www.bircu-journal.com/index.php/birci
Budapest International Research and Critics Institute-Journal (BIRCI-Journal)
Humanities and Social Sciences
ISSN 2615-3076 Online)
ISSN 2615-1715 (Print)
Budapest Institute

The Comparison of Cooperative Learning Methods *Make a Match Type* with Scrable Types Students' Learning Results for 8th Grade in Government Junior High School 2 Kualuh Selatan

Khairul Azhar[1], Siti Zahara Saragih[2], Lily Rohanita Hasibuan[3], Indah Fitria Rahma[4], Rahmi Nazliah[5]
[1]*Sekolah Tinggi Ilmu Tarbiyah (STIT), Indonesia*
[2,3,4,5]*Universitas Labuhanbatu, Indonesia*
Akuakansukses01@gmail.com, sitizaharasaragih@gmail.com, lrohanita30@gmail.com, indahfitria286@gmail.com, rahmi.nazliah@gmail.com

Abstract

This study aims to determine the comparison of student learning outcomes in the application of the Make a match learning method with the Scramble method on the subject matter of the Excretory System. The research design used was a quasi-experimental group design with a pretest-posttest experimental group design. In the experimental class I which was taught using the Make a match method the average score of student learning outcomes was 63.56 and the increase in the average score of student learning outcomes was 90.04. In the experimental 2th grade, which was taught using the Scramble method, the average score of student learning outcomes was 50.92 and the increase in the average score was 94.60. The results showed that there were differences in student learning outcomes between the experimental 1th grade and the experimental 2th grade.

Keywords
make a match; scramble; learning outcomes

I. Introduction

Education is an important thing in human life, this is what distinguishes humans from other creatures. This is in accordance with Law no. 20 of 2003 Chapter I on the National Education System Article 1, which explains that: "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character and skills needed by him. In order for learning activities to get maximum results, it is necessary to have several supporting factors that can maximize learning activities in schools.

Education is the foundation of a successful career, financial freedom, the ability to think and reason critically and to make informed decisions. Without education we will be limited to perform tasks and we will be ignorant to the things that are happening in and around our surrounding, and according to Martin Luther King, a people without knowledge is like a tree without roots. For education to be of great value, curriculums should be implemented. (Philips, S. 2020)

Biology is a science subject that studies living things. In biology learning, students will more easily understand the concept if they find the concept themselves, meaning that teacher-centered learning tends to eliminate student activity in learning.Biology learning is currently

still dominated by conventional teaching. In this teaching, the teacher's role is very dominant in presenting the material. Usually after presenting the material, the teacher asks students to work on questions related to the material just explained. This kind of teaching places the teacher as a teacher centered learning, Soedjadi (2007).One of the teacher's competencies in teaching students is the teacher's skill in choosing strategies and methods, as well as the media used.It is the centeredness of learning activities on the teacher that creates an imbalance between students and teachers in terms of thinking and needs to be developed in students for the benefit of their future, Gultom (2017).

In choosing a teaching method, a teacher must be able to adjust the method he chooses to the conditions of the students and the existing facilities. Therefore, teachers must master several teaching methods so that the teaching and learning process runs smoothly and the goals to be achieved can be realized. To improve students' abilities and improve student learning outcomes in following lessons at school, Gultom (2019).

The Make a Match learning model is a learning model in which the teacher prepares a card containing problems and a card containing the answers. The learning phase of the activity with the application of the Make A Match type cooperative learning model is the teacher opening the lesson by greeting, preparing students and taking student attendance. In the first phase (delivering the goals and motivation of students) in this phase the teacher fosters enthusiasm and interest in student learning by asking questions to students.The make a match type learning model or looking for a partner is one of the students' techniques to find pairs of cards which are the answers/questions before the deadline. Students who can match their cards are awarded points. The make a match learning model technique or find a partner was developed by Lorna Curran (2002). One of the advantages of this technique is that students look for partners while learning about a concept or topic in a more relaxed and pleasant atmosphere.

