e-ISSN: 3062-7109
Proceeding International Conference on Learning Community (ICLC)
Volume 1 No 1, 2024
https://jurnal.untirta.ac.id/index.php/iclc/index

The Effect of Jigsaw Type Cooperative Learning Model on Communication Skills of Junior High School Students on the Classification of Living Things Material

Aviana Aprilia Fatikhatin[1], Siska Ayu Wulandari[2], Agus Santoso[2]

[1,3]Program Studi Pendidikan IPA Fakultas Keguruan Dan Ilmu Pendidikan, Universitas Islam Lamongan

email correspondence: apriliaaviana346@unisla.ac.id[1] , siskaayu@unisla.ac.id[2], agussantoso@unisla.ac.id[3]

ABSTRACT

This research is motivated by teachers who are less varied in applying learning models so that students are less active during the learning process which results in information conveyed not being received properly so that students' communication skills are low. This study aims to determine the effect, implementation and student response to jigsaw type cooperative learning on students' communication skills on the material of classification of living things. This research used quasi-experimental design method. The design form of Nonequivalent Control Group Design of sample determination using cluster random sampling technique, the population in the study was all students of class VII SMP Negeri 2 Babat consisting of 4 classes totaling 101 students. Data analysis techniques used learning implementation analysis to measure learning implementation, paired sample T-Test and N-Gain test, to measure the effect of jigsaw type cooperative learning model on students' communication skills, and student response analysis to measure students' response to jigsaw type cooperative learning on students' communication skills. The results showed 1) the overall learning implementation was 89.83333 which has a very good category. 2) paired sample T-Test of 0.000 which shows a significant influence between the learning model and communication skills reinforced by the N-Gain test of 0.86 which has a very good category. 3) analysis of student responses has an overall percentage value of 89.04 which means that student responses are very good after implementing learning using the jigsaw model.

Keywords: communication skills, classification of living things, jigsaw cooperative learning.

INTRODUCTION

Indonesia's education system has considerable obstacles in producing high-quality human resources that can compete in the ASEAN economy. The effort to prepare superior human resources is educatio (Winatha & Setiawan, 2020). The quality of education is currently being pursued by the government, quality education is a concern for all parties including the community. The quality of education has become a very serious topic in recent years, this is because the quality of education is a benchmark for the quality of graduates (Alifah, 2021). Education that still uses the lecture method when conducting the teaching and learning process will not motivate students' interest in learning (Yasmine Nazla, 2018).

According to Herawati & Irwandi, (2019) learning is trying to change individual behavior. The changes that occur are not only limited to increasing knowledge, but changes that occur include skills, attitudes, self-esteem, interests, character, and self-adjustment, so that learning can be interpreted as a series of activities to develop a person into a perfect individual which includes elements of creation, taste and spirit, cognitive, affective and psychomotor domains. Currently there are various kinds of learning models, but based on the results of interviews with Natural Science subject teachers at school teachers are less varied in applying the learning models used in the learning and teaching process so that students are less active and tend to be passive when the learning process is carried out. Currently, the teacher is still the center of information, making the teaching and learning process boring and less fun so that the information conveyed by the teacher is not well received by students so that student learning outcomes are not optimal.

