material on how the body processes food for the fifth-grade students of SDN 18 Senturan by 0.98 with high criteria

This is an open access article under the [CC BY-SA](#) license.



Corresponding Author:

Andriani,
Sekolah Tinggi Keguruan dan Ilmu Pendidikan Singkawang, Indonesia
Email: andrianiyani016@gmail.com

1. INTRODUCTION

Natural Sciences is a science that is very important in its relation to everyday life. Students will own knowledge of the natural environment by studying science. Students are expected to be able to use nature wisely and love the natural environment. Based on its essence, Anggraini & Perdana (2019), state that the science learning process should be directed to develop observing, classifying, measuring, communicating, and concluding skills. In addition, science learning in elementary schools should place more emphasis on providing direct learning experiences. These activities are expected to develop students' thinking skills by constructing their knowledge independently, critically, and creatively. So that students can have a sensitive and responsive attitude to act rationally and be responsible for solving problems faced in everyday life.

Science learning is a science that studies the objects of the universe, living things, energy, and its changes, as well as the natural environment and its changes. Therefore, science in elementary schools emphasizes the student's learning experience to be closer to nature. Understanding science concepts in elementary school is one of the abilities that need to be considered in science learning. Understanding concepts is the ability to capture meanings, such as quickly understanding material easily and applying it in daily life. Students' understanding abilities are still relatively low, as evidenced by data from the Program For International Students Assessment (PISA). The study's results in 2009 showed that science subjects were at level 57 of the existing 65 countries with a score of 383 (OECD, 2019). The research results Dewi (2020), also show that the ability to understand science concepts in elementary schools where the research is conducted is still low, so it needs to be improved.

The low ability of students to understand science concepts also occurs at SD Negeri 18 Senturan. The results of the pre-research that was carried out in July 2021 found that the student's ability to understand science concepts was still low. In contrast, the test results of the concept ability test given to students had an average score of 55. Things like this could harm students. Who does not understand the concept, so is there a problem in understanding the concept of students? When conducting a question and answer activity with the fifth-grade teacher, the teacher said that the ability to understand science concepts was still low. This was because when the teacher delivered the material, students were more comfortable on their own, such as talking to their friends and doing assignments in other subjects. Moreover, students are also less active during the natural learning process. This results in the ability to understand students' science concepts being low (Alawiyah, 2017).

In science learning, schools are still stuck using conventional learning models, namely learning models that are more teacher-centered and emphasize the lecture method. In addition, the teacher does not use learning media in the learning process. Students are also not allowed to explore using all their abilities to find the studied concepts. In the learning process, it is essential to use media. Using learning media, students can understand the material well (Erfan, Nurwahidah, Anar, & Maulyda, 2020). Based on these problems, teachers should make learning innovations. Flexible learning models and media require students to understand the learning material. Efforts can be made to overcome these problems using the Make A Match learning model, assisted by learning video media.

According to Nurfahrudianto et al. (2017), the Make A Match learning model is one type of cooperative learning with the unique characteristics of using cards in its implementation. By using this model, students in the classroom learn and understand the material presented by the teacher while playing. Because the characteristics of the Make A Match learning model have a close relationship with the characteristics of students who like to play. By using this method, students will be more active in participating in learning so that students have a more meaningful learning experience (Ainiyah, Darmiany, & Istiningsih, 2021). The Make A Match learning model quoted from Susanti et al. (2021) is learning that provides an opportunity for students to share ideas and consider the most appropriate answers, thus making the class more active and more enthusiastic about learning until the results are obtained. Satisfying learning and learning becomes more effective.

The Make A Match model application is reasonably simple and easy to understand. Learning begins with the teacher preparing the material to be discussed and preparing cards containing questions and answer cards. Then students are given time to find and match answers. Students who successfully answer the questions correctly will get a reward. Through these activities, students are more active, and easier to understand the material that the teacher has taught so that students can remember the material in the long term. The learning model will be more effective if supported by suitable learning media. Learning video is one of the appropriate learning media used in science learning with the Make A Match learning model. According to Nurfidah (2021) learning videos are audiovisual or learning media that appear to be heard. It is said to appear to be heard because there is an element of sound (audio) and a visual/video element (appearing) that is presented simultaneously.