Scramble learning model is learning in groups by matching the question cards and answer cards that have been provided according to the questions. Scramble is a game that can be played by 2-4 people. In this game, the players must rearrange the words from the pieces of sentences whose arrangement has been scrambled first. In general, it is used to train students in strengthening learning understanding or to find out students' understanding of learning materials through the help of worksheets containing scrambled words. In fun activities students are more motivated to learn and think. ModelScramble learning is a cooperative learning model characterized by a task structure, goals and rewards. The Scramble learning model is characterized by the presence of media in the form of question cards that match 4 materials with answer cards arranged randomly

One of the teacher competencies in teaching students is the teacher's skill in choosing strategies and methods, as well as the media used, Mulyasa (2006:35) states that "Teachers play a very important role in helping students develop to achieve their goals optimally, encouraging students, daring to do the right thing and get them to be responsible for their every action." Based on the results of observations in Negeri 2 Kualuh Selatan, the learning carried out is still teacher-centered using the lecture method. Students have not been actively involved in learning so that students feel bored and not enthusiastic in learning, and in the end it will have an impact on the learning outcomes obtained.Based on the results of observations made at SMP Negeri 2 Kualuh Selatan, that the results of learning Biology for 2^{th} grade students are still under the Minimum Completeness Criteria (KKM) set by the school.

Teachers are responsible for choosing learning models that lead to learning planning in the classroom, starting from preparing learning tools, media and aids, to evaluation tools that lead to efforts to achieve learning goals, Ilyas and Fitriani (2017). Thus, in choosing the

wrong learning model, it will be difficult to achieve the learning objectives. One of the causes of students experiencing learning difficulties is that the teacher applies an inappropriate learning model.

Based on the results of observations made at the Kualuh Selatan State Junior High School that the results of learning Biology for 2th grade students are still under the Minimum Completeness Criteria (KKM) set by the school.) so that the percentage of completeness is only 50%.

II. Research Methods

The research was carried out at SMP Negeri 2 Kualuh Selatan, Kualuh Selatan District, North Labuhanbatu Regency. The population in this study were 2th grade students at SMP Negeri 2 Kualuh Selatan as many as 5 classes, namely VIII1, VIII2, VIII3, VIII4 and VIII5 andThe sample used in this study were two classes. The class that was chosen to be the experimental class that was taught using the make a match and scramble models 2th grade students, totaling 72 students. The sample in this study will be determined by random sampling, namely by doing a lottery. The number of classes taken were 2 classes, namely 2th grade 1 and 3, which amounted to 72 students.

The type of instrument used by the researcher is the type of multiple choice test instrument with 21 questions. This test instrument was used during the pretest and posttest with the characteristics of each question on each test being identical. Before the test is used, first a test is carried out which consists of a validation test, a reliability test, a test of the level of difficulty of the questions and a test of differentiating power of the questions. In this study, the validation test, reliability test, difficulty level test and the instrument's discrepancy test were carried out using SPSS 22.0 for windows.

The type of research used is quantitative research and the method of this research is quasi-experimental. This research is an experimental study involving two classes, namely the Experimental 1th grade and the Experimental 2th grade which were given different treatments. To find out the learning outcomes of the two classes, students were given a pretest (pretest) and a final test (posttest).This design can be seen in the following table:

Table 1

Class	Treatment	Posttest
Experiment 1	X1	T
Experiment 2	X1	T

Description:
X = Learning model using Make and match and Scramble learning model
T = The test given at the end of the subject.

Data Validity Test Technique Data triangulation technique is a technique used to maintain data validity,The data analysis technique in this study used an independent sample test to test whether there were differences in learning outcomes using the make a match learning model with scramble. So the data analysis carried out in this study is the normality test and homogeneity test. Hypothesis testing is done by using the t test. In this study, each test was carried out using the SPSS 22.0 for windows program.

III. Result and Discussion

The research instrument used is a test of learning outcomes that have been tested. The test instrument consists of 30 questions, then 21 questions are validated for experimental 1th grade (make a match) and experimental 2th grade (scramble). Based on the reliability test of 21 valid questions with Cronbach's Alpha value of 0.917 > 0.60, it can be concluded that all question items are reliable. The results of the analysis of the level of difficulty of the 21 valid questions obtained 95.23% of the easy category questions, 4.76% of the medium category questions and 0% of the difficult category questions. The differentiating power of the questions shows 42.85% of the category of questions with very good classification, 57.14% of the categories of questions with good classification. Thus, the research instrument has met the requirements to be used as a data collection tool.