There are many models of cooperative learning. The following are various types of cooperative learning models (a) Student Teams Achievement Division (STAD) (b) Jigsaw (c) Team Game Tournament (TGT) (d) Team Assisted Individulisation (TAI) (e) Cooperative Integreted Reading and Composition (CIRC) (Rusmanto, Febrian Andi Hidayat, 2019). The cooperative learning model used in this study is the jigsaw type cooperative learning model. Jigsaw type cooperative learning according to (Krisna Anggraeni & Devi Afriyuni Yonanda, 2018) is a cooperative learning model and easy for teachers to do in the classroom. In jigsaw learning, students are divided into groups with members who have different characteristics called origin groups, then these origin groups are divided into expert groups. The task of each student in the expert group is to understand a topic that has been given by the teacher and then teach it to the group of origin so that it can improve students' communication skills (Krisna Anggraeni & Devi Afriyuni Yonanda, 2018).cooperative learning. The following are various types of cooperative learning models (a) Student Teams Achievement Division (STAD) (b) Jigsaw (c) Team Game Tournament (TGT) (d) Team Assisted Individulisation (TAI) (e) Cooperative Integreted Reading and Composition (CIRC) (Rusmanto, Febrian Andi Hidayat, 2019). The cooperative learning model used in this study is the jigsaw type cooperative learning model. Jigsaw type cooperative learning according to (Krisna Anggraeni & Devi Afriyuni Yonanda, 2018) is a cooperative learning model and easy for teachers to do in the classroom. In jigsaw learning, students are divided into groups with members who have different characteristics called origin groups, then these origin groups are divided into expert groups. The task of each student in the expert group is to understand a topic that has been given by the teacher and then teach it to the home group so that it can improve students' communication skills (Krisna Anggraeni & Devi Afriyuni Yonanda, 2018).

According to the results of research Armanto et al., (2014) showed that the achievement of the results of students' mathematical reasoning and communication skills with jigsaw type cooperative learning was better than the class that used the STAD type cooperative learning model, so it can be stated that the improvement of students' communication skills using the jigsaw type cooperative learning model is better than students taught using the STAD type cooperative learning model. In the research of Aeni et al., (2017) there are differences in students' oral communication skills between the application of the jigsaw type cooperative learning model accompanied by practicum and guided discovery learning model, the jigsaw type cooperative learning model accompanied by practicum is sensitive to oral communication skills at the oral presentation stage so that the jigsaw learning model can be used to train speaking skills. Based on the research of Sholihah et al., (2016) which shows the results that the communication skills of junior high school students can be developed with the jigsaw method because the jigsaw type cooperative learning model is able to improve students' communication skills through expert group discussions and origin groups that can improve understanding of the material.

According to Inten, (2017) communication skills are something that has an important role for students' lives with their thoughts to others. From the observations at SMP Negeri 2 Babat, students' communication skills are still low, because teachers only focus on students' cognitive learning outcomes so that students' communication skills are still low. Milawati in Fitriah et al., (2020) explains the advantages of students who have communication skills, among others, students will more easily understand what the teacher says when doing learning in the classroom, students can ask questions and communicate ideas and when students experience difficulties in the learning that is being done students dare to ask questions well.

This research will assess 1.) The implementation of the jigsaw type cooperative learning model on the communication skills of junior high school students on the material of Classification of Living Things 2.) The effect of jigsaw type cooperative learning model on communication skills of junior high school students with the material of Diversity of Living Things. 3.) Students' responses after the application of jigsaw type cooperative learning to the communication skills of junior high school students on the material of Classification of Living Things. In previous studies, not many have discussed the material of Diversity of Living Things with cooperative learning models so that the novelty in this study is the material of classification of living things.

RESEARCH METHODS

a.) Place And Time Of Research
This research will be conducted at SMP Negeri 2 Babat which is located on KH Ahmad Dahlan Street, Moropelang, Babat District, Lamogan Regency, East Java. The population used in this study were all 7th grade students of SMP Negeri 2 Babat with a total of 101 students, which were divided into 4 classes with a division of class 7A 27 students, class 7B 25 students, class 7C 25 students and class 7D 24 students.
b.) Research Design
The research design used in this study is "quasi-experimental design" the form of design used in this study is "Nonequivalent Control Group Design". To determine the sample in the population used in the study using cluster random sampling technique. In this study, the sample to be used is 2 classes from 4 classes randomly. The two classes each totaled 25 students who represented the population with different characteristics.
c.) Research Variables
The variables in this study consisted of the independent variable, namely the jigsaw-type cooperative learning model, the dependent variable of students' communication skills and the control variable of the material on the diversity of living things.
d.) Research Instrument
The instruments used in this study were a student response questionnaire sheet containing 10 bullets of questions to determine student responses to the jigsaw type cooperative learning model on student communication skills, teacher activity observation sheets to measure the implementation of the jigsaw type cooperative learning model on student communication skills, communication skills observation sheets to measure student communication skills consisting of 5 indicators, with measurements of 4 to 1 respectively. After obtaining pretest and posttest data for each group, the data will be tested using normality test, homogeneity test, hypothesis testing with the help of SPSS-26. Then, N-Gain test, learning implementation analysis and student response questionnaire analysis using Microsoft excel.