Based on the problems stated above, the specific purpose of this study is "To determine the effect of the Make A Match learning model assisted by Learning Video Media on the ability to understand science concepts for class V SD Negeri 18 Senturang". The general objectives of this research are 1). The difference in the ability to understand concepts between classes using the Make A Match learning model assisted by video learning media and classes using conventional learning models. 2). Knowing the significant influence of the Make A Match learning model assisted by learning video media on the ability to understand science concepts for fifth-grade elementary school students.

2. RESEARCH METHOD

This type of research is quantitative research with a quasi-experimental design method (quasi-experimental). According to Sugiyono (2016), quasi-experimental research is a method that is used because in reality it is difficult to get a control group used for research. The data collection technique used in this research is the Test Technique. Test technique is a data collection technique that is carried out by providing a series of questions or assignments and other tools to the subject whose data is needed, data collection using test techniques can be referred to as measurement (Sugiyono, 2016). The test technique in this research is by giving a subjective test in the form of an essay containing material on how the body processes food that is given during the post test in the experimental class and control class. Sugiyono (2016) stated that the research instrument is a data collection tool used to measure the observed natural and social phenomena. The data collection instrument in this study was a test sheet. The test sheet is in the form of pre-test and post-test question sheets. The test used consists of questions in the form of essays. Data analysis is an activity after data from respondents or other data sources are collected (Jennings2018). The data analysis technique in this research is quantitative using statistics. Therefore, research that must be carried out must pay attention to the steps of data analysis obtained from the pre-test and post-test. The steps that must be taken are as follows: 1) Prerequisite Test, 2) Hypothesis Testing.

3. RESULT AND DISCUSSION

3.1. Result

The results of data collection carried out during the study at SD Negeri 18 Sentrang was the data obtained from the Pre-test and Post-test results of students in the form of scores from the class taught the Make A Match learning model Assisted by Learning Video Media for the experimental class and the conventional model for the control class against students' ability to understand science concepts in the material How the Body Processes Food. To find out the difference in students' understanding of science concepts between the experimental class and the control class on the subject of How the Body Processes Food for class V SD Negeri 18 Sentrang using a two-sample t-test. But before that, normality and homogeneity tests will be carried out first. The test for normality and homogeneity.

The normality test was conducted in this study to determine whether the post-test data scores collected were normally distributed or not. The data is normally distributed. Because the experimental class and control class data are normally distributed, then to determine the homogeneity of the data using the formula f . After the post-test score data for the experimental class and the control class are calculated and the data is normally distributed, the next step is to test the homogeneity of the data using the formula f . Homogeneity test is carried out to compare two groups of data or must first test the equality of diversity or test the similarity of variants of the data group. The experimental class and control class have the same or homogeneous variance. Because the value data in the experimental class or control class is normally distributed and homogeneous, then a two-sample t-test is then carried out to determine whether there is an effect of the Make A Match learning model assisted by learning video media with the class being given direct learning on the material How the Body Processes Food for Class V Elementary School State 18 Senturan.

Based on the normality and homogeneity test, it was obtained that the post-test data of the experimental class and the control class were normally distributed and had the same or homogeneous variance. So to test the average similarity of the two classes using a two-sample t-test. Based on data analysis, it is known that $t_{count} = 2.167$ and $t_{table} = 2.012$ obtained $t_{count} > t_{table}$ obtained from the results of post-test data calculations between the control class and experimental class that is $2.167 > 2.012$ then H_a is accepted and H_o is rejected. So it can be concluded that there is a difference in students' ability to understand science concepts between classes given the Make A Match learning model assisted by learning video media with conventional learning methods on how the body processes food for class V SD Negeri 18 Senturan. Because there are differences, there is an influence on students' ability to understand science concepts between classes given the Make A Match learning model assisted by learning video media with conventional learning on the material of how the body processes food for class V SD Negeri 18 Senturan.

