Effects of Cooperative Learning Model Send Greetings and Problems Type Activity and Results of Learning

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Abstract

This research is an experimental study whose purpose is to determine whether there is an effect of the cooperative learning model type sending greetings and sending questions on the activities and learning outcomes of vocational students' mathematics. The subjects of this study were students of X-KPW 1 and X-KPW 2 of SMK Muhammadiyah 1 Malang City in the 2020/2021 academic year as many as 20 people in each class. To collect data about mathematics learning activities, students use observation sheets during learning activities and learning outcomes tests are used to determine students' mastery of learning materials. Then the data obtained were analyzed with a quantitative approach. Based on the MANOVA test, the significance value of activity and learning outcomes is 0.000, which means that H0 is rejected. The conclusion is that the cooperative learning model of sending greetings and questions has a significant influence on student activities and learning outcomes there are differences in the average activity and learning outcomes of students using conventional learning.

Keywords: Activities; Sending Greetings and Sending Questions; Learning Outcomes; Cooperative Learning Model

INTRODUCTION

The teacher is an intermediary for the success of educational goals (Way, Sihkabuden, & Susilaningsih, 2016). In the learning process, teachers should encourage activity, enthusiasm, and cooperation of students through a variety of teaching methods appropriate to the learning objectives (Baeti & Mikrayanti, 2018). Likewise, with the opinion of Bey & Asriani (2013), teacher activities are oriented toward student activity by presenting learning materials and creating conducive learning conditions for the best learning. While Nurzalbiah, Djalil, and Asnawati (2013) say that the activity of students in the class is just to listen and criticize the teacher's explanation, and there is no other activity when the learning process takes place. Therefore, high learning activities affect the learning process.

Based on their opinions, Utami, Arcat, & Hardianto (2015) required a good learning model to develop student learning outcomes. The result of learning is learning goals already achieved by the students. Learning outcomes evaluate students' attitudes, values, and skills at the end of each class (Monica & Octavia, 2019). Meanwhile, according to Susilowati (2017), At the end of the learning process, you will see changes in the behavior of students who refers to the learning outcomes.

Based on observations conducted by researchers at one vocational school in Malang, during the learning process, teachers use only conventional learning models, and student learning outcomes do not yet meet the standards of completeness in learning. According to Yahya & Bakri (2020), mathematics teaching and learning activities for SMK students are less enthusiastic when learning, this shows that the learning activities of SMK students are still low. While Bungsu et al. (2018) said that the problems of vocational students learning mathematics thought that mathematics was difficult and stressful, which resulted in a decrease in learning outcomes seen from the results of the midterm exam. It can be concluded that the model of learning in Vocational High School was less effective, and the results of students' mathematics learning need to be improved.

From the problems described, the researcher intends to apply the Cooperative Learning Model Types of Sending Greetings and Sending Questions to improve the activities and learning outcomes of SMK students. The cooperative learning model of the type of sending greetings and questions is a cooperative learning model that encourages students to create questions related to the material given, then the questions are sent to other groups accompanied by greetings or yells (Mariyanti, 2019). Meanwhile, Pudjantoro (2016) also stated that greetings or yells could make a large enough contribution to foster cohesiveness when in groups. Meanwhile, Setiyorini (2014), said that the cooperative learning model of sending greetings and sending questions aims to make learning active and not boring to improve learning outcomes. In addition, in this type of cooperative learning model, sending greetings and questions can optimize student activities and learning outcomes so that teaching and learning activities are more fun (Sumarni, 2016).

The previous study using the model application pembe l teachings cooperative send greetings and questions result in positive student learning outcomes. According to Mariyanti's research (2019), the application of the learning model of sending greetings and questions can improve students' understanding and learning outcomes using the CAR method, the difference with this study using experimental research methods and focusing on student activities and learning outcomes. The study by Baeti & Mikrayanti (2018) showed that the cooperative learning model sends an l am and sends about the impact on the ability of students' understanding of mathematics, the difference with this study will focus on the activity and student learning outcomes. In another research by Anwar & Haris (2011), the cooperative learning model sending greetings and questions can improve student activities and learning outcomes using the PTK method in basic chemistry courses, the different research that researchers will use experimental research methods and mathematics subjects for students SMK. Based on previous research, researchers will research the effect of the Cooperative Learning Model Type Sending Greetings and Sending Questions to improve the Mathematics Learning Activities and Outcomes of Vocational High School students by using experimental methods, observation sheet instruments, and test sheets.

According to the background that has been described, the problems in this study are; 1) Is there any effect of the cooperative learning model of sending greetings and sending questions on the mathematical activities of SMK students?

2) Is there any effect of the cooperative learning model of sending greetings and sending questions on the mathematics learning outcomes of SMK students? 3) Is there any effect of the cooperative learning model of sending greetings and sending questions on the activities and learning outcomes of SMK students' mathematics?