RESULTS AND DISCUSSION

Result

The research data in the form of pretest and posttest scores will be tested for normality using the Kolmogorov-Smirov method. the results of the normality test are presented in Table 1.

Table 1. Pretest data normality test results

	Class	Statistic	Df	Sig.
Result	Pre-test Eksperimen	0.161	25	0.093
	Pre-test Kontrol	0.132	25	.200*

In table 1 the results of the pretest data normality test using the significance of the experimental class value of 0.093 and in the control class of 0.200 which means that it is normally distributed, therefore data analysis using parametric statistics. Furthermore, the normality test on posttest data which has been listed in table 2

Table 2. Posttest data normality test results

	Class	Statistic	Df	Sig.
Result	Post-test Eksperimen	0.16	25	0.097
	Post-test Kontrol	0.161	25	0.094

In table 2 the results of the post-test data normality test using the experimental class value of 0.097 and the control class of 0.094 which means that it is normally distributed, therefore data analysis using parametric statistics. Furthermore, the data will be tested for homogeneity presented in table 3.

Table 3. Pretest data homogeneity test table

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	0.725	1	48	0.399
	Based on Median	0.445	1	48	0.508
	Based on Median and with adjusted df	0.445	1	42.993	0.508
	Based on trimmed mean	0.695	1	48	0.409

Seen in table 3 the results of the homogeneity test using the pretest class value by looking at the significance value based on the mean of 0.399 which means the data has a homogeneous variance. Furthermore, the posttest data homogeneity test has been presented in table 4.

Table 4. Posttest Data Homogeneity Test Table

		Levene Statistic	df1	df2	Sig.
Hasil	Based on Mean	3.177	1	48	0.081
	Based on Median	2.667	1	48	0.109
	Based on Median and with adjusted df	2.667	1	43.548	0.11
	Based on trimmed mean	3.174	1	48	0.081

It can be seen in table 4 the results of the posttest data homogeneity test with a significance value based on mean of 0.081 which means it has a homogeneous variance. Furthermore, hypothesis testing was carried out using paired sample T-Test which is presented in table 5.

Table 5. Paired sample T-Test test

					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	pre-test - post-test	-31.600	8.129	1.626	-34.956	-28.244	-19.436	24	.000

Based on the data in table 5, it can be seen that the significance level is 0.000 or 0.000 <0.05, this indicates that Ha is accepted and Ho is rejected or the jigsaw type cooperative learning model is effective for improving students' communication skills. Furthermore, the N-Gain test was used to strengthen the effect of the jigsaw type cooperative learning model on students' communication skills which is presented in table 6.

Table 6. N-Gain Test Table

Class	N	Pretest	Posttest	Gain	N-Gain
Eksperimen	100	48.8	80,4	30	0.68

Kontrol	100	48,2	72,8	24,6	0.48

Table 6 shows that the first row with a sample size of 25 students shows a pretest value of 48.8, a posttest value of 80.4, a range of pretest and posttest values (Gain) of 30 with an N-Gain of 0.68 which is stated in the moderate category. The second row with a sample size of 25 students shows a pretest value of 48.2, a posttest value of 72.8, a range of pretest and posttest values (Gain) of 24.6 with an N-Gain of 0.48 which is stated as a moderate category. further analysis of student responses is presented in table 7.