3.1. Student Learning Outcome Data

a. Pretest Data

Based on the pretest learning outcomes scores, it was obtained that of the 36 students in the class who were taught using the Make a match learning model, there was an average learning outcome of 63.56 with a standard deviation of 90.092 with the highest score of 88 and the lowest score of 55. For classes that were taught using Scramble learning model of 25 students obtained the average value of learning outcomes of 52.92 with a standard deviation of 8.827 with the highest score of 77 and the lowest score of 45, can be seen in the table and figure as follows:

Table 2. Pretest Score Data for Make a match class and Scramble class

Data	Experiment 1th grade	Experiment 2th grade
N (Number of Samples)	36	36
Total Value	1439	1423
Average	63.56	52.92
Standard Deviation	9,092	8,827
variance	82,637	77,910
Highest Score	88	55
Lowest Score	75	45

Comparison of pretest scores of experimental class 1 and 2

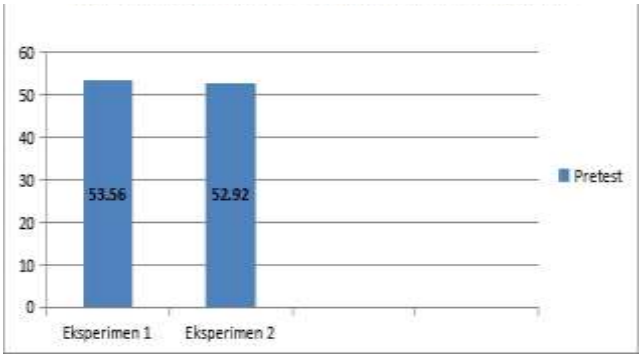

Figure 1. *Comparison of pretest scores for Experiment I and Experiment II*

b. Posttest Data

Based on the scores from the posttest learning outcomes, it was found that from 36 students in the class who were taught using the Make a match learning model, there was an average learning outcome of 89.04 with a standard deviation of 4.046 with the highest score of 95 and the lowest score of 80. For classes that were taught using Scramble learning model of 35 students obtained the average value of learning outcomes of 83.60 with a standard deviation of 4.113 with the highest score of 90 and the lowest score of 80 can be seen in the following table:

Table 3. Posttest score data for make a match class and scramble class

Data	Experiment 1th grade	Experiment 2th grade
N(Number of Samples)	36	36
Total Value	2223	2100
Average	89.04	83.60
Standard Deviation	4.046	4,113
variance	16,373	16,917
Highest Score	95	95
Lowest Score	81	80

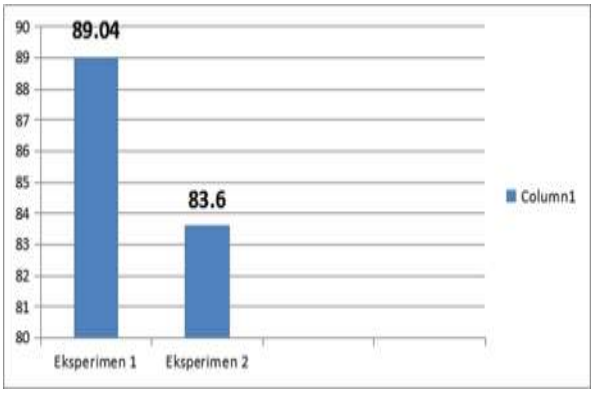

Figure 2. *Posttest average score data for make a match class and scramble class*

Based on the diagram above, the average posttest score after treatment in the class that was taught using the make a match learning model (experimental 1th grade) was 89.04 and the class that was taught using the scramble method (experimental 2th grade) was 83.60.

3.2. Research Result Data Analysis

The results of the calculation of the normality of research data that have been carried out in the experimental 1th grade and experimental 2th grade, it is found that the value of Sig. greater than 0.05. The value of Sig.(2-tailed) 0.105 > 0.05. This shows that the samples in both experimental classes are normally distributed. The homogeneity test of the data is known that the value of Sig. student learning outcomes of 0.952 > 0.05 as the basis for decision making in the homogeneity test that the data variance of student learning outcomes in experimental 1th and 2th grade is the same or homogeneous.