The objectives of this study are 1) to determine whether or not the application of the cooperative learning model of sending greetings and sending questions to the mathematical activities of SMK students has an effect, 2) to determine whether or not the application of the cooperative learning model of sending greetings and sending questions to the mathematics learning outcomes of SMK students, 3) determine whether or not the application of the cooperative learning model of sharing and sending questions has an effect on the activities and learning outcomes of vocational students in mathematics.

RESEARCH METHOD

The method used in this research is the method of quasi-experimental or quasi-experimental approach by using quantitative methods. While the experimental research design to be carried out in this study is a Posttest-Only Control Design. This research was conducted at SMK Muhammadiyah 1 Malang City by taking two samples of class X-KPW 1 and X-KPW 2. This study attracted the subject by studying the characteristics of students with the same treatment.

The instruments used were in the form of observation sheet instruments for student learning activities and test sheet instruments with a total of seven items describing the purpose of knowing how active and how capable the students were in learning the material. The sample class is a class that has an average learning outcome that is almost the same as seen in the UTS learning outcomes.

Data were analyzed in the form of student activity data in the form of a datasheet, student activity observation time of learning, the data in the form of learning outcomes of students, and the matter is done, inferential statistics. Inferential statistics are statistics used to analyze sample data where the results will be generalized to the selected sample population (Sugiono, 2010: 23). This study uses the MANOVA test as the prerequisite test stage in the form of the normality test (Kolmogorov-Smirnov test form) and homogeneity (in the form of Box's Test N). If the data obtained showed average results and was homogeneous, then followed by the MANOVA test. This test is used to determine the impact of independent variables on the dependent variable by comparing the average part of the population.

RESULTS AND DISCUSSION

This research was conducted at SMK Muhammadiyah 01 Malang City to know the effect of the cooperative learning model type greeting and questions on the activities and learning outcomes of experimental class students with the control class using direct or conventional learning models. Two classes of the sample is X-

KPW1 class as a class experiment with 20 people and the number of students of class X-KPW2 by the number of students 20 people. This study was run for 3 sessions twice a day for learning and post-test.

**Figure 1. The researcher describes the material to the students of class X-KPW1**

The activity in Figure 1. Occurs in the experimental class where the researcher explains the material related to the subject of function first and then continues with the division of several groups. Each group consists of four to five members. Furthermore, group representatives were appointed to take a paper presented by the researcher which contained names including codomain, arithmetic, domain, and function that would be used as a name for each group. After getting a paper containing the group's name, each group has the right to create identical yells from the name of the group and the questions according to the subject described by the researcher at the beginning. Each group sends questions that have been made by chanting greetings or yells that are identical to their group to other groups, group 1 asks questions and greetings to group 2, then group 2 asks questions and greetings to group 3, then group 3 throws questions and greetings in group 4 and group 4 convey questions and greetings to group 1.

Figure 2. Group 2 Sending Greetings and Questions to Other Groups

Figure 2. shows group 1 sending greetings as follows "Codomain of Spirit, Spirit, Spirit!". Group 2 sends greetings as follows "Arithmetic Definitely Can!".

Group 3 sends greetings as follows "There is an MTK Formula Domain to the left of the original number, not imitation like this heart. Group 3 is a bribe, yak". Group 4 sends greetings as follows "Function God willing!". Then each group discusses the questions obtained from the other groups to find solutions and then presents them at the end of the activity and matches them with the answers from the original group. This activity runs equally at the second meeting in the experimental class. Meanwhile, at the first and second meetings in the control class, the researcher only explained and asked questions to the students.
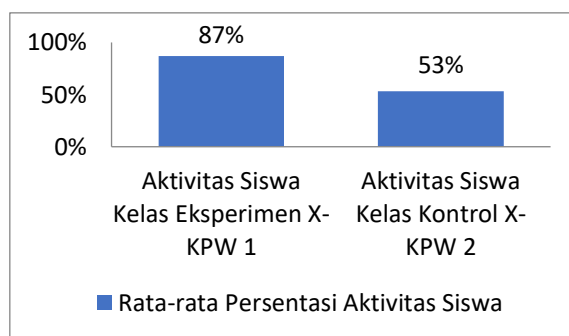
Figure 3. Diagram of the Average Student Activity Observation of Experiment Class X-KPW1 and Control Class X-KPW2

Figure 3 shows the results of the observation of learning activities, the data that has been processed has an average of 87% in the experimental class and 53% in the control class. And with the results of the Hypothesis Testing Between Subjects Effects on Activity Observation shows that the significance value of the observation of student learning activities is 0.000. If the significance value is < 0.05, the first hypothesis, H0 is rejected. Based on the significant value, it can be concluded that the cooperative model of the type of sending greetings and questions has an effect on activity.