Table 7. Analysis of Student Response Questionnaire

Inquiry	Precentage Value	Category
1	95.2	Very Good
2	85.6	Very Good
3	90.4	Very Good
4	93.6	Very Good
5	95.2	Very Good
6	87.2	Very Good
7	80.8	Very Good
8	84	Very Good
9	85.6	Very Good
10	92.8	Very Good
Average	89.04	Very Good

Based on table 7, the student response questionnaire consists of 10 questions to find out students' opinions about the application of learning carried out on communication skills. Based on the table, it can be seen the total score of each statement. After calculating the average of all questions, the average percentage of student responses was 89.04. This number is included in the very good category. Therefore, it can be said that students' responses to the application of the jigsaw type cooperative learning model to students' communication skills are very good. Next, the analysis of learning implementation is presented in Table 8.

Table 8. Learning Implementation Analysis Table

Aspects Observed	Skor Penilaian				Average
	Meeting 1	Meeting 2	Meeting 3	Meeting 4	
Pendahuluan	87	87	92	100	91.5
Kegiatan Inti	91	87	90	91	89.75
Penutup	79	87	87	100	88.25
Rata-Rata Keseluruhan					89.83333

Table 4.12 shows the average results of the learning implementation sheet with the jigsaw model obtaining the appropriate average value in each aspect. In the introduction, it was 91.5, in the core activities it was 89.75, and the closing was 88.22. So that the overall average of the implementation of the jigsaw type cooperative learning model is 89.83333 which is included in the very good category.

Discussion

Based on the results of data analysis of the implementation of learning with the jigsaw type cooperative learning model, it can be shown on the overall average of the implementation of the jigsaw type cooperative learning model on the communication skills of junior high school students on the material of classification of living things which is 89.83333 which is included in the very good category. Gusmulyadin R, (2022) which showed the results of the implementation of learning, students conducted group discussions seriously and there was good interaction between students so that it could be concluded that the learning process using the jigsaw type cooperative model could run

well. Based on previous research, jigsaw cooperative learning can not only improve learning implementation but also encourage students to actively interact with peers.

The results of hypothesis testing showed that the jigsaw type cooperative learning model could improve students' communication skills because in the learning process the jigsaw type cooperative learning model gave students the freedom to express their opinions during discussions. This is in line with the research conducted by Sholihah et al., (2016) which states that the jigsaw type cooperative learning model is able to improve students' communication skills because in jigsaw type cooperative learning students are required to be able to communicate back the material they have obtained while in the expert group. Research conducted by Rizki, (2019) which states that the jigsaw type cooperative learning model can improve students' communication skills so that it affects students' learning outcomes which increase.

Most of the students' answers stated that it was very good in the application of the jigsaw type cooperative learning model to improve students' communication skills on the classification of living things. This is in line with research Azahari, (2024) which states that the average value of the percentage of student responses is 76.77% with a good category. research conducted by Gusmulyadin R, (2022) which shows the percentage of students who answered yes 75.67% and students who answered no 24.33%, based on these results, most students agree with the jigsaw model learning.

CONCLUSIONS

From the results of the research that has been carried out, it is concluded that:

1.) The implementation of learning in the teaching module using the jigsaw type cooperative learning model on student communication skills has a very good category with an overall average learning implementation of 89.83333.

2.) The significant effect of the jigsaw type cooperative learning model on students' communication skills on the material of classification of living things with a significance value of paired sample t-test of 0.000. The significant effect of the jigsaw type cooperative learning model is also reinforced by the increase in the N-Gain value of the Experimental class and the Control class of 0.86 and 0.48, which are respectively included in the high and medium categories.

3.) Students' responses after the implementation of learning using the jigsaw type cooperative learning model on students' communication skills with an overall average score of 78 in the very good category.

REFERENCES

Aeni, A. A., Ariyanto, J., & Santosa, S. (2017). Studi Komparasi Capaian Keterampilan Komunikasi Siswa Antara Penerapan Model Kooperatif Tipe Jigsaw Disertai Praktikum dengan Model Guided Discovery pada Siswa Kelas XI IPA SMAN 3 Boyolali The Comparative Study of Student Communication Skills Achievement . *Proceeding Biology Education Conference*, *14*(1), 340–346.