Hypothesis testing is done by using SPSS 22.0 for windows using t test. Based on the calculation results obtained the value of Sig.(2-tailed) is 0.000. Because 0.000 < 0.05 then Ho is rejected and Ha is accepted. The basis for decision making by comparing t arithmetic with t table data obtained as follows:

Table 4. Calculation Results of Hypothesis Testing (t-test) by comparing t count and t table

Variable	Experiment 1th grade	Experiment 2th grade
Number of Students (n)	36	36
Average value	89.04	83.60
Variance (S2)	16,373	16,917
Standard Deviation (S)	9,092	8,827
tcount	4,614	
table	2,020	

Based on the table above, we see that t count > t table, namely 4.14 > 2.020.

This research was conducted in two meetings, where the two selected sample classes were given different treatment. Before learning the subject of the excretory system, students were given a pretest first. This pretest is used to find out how far students already have knowledge about the lessons to be followed, namely the excretory system material.

From the results of the study obtained at the first meeting and the second meeting the average value of the pretest was obtained. Where the average value of the pretest for the experimental 1th grade which applies the make a match learning model and the experimental 2th grade which applies the scramble learning model, respectively, is 63.56 and 50.92.

At the end of the lesson, a posttest was carried out in both experimental classes to see how much increased the knowledge gained by students was. After the posttest was carried out with the application of the make a match learning model in the experimental 1th grade and the application of the scramble learning model in the experimental 2th grade, the average posttest score using the make a match method (experimental 1th grade) was 90.04 and the scramble method (experimental 2th grade)) is 94.60. The difference in the average posttest results in the class is 5.44, so it is possible that there is a difference between the two models applied, namely the make a match learning model with scramble to the Biology learning outcomes for class VIII students of SMP Negeri 2 Kualuh Selatan.

Hypothesis testing that has been carried out on the posttest results of the experimental class 1 which was taught using the make a match learning model with the experimental class 2 which was taught using the scramble learning model with the calculation results obtained the value of Sig.(2-tailed) 0.000 with a significant level of 0.05. Because the value of Sig. (2-tailed) < 0.05 then Ho is rejected and Ha is accepted, which means that there is a difference in the average student learning outcomes between the experimental class and the experimental class 2. Decision making is by comparing the value of t arithmetic with t table, if tcount > t table i.e. 4,614 > 2,020 it can be concluded that Ho is rejected and Ha is accepted, which means that there is a difference in the average student learning outcomes between the experimental class 1 and the experimental 2th grade.

Based on the results of research and discussion, the greater the range of differences in values obtained, the greater the increase in learning outcomes obtained. This is caused by the difference in the level of mastery of students' material on the excretory system material that has been taught after the application of different learning models in the two samples, namely the make a match learning model and the scramble learning model. So it can be stated that the student learning outcomes in the experimental 1th grade which applied the make a match learning model were better than the experimental 2th grade which applied the scramble learning model.

IV. Conclusion

Based on the results of the research and discussion, it can be concluded that in the experimental 1th grade which applied the Make a match learning model, the posttest average score was 89.04. This value has reached the specified KKM, which are 78. In the experimental 2th grade which applies the Scramble learning model, the posttest average score is 83.60. This value has reached the specified KKM value of 78. There is a significant difference between the cognitive learning outcomes of students in the class that applies the Make a match learning model and the class that applies the Scramble learning model on the Excretory System material. Students' cognitive learning outcomes in the Excretory System material were better in the class that applied the Make a match learning model compared to the class that applied the Scramble learning model.

Based on the conclusions above, the researchers convey the following suggestions: For teachers, namely: In applying the Make a Match and Scramble type cooperative learning model, the teacher should give more direction to students so that no students are confused during the learning process. This type of teacher should be more capable of students so that students' conditions are not too noisy. Teachers should be more varied in implementing learning models which are of course adapted to the characteristics of students and teaching materials. So that in participating in learning students will be more active and enthusiastic which will later affect student learning outcomes.

For Students With the application of this type of learning model, it is expected that students can get used to solving problems quickly and precisely. With the application of this type of make a match and scramble learning model, students should be able to actively participate in the learning process.