In the experimental class, students pay more attention to the teacher during learning, then students also pay attention to other students who present the results of sending greetings and sending questions. Some students in the experimental class also asked other groups who were still confused. Students work together to solve a problem related to the material presented. As for the control class, students tend to just listen to what the researcher explains and take notes on what the teacher presents on the blackboard. Control class students also rarely asked the teacher or other students. And some students pay less attention to the teacher when delivering the material.
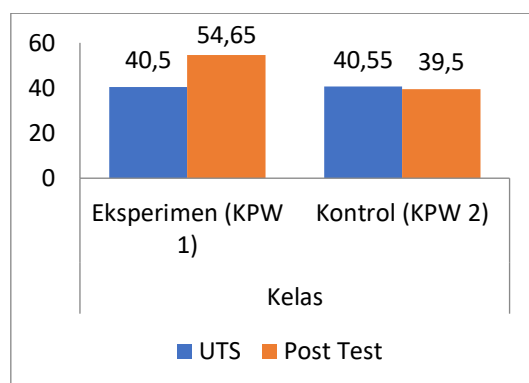
Figure 4. Learning Outcomes Diagram of Experiment Class and Control Class

It can be seen in Figure 4. The learning outcomes of the experimental class and control class students from UTS scores are 40.5 and 40.55. While, student learning outcomes have an average in the experimental class after using the cooperative learning model of sending greetings and questions, namely 54.65, and the control class 39.5. And statistical data of the Hypothesis Testing Between Subjects Effects on Learning Outcomes showed that the significance value of the observation of student learning activities was 0.012. The significance value is <0.05, so the second hypothesis, H0 is rejected. Based on the significance value, it was concluded that the cooperative model of sending greetings and questions had a significant effect on student learning outcomes. both classes prove differences in activities and learning outcomes in mathematics subjects for SMK students, which are much higher in the experimental class or X-KPW 1.

Implementation of the learning model of sending greetings and sending questions, the researchers missed or forgot when conveying learning motivation to students. This is inversely proportional to Mariyanti's research (2019), which carried out the model activities of sending greetings and questions well, especially in conveying learning motivation at the beginning of the activity. The results of the research on the effect of the cooperative learning model type sending greetings and questions on learning activities prove that there is a significant effect on students' mathematics learning activities. This is to research by Anwar & Haris (2011), namely the cooperative learning model of the type of sending greeting and questions has a significant influence on students' mathematics learning activities. This is also to Susilowati's research (2017), namely an increase in student learning activities.

The results of the research on the effect of the application of the cooperative learning model of sending greetings and sending questions on learning outcomes showed a significant influence on students' mathematics learning outcomes. This is the same as the research by Utami, Arcat, & Hardianto (2015), namely, there is a comparison of the cooperative learning model of sending greetings and questions to students' mathematics learning outcomes. This is also in line with research by Chandra (2014). Namely, the use of cooperative learning models of the type of

sending greetings and questions has a significant influence on student learning outcomes in mathematics.

From the results of the hypothesis test in the explanation above, it shows that the research using the cooperative learning model of sending greetings and questions in mathematics learning in functions in class X-KPW 1 and X-KPW 2 at SMK Muhammadiyah 1 Malang City has a significant influence on activities and learning outcomes. mathematics for high school students. The results of this study only apply to students of classes X-KPW 1 and X-KPW 2 SMK Muhammadiyah 1 Malang City and do not apply to other classes and also do not apply to other schools.

CONCLUSION

The research was conducted in class X-KPW1 and X-KPW2 SMK Muhammadiyah 01 Malang City. The control class (Class X KPW 2) applies direct or conventional learning models, while the experimental class (Class X KPW 1) applies the cooperative learning model of sending greetings and sending questions for vocational students. Conclusions: a) The application of the cooperative learning model of sending greetings and sending questions to class X function material has a significant influence on the mathematics learning activities of students in class X-KPW1 SMK Muhammdiyah 01 Malang City seen from the significance value of observing student learning activities is 0.000. The significance value is < 0.05, then the first hypothesis H0 is rejected. b) The application of the cooperative learning model type greeting and sending questions on the function operation material has a significant influence on the mathematics learning outcomes of students in class X-KPW1 SMK Muhammdiyah 01 Malang City seen from the value the significance of the observation of student learning outcomes is 0.012. The significance value is < 0.05, so the first hypothesis H0 is rejected. c) The application of the cooperative learning model type greeting and sending questions to the function operation material has a significant influence on the activities and learning outcomes of mathematics students in class X-KPW1 SMK Muhammdiyah 01 Malang City seen the sig value of Pillai's Trace, Wilks' Lambda, Hotelling's Trace, Roy's Largest Root procedures, obtained a significance value of 0.000 < 0.05, so H0 is rejected.

On the school side, it is hoped that the teacher or teacher will be more varied in choosing learning with models that are able to attract students' activities during teaching and learning activities. For the teacher, it would be better to pay attention to the classroom atmosphere when learning activities are carried out and be able to find solutions to attract the attention of students with various innovations in which the option can use varied learning models. Meanwhile, suggestions for further researchers are that it is hoped that the learning model of sending greetings and sending questions can be innovated again and can pay attention to the length of research time so that the learning model of sending greetings and sending questions can be used in several meetings during learning so that the research is more leverage.

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