Alifah, S. (2021). Peningkatan Kualitas Pendidikan Di Indonesia Untuk Mengejar Ketertinggalan Dari Negara Lain. *CERMIN: Jurnal Penelitian*, *5*(1), 113. https://doi.org/10.36841/cermin_unars.v5i1.968

Armanto, S., Armanto, D., & Harahap, M. B. (2014). Perbedaan Penerapan Model Pembelajaran Kooperatif Tipe Jigsaw dan STAD Ditinjau dari Kemampuan Penalaran dan Komunikasi Matematis Siswa SMA. *Jurnal Didaktik Matematika*, *1*(1).

Azahari, A. (2024). *PENGARUH MODEL PEMBELAJARAN KOOPERATIF TIPE JIGSAW TERHADAPPendidikan, J., Islam, A., Ilmu, F., Dan, T., Islam, U., Syraif, N., & Jakarta, H. (2024). PENGARUH MODEL PEMBELAJARAN KOOPERATIF TIPE JIGSAW TERHADAP KETERAMPILAN KOMUNIKASI SISWA PADA MATA PELAJ*.

Fitriah, P. I., Yulianto, B., & Asmarani, R. (2020). Meningkatkan Keterampilan Komunikasi Siswa Melalui Penerapan Metode Everyone Is A Teacher Here. *Journal of Education Action Research*, *4*(4), 546. https://doi.org/10.23887/jear.v4i4.28925

Gusmulyadin R. (2022). *Pengaruh Lingkungan Organisasi Dan Kepercayaan Diri Terhadap Keterampilan Komunikasi*. 7–21.

Herawati, L., & Irwandi. (2019). Pengaruh Model Pembelajaran Kooperatif Tipe Jigsaw Terhadap

Hasil Belajar dan Berpikir Kritis Siswa Pada Mata Pelajaran IPA di SMP Negeri 09 Lebong. *Prosiding Seminar Nasional Sains Dan Entrepreneunship Vi*, 1–9. http://conference.upgris.ac.id/index.php/snse/article/view/211

Inten, D. N. (2017). Pengembangan Keterampilan Berkomunikasi Anak Usia Dini Melalui Metode Bermain Peran. *Mediator: Jurnal Komunikasi*, *10*(1), 109–120. https://doi.org/10.29313/mediator.v10i1.2712

Krisna Anggraeni, & Devi Afriyuni Yonanda. (2018). Efektivitas Bahan Ajar Berbasis Kearifan Lokal Dalam Model Pembelajaran Teknik Jigsaw Terhadap Keterampilan Menulis Deskripsi. *Visipena Journal*, *9*(2), 385–395. https://doi.org/10.46244/visipena.v9i2.467

Rizki, S. (2019). Peningkatan Keterampilan Berkomunikasi Melalui Model Pembelajaran Kooperatif Jigsaw. *Jurnal Bidang Pendidikan Dasar*, *3*(2), 1–8. https://doi.org/10.21067/jbpd.v3i2.3224

Sholihah, H. A., Koeswardani, N. F., & Fitriana, V. K. (2016). Metode Pembelajaran Jigsaw Dalam Meningkatkan Ketrampilan Komunikasi Siswa SMP. *Prosiding Konferensi Pendidikan Nasional*, 160–167.

Winatha, K. R., & Setiawan, I. M. D. (2020). Pengaruh Game-Based Learning Terhadap Motivasi dan Prestasi Belajar. *Scholaria: Jurnal Pendidikan Dan Kebudayaan*, *10*(3), 198–206. https://doi.org/10.24246/j.js.2020.v10.i3.p198-206

Yasmine Nazla. (2018). Pembelajaran Menyenangkan Pada Masa Pandemi dengan Metode Game Based Learning (GBL). *Program Studi Pendidikan Bahasa Dan Sastra Indonesia*,. https://osf.io/3yzqf/download/?format=pdf