For schools, as an effort to improve the quality of learning and the need for schools to improve school facilities to support learning activities, schools should provide training to teachers, in order to become more competent teaching teachers, as well as to improve pedagogic competence to improve the quality of learning in schools class.

References

Anitah, Sri. (2009). Media Pembelajaran. Surakarta: Panitia Sertifikasi Guru Rayon 13 FKIP UNS Surakarta.

Berlian,Z., Aini,K., Nurhikmah,S. (2017). Pengaruh Model Pembelajaran Kooperatip Tipe Make a match terhadap Hasil Belajar Siswa pada mata pelajaran Biologi di SMP Negeri 10 Palembang. Jurnal Bioilmi.3(1). Diakses pada tanggal 28 Februari 2020.

Curran, L. (2010). Metode Pembelajaran Make A Match. Jakarta : Pustaka Belajar.

Djamarah, S.B. (2011). Psikologi Belajar. Jakarta: PT Rineka Cipta.

Gultom, M. (2018). Pengaruh Penggunaan Model Pembelajaran Cooperative Learning Tipe Make a Match Terhadap Hasil Belajar Biologi pada Materi Animalia Di Kelas X SMA Negeri 2 Rantau Selatan. Pusat Sains dan Matematika Sekolah UNESA.

Slameto. (2013). Belajar dan Faktor-faktor Yang Mempengaruhi. Jakarta: PT Rineka Cipta.

Gultom, H.S.B. (2017). Perbandingan Model Pembelajaran Make a Match dengan Scramble Terhadap Hasil Belajar Siswa pada Materi Ekosistem di SMA Negeri 1 Aek Natas. Jurnal Pembelajaran dan Biologi. 3(2) : 36-37.

Hamalik, Oemar. (2013). Proses Belajar Mengajar. Jakarta: PT Bumi Aksara

Huda, Miftahul. (2014). Model-model Pengajaran dan Pembelajaran: Isu-isu Metodis Dan Paradigmatis. Yogyakarta: Pustaka Pelajar.

Lubis , Anggiarti. (2012). Pengaruh Model Pembelajaran Scramble yang Disertai Post-Test Terhadap Hasil Belajar Biologi Siswa Kelas VIII MTs ALFURQAN Padang Tahun Ajaran 2011/2012. Padang.

Meria, Ani. (2011). Pengaruh Model Pembelajaran Scrambel Terhadap Hasil Belajar Biologi Siswa Kelas VIII SMPN 9 Padang Tahun Ajaran 2010/2011. Padang.

Mihtahul Huda. (2013). Model-model Pengajaran dan Pembelajaran. Yogyakarta: Pustaka Pelajar

Ilyas, M., A, Fitriani. (2014). Pembelajaran Matematika Melalui Model Kooperatif Tipe Make A Match dan Tipe Scramble pada Siswa Kelas VII SMP Negeri 4 Palopo. Jurnal Sainsmat, III (1) : 62-65.

Nazliah,R., Harahap,D.R., Hasibuan,R.E. (2019). Pengaruh Model Pembelajaran Mind Mapping Terhadap Hasil Belajar Siswa Pada Materi Respirasi di Kelas XI SMA Negeri 2 Bilah Hulu. Jurnal Biolokus. 2(2) : 180-185.

Philips, S. (2020). Education and Curriculum Reform: The Impact They Have On Learning. Budapest International Research and Critics in Linguistics and Education (BirLE) Journal. P. 1074-1082.

Sanjaya, W. (2016). Strategi Pembelajaran Berorientasi Standar Proses Pendidikan. Jakarta: Kencana Prenada Media Group.

Soedjadi, R. (2007). Masalah Kontekstual sebagai Batu Sendi Martematika Sekolah. Surabaya:

Sugiyono. (2009). Metode Penelitian Pendidikan. Bandung: Alfabeta.

Sukiman. (2013). Pengembangan Sistem Evaluasi. Yogyakarta:Insan Madani

Suprijono, A. (2012). Cooperative Learning Teori & Aplikasi Paikem. Yogyakarta: Pustaka Belajar.

Wibawa, Basuki et al. (2001). Media Pengajaran. Bandung: CV. Maulana.