To find out how much influence the Make A Match learning model assisted by learning video media has on students' ability to understand science concepts, use the Effect size (es) formula. From data analysis it can be seen that $E_s = 0.98$ and the criteria is high because 0.98 is at $E_s > 0.8$ so H_a is accepted, H_o is rejected. It can be concluded that the use of the Make A Match learning model assisted by learning video media has a

high effect on the ability to understand science concepts on how the body processes food for fifth grade students of SD Negeri 18 Senturan.

3.2. Discussion

Based on the results of hypothesis testing that have been described, it can be seen that from the two hypotheses that have been tested, the details of the results of the hypothesis are obtained as follows: 1) Differences in Students' Science Concept Understanding Ability in Control Class and Experiment Class. the control class is typically distributed and has the same or homogeneous variance, then the post-test data analysis of the experimental class and the control class is then carried out using parametric statistical tests, namely the t-test with the results of t count, t table that is $2.167 > 2.012$, it can be concluded that H_a is accepted and H_o is rejected. So it can be supposed that there are differences in the ability to understand science concepts in the experimental class who were given treatment using the Make A Match learning model assisted by video learning media with the control class using conventional methods in the science lesson on How the Body Processes Food for class V SD Negeri 18 Senturan. Several factors cause differences in the ability to understand science concepts of students in the control and experimental classes, one of which is the treatment given during the learning process, both learning models and learning media.

For the experimental class, the student's ability to understand science concepts that were treated using the Make A Match learning model assisted by learning video media experienced a higher increase than the control class using the conventional model. The increase in the ability to understand the science concepts of experimental class students was because, during the learning process, they were given treatment using the Make A Match learning model and learning video media. When the learning process took place in the experimental class, students were instructed to read a book about How the body processes food for about 5 minutes. To provide a more precise understanding and focus the student's attention, the researchers presented video learning media about how the body processes food. When showing the material on how the body processes food using learning video media, students are instructed to focus and observe or watch the video, aiming that students gain information or knowledge about the material to be delivered. A few minutes later, the researcher stopped showing the learning video media to ask questions to students, allowed students to ask questions about the material that had not been understood, and explained the material that the students had not understood. After that, if students feel they know about the material that has been broadcast, the researcher continues to play the learning video media until it is finished.

Next, the researcher divided the students into 3 groups, namely group A, group B and group C. Each group was given a question card which contained material on how the body processes food. However, group C will be the assessor group and will be the group that holds the question card when The card game between group A and group B is over. The researcher asked the students to read each card they were holding and then to match which card was the correct answer for the question card they had. While comparing the question cards and solutions, students were allowed to discuss the answers. So that during the learning process in the experimental class, students are more active by interacting to ask questions and discuss to convey information, knowledge and understanding they get during the learning process.

Students in the experimental class get facts, knowledge and understanding through discussion interactions and questions and answer using question cards and answer cards about how the body processes food. Using the Make, A match learning model assisted by learning video media in science lessons on how the body processes food for fifth-grade students at SD Negeri 18 Senturan provides a meaningful experience, enlivens the classroom atmosphere and has a positive impact on students' conceptual understanding abilities.

Meanwhile, the control class uses the conventional model. During the learning process, students were instructed to read a 5-minute book about how the body processes food. After that, the researcher explained the material on how the body processes food, and the students were instructed to listen to the explanation that would be delivered using the conventional model in the control class resulting in the learning process tending to be centred on the researcher and more one-way communication from the researcher to the students. So that the control class that uses the conventional model has many negative rather than positive impacts; this can be seen from the learning process that takes place; students tend to be passive and easily bored because of the infrequent interaction between teachers and students, as well as students and students, students still talk when the teacher explains, resulting in the ability to understand concepts is much below the minimum completeness criteria (kkm) 60. Using conventional models in science lessons on how the body processes food for fifth-grade students at SD Negeri 18 Senturan resulted in less effective learning and many negative impacts on students'

ability to understand science concepts.

The Great Influence of the Make A Match learning model is assisted by learning video media. Based on the calculation of students' post-test data on the ability to understand concepts, the value of Effect size is 0.98, which lies in the high criteria. This shows that the Make A Match learning model assisted by learning video media strongly influences students' ability to understand science concepts regarding how the body processes food for class V SD Negeri 18 Senturan. It can be concluded that the significant influence of the Make A Match learning model assisted by student learning video media is high criteria.

