



APPLICATION OF JIGSAW TYPE COOPERATIVE LEARNING TO STUDENT LEARNING OUTCOMES IN CLASS IX SMP NEGERI 2 NGABANG

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Abstract

This research aimed to find out: the average student learning outcomes before being given the Jigsaw-type cooperative learning model affect student learning outcomes, the average student learning outcomes after being given the model Jigsaw type cooperative learning on student learning outcomes, and to determine the effect of implementing the Jigsaw type cooperative learning model on student learning outcomes in the introduction of hardware and software material in class IX of SMP Negeri 2 Ngabang. The independent variable was the Jigsaw-type cooperative learning model, while the related variable was learning outcomes. In this research, researchers used experimental research methods, a quasi-experimental design research form with a nonequivalent control group design. The population in this research was all students in class IX of SMP Negeri 2 Ngabang, Landak Regency, totaling 233 students. The sampling technique used was purposive sampling. Data collection techniques used measurement techniques. The data analysis technique from the results of this research was the t-test. The results that were known after conducting this research were that there was a significant interaction effect between the use of the Jigsaw-type cooperative learning model on student learning outcomes. The average score of student learning outcomes using the Jigsaw learning model was higher than the average score of student learning outcomes using the conventional learning model (lecture), there was a significant difference in learning outcomes between those taught using the Jigsaw cooperative learning model and the conventional learning model (lecture).

Keywords: Jigsaw, cooperative learning, learning outcomes

INTRODUCTION

Education is an effort to prepare the younger generation to face developments in the global era. Education must be implemented as well as possible to produce quality education. Advances in science and technology have a huge influence on various areas of human life, one of which is education. Apart from that, the use of information technology makes students more interested and fosters a high enthusiasm for learning.

From generation to generation, teaching and learning activities always experience development, which is triggered by increasingly advanced developments. Learning methods are also required to be able to evolve with the times. However, the use of technology among students mainly uses computer hardware as a learning medium. The ability to understand computer software and hardware for both teachers and students is very important so that schools can be independent in dealing with computer troubleshooting.

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Apart from that, providing knowledge about computers is also important for students in the world of work or entrepreneurship in the field of computerization. Education and teaching is a goal-conscious process. What this means is that teaching and learning activities are events that are bound, goal-directed, and carried out to achieve goals (Sardiman, 2009).

The teaching and learning process cannot be separated from the student and teacher components. Learning components will be interconnected and influence each other to achieve the expected learning goals. The teaching and learning process is declared successful if all students achieve learning outcomes following the predetermined KKM score limits.

Learning outcomes are the abilities that students have after receiving their learning experience. Learning outcomes are an assessment of what students receive following learning about a certain body of knowledge, in other words, learning outcomes explain whether students are successful or not in learning which is known through value points, statements, understanding, or the ability to reflect on the knowledge obtained correctly (Hakiki & Fadli, 2021).

Learning outcomes are influenced by learning approach factors which include strategies and models used by teachers to carry out learning activities (Hakiki, 2020). Effective learning is a teaching and learning process that is not only focused on the results achieved by students but also on good learning processes, intelligence, perseverance, opportunities, and quality and can provide behavioral changes in their lives. Apart from utilizing existing facilities, it is necessary to change learning models to improve student learning outcomes.

Cooperative learning is a learning strategy that spurs individual progress through groups (Mikrayanti, 2020; Megawati et al., 2021). Jigsaw-type cooperative learning is a type of cooperative consisting of several members in a group who are responsible for mastering parts of the learning material and can teach these parts to

other members in their group (Asnawi et al., 2020).

The Jigsaw-type cooperative learning model influences students' ability to understand learning concepts and increases students' understanding of students' learning problems and can solve problems (Harefa et al., 2022). The Jigsaw-type cooperative learning model has a very good effect in improving student learning outcomes (Kasih et al., 2019). There is an influence of the Jigsaw learning model on learning outcomes in volleyball under passing (Hamzah et al., 2019).

Jigsaw as a type of cooperative learning (cooperative learning) with learning creativity is a learning pattern that will make it easier for students to remember and memorize lesson material and can influence and improve student learning outcomes (Kurniasih et al., 2022). The Jigsaw learning model can improve the science learning outcomes of class VIII students at SMP Negeri 7 North Halmahera (Hidayah, 2023).

Implementing the Jigsaw-type cooperative learning model in social studies learning in class VII H, can increase learning activities and student learning outcomes and can change the learning atmosphere more effectively (Suparta et al., 2020). The use of the Jigsaw learning model can improve the learning outcomes of class 9C students at SMP Negeri 8 Bogor (Suratini, 2021). Judging from the average score, the value of Jigsaw-type cooperative learning was better than conventional in class VII Biology Science lessons at SMP Negeri 09 Lebong (Herawati & Irwandi, 2019).

The average student learning outcome after using Jigsaw cooperative learning was 68.6, relatively good (Feladi et al., 2022). Achievement of learning competency in informatics subjects for class IX middle school students is not as expected due to several factors, including different student motivations which are also predicted to have a different influence on the achievement of basic competencies in this subject, the learning models and methods chosen by teachers in the process learning.

The learning process strives for meaningful learning activities through

learning strategies, discussions, group work, and solving problems and drawing conclusions. Of the many cooperative learning models, researchers only apply the Jigsaw-type learning model. By implementing the Jigsaw learning model in the introductory hardware and software material in class IX of SMP Negeri 2 Ngabang, it is hoped that it can improve students' cognitive learning outcomes so that later students can achieve higher grades compared to conventional learning that has applied in schools and can help improve the quality of students.