The results of the calculation of Effect size (es) are classified as high criteria because the experimental class was given treatment using the Make A Match learning model assisted by learning video media to form students to be more active by interacting with researchers and students, as well as students and students. So that students get a lot of facts and knowledge or understanding about the material and how the body processes food that has been conveyed both from researchers and classmates.

4. CONCLUSION

Based on the results of the calculation of research data and general discussion, it can be concluded that the Make A Match learning model assisted by instructional video media on the ability to understand concepts of fifth grade elementary school students. In accordance with the sub-problems in the research which consists of 2 problem formulations, it is specifically concluded There is a difference in the ability to understand science concepts between the experimental class which was given treatment using the Make A Match learning model assisted by video learning media and the control class which was given conventional methods. Because there are differences, there is an influence on the ability to understand the concepts of the experimental class and control class on science students on how the body processes food for the fifth grade students of SDN 18 Senturang which was analyzed using the t-test parametric statistical test with $t_{count} = 2.167 > t_{table} = 2.012$. And, The Make A Match learning model assisted by learning video media has an influence on the ability to understand the science concept of how the body processes food for the fifth-grade students of SDN 18 Senturan by 0.98 with high criteria.

REFERENCES

- Ainiyah, N., Darmiany, D., & Istiningsih, S. (2021). PENGARUH PENGGUNAAN METODE EVERYONE IS A TEACHER HERE TERHADAP MOTIVASI BELAJAR. *Renjana Pendidikan Dasar*, 1(1), 10–15.
- Alawiyah, F. (2017). Standar Nasional Pendidikan Dasar Dan Menengah. *Aspirasi: Jurnal Masalah-masalah Sosial*, 8(1), 81–92. doi:10.46807/aspirasi.v8i1.1256
- Anggraini, L., & Perdana, R. (2019). Hubungan Sikap dan Percaya Diri Siswa Pada Mata Pelajaran IPA di Sekolah Menengah Pertama. *SPEKTRA : Jurnal Kajian Pendidikan Sains*, 5(2), 188. doi:10.32699/spektra.v5i2.103
- Dewi, R., & Wahidin, W. (2020). EMBUNG SEBAGAI ALTERNATIF CADANGAN AIR PADA SAWAH TADAH HUJAN (Study Kasus Kecamatan Kroya Kabupaten Indramayu). *Jurnal Rekayasa, Teknologi, dan Sains*, 4(1), 1–6. doi:10.33024/jrets.v4i1.2401
- Erfan, M., Nurwahidah, Anar, A. P., & Mauliyda, M. A. (2020). Identifikasi Level Kognitif pada Soal Ujian Akhir Semester Gasal Kelas IV Sekolah Dasar. *Jurnal Kiprah*, 8(1), 19–26. doi:10.31629/kiprah.v8i1.1954
- Nurfahrudianto, A., & Darsono, D. (2017). The Impact Of Positive Coin And Negative Coin Game Media To Pupil Studing Result In Fourth Grade Students Second Semester To Matter Of Summing And Subtracting Integers Of Public Elementary School Karanganom I In Academic Year 2016/2017. *Simki-Pedagogia*, 1(9), 1–8.
- Nurfidah, N. (2021). PENERAPAN PEMBELAJARAN BERBASIS LABORATORIUM VIRTUAL DENGAN BANTUAN APLIKASI REKAM LAYAR PADA MATERI ROUTING. *VOCATIONAL: Jurnal Inovasi Pendidikan Kejuruan*, 1(3), 87–92. doi:10.51878/vocational.v1i3.349
- OECD. (2019). *PISA 2018 Results (Volume III)*. doi:10.1787/acd78851-en
- Sugiyono. (2016). *Metode penelitian kuantitatif kualitatif dan R&D*. Bandung: Alfa Beta.
- Susanti, T. C., Saputra, H. H., & Setiawan, H. (2021). PENGARUH METODE ARTIKULASI TERHADAP KETERAMPILAN BERBICARA SISWA KELAS III SDN 28 CAKRANEGARA. *Renjana Pendidikan Dasar*, 1(1), 44–49.