Based on the results of interviews with class IX teachers at SMP Negeri 2 Ngabang, the teaching and learning process still uses the conventional learning model, namely by educators explaining and students listening. The learning process is focused on the teacher and less focused on the students. As a result, students easily get bored without paying attention to the teacher during the teaching and learning process.

When learning is taking place, sometimes not all students in the class follow the learning procedures designed by the teacher so that the learning process runs conducive, but some students have not shown active student involvement in the learning process, such as there are students who just remain silent during the learning process.

Learning process, some students are busy chatting and joking with their classmates, and some students cannot stay still. So student learning activity is still low during the learning process, and this has an impact on student learning outcomes. This can also be seen from the level of student achievement which is still below the KKM (Minimum Completeness Criteria) set at 80.

Based on the explanation above, the researcher took the Jigsaw-type cooperative model because, in the learning process, they still have not found an effective learning model for the teaching and learning process. In this model, each team member is responsible for mastering the subject matter assigned to him, and then teaching the material to friends. another group. In this way, students will depend on each other and work together cooperatively to learn the

assigned material. The existence of demands in the group will make each student feel responsible for providing the best for their group.

METHOD

In this research, the researcher used a quantitative descriptive research method, namely a research method with the main aimed of creating an overview or description of a situation or objective and solving a problem by searching for data regarding the problem being studied following research procedures. A form of quasi-experimental research (quasi-experimental design) was used. The nonequivalent control group design research design was a research design that uses two groups, namely a control group and an experimental group.

The data collection technique in this research was a measurement technique using multiple choice questions as a data collection tool. The analysis requirements analysis technique used SPSS which consists of a normality test. Meanwhile, hypothesis testing used the t-test.

RESULTS AND DISCUSSION

Data on pretest scores in the experimental class obtained a valid sample size of 29, mean score = 50.38, median score = 50.00, standard deviation = 11.1, minimum score = 33, and maximum score = 73. Pretest score data in the control class was obtained The number of valid samples is 30, mean score = 46.20, median value = 43.00, standard deviation = 11, minimum value = 33, and maximum value = 73.

Data on posttest scores in the experimental class obtained a valid sample size of 29, mean score = 81.17, median score = 80.00, standard deviation = 8.8, minimum score = 67, and maximum score = 97. Posttest score data in the control class was obtained The number of valid samples is 30, mean score = 68.90, median value = 70.00, standard deviation = 11, minimum value = 47, and maximum value = 87.

Based on the normality test, the Kolmogorov test showed that the results of Asymp. Sig (2-tailed) for pretest and

posttest data on learning outcomes for both the experimental class and control class has a sig value > 0.05 , so it can be concluded that this group of data was normally distributed.

Based on the results of the t-test, the pretest and posttest data on learning outcomes for both the experimental class and control class were -54.55 and -33.60, which means they have a sig value of < 0.05 , so it can be concluded that the data group was significant or which means that there was an influence between the independent variable and the dependent variable.

The pretest and posttest were carried out to obtain data on student learning outcomes using 30 multiple-choice questions with the hope that the maximum score obtained was 100. Learning outcomes before and after treatment were given in the experimental class and control class. It can be seen from the pretest scores that experimental class students obtained an average score of 50.38 with sufficient criteria, while the control class obtained an average score of 46.20 with sufficient criteria.

After knowing the pretest scores of the experimental class and control class, no significant differences were found. Then each class was given a different treatment. In the experimental class, the Jigsaw-type cooperative learning model was applied, while the control class was applied to the lecture learning model. After the two classes received different treatments, a final test was carried out, namely a posttest, which was the same as when collecting data on the results of the previous pretest.

The posttest score in the experimental class was 81.17 with very good criteria, while the posttest score for the control class was 68.90 with good criteria. The experimental class had a higher average score than the control class with a significant difference. It can be concluded that the Jigsaw-type cooperative learning method had better learning results compared to the lecture learning model.

Then, after testing the hypothesis, the normality test results obtained from the

pretest and posttest results showed that the two groups had a normal distribution. The homogeneity test results also showed that the two classes were homogeneous which can be seen from the significant figures. The results of the pretest and posttest t-test results showed that h_1 and h_2 were accepted, which means that there was a mean difference between the two sample groups.

Next, in the t-test analysis by looking at the sig. (2-tailed) < 0.05 , meaning that the average value of the control and experimental classes is different, which means there was an influence between the independent variable and the dependent variable.

Based on the description above, it can be concluded that there was an influence of the Jigsaw-type cooperative learning method on student learning outcomes in the introduction of hardware and software material for class IX students at SMP Negeri 2 Ngabang. Thus the hypothesis that states "There is an influence of the Jigsaw-type cooperative learning method on the learning outcomes of class IX students at SMP Negeri 2 Ngabang" was accepted. This is reinforced by the results of data analysis which showed that the average value of class IX as the experimental class was better than class IX H as the control class.

CONCLUSION

Based on the research data processing, it can be concluded that the results known after conducting this research were that there was a significant interaction effect between the use of the Jigsaw-type cooperative learning model on student learning outcomes. The average score of student learning outcomes using the Jigsaw learning model was higher than the average score of student learning outcomes using the conventional learning model (lecture). Student learning outcomes have increased as indicated by the pretest and posttest scores because before implementing the Jigsaw-type cooperative learning model, many students' learning outcomes had not yet reached the KKM with an average of 50.38. After implementing the Jigsaw-type cooperative learning model,

student learning outcomes became better. With an average of 81.17, there was a significant difference in learning outcomes between those taught using the Jigsaw-type cooperative learning model and the conventional learning model (lecture). The learning outcomes of students in the group who studied by applying the Jigsaw learning model were better than those in the group of students who studied by applying the conventional learning model.

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