

The Influence of Two Stay Two Stray Learning Model on Motivation and Mathematics Learning Outcomes of Class IV Students, Tellu Siattinge District, Bone Regency

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Abstract

The purpose of this research is to describe the improvement of student learning outcomes and learning motivation using the Two Stay Two Stray type of cooperative learning model in learning mathematics. The method used is the Quasy Experimental Design research method. This study aims to find the effect caused by the treatment or treatment in the form of the use of cooperative learning models in learning mathematics on motivation and learning outcomes. The data analysis technique in this study used descriptive statistical analysis and inferential statistical analysis. And statistical calculations, namely normality test and homogeneity test. After that, the hypothesis was tested using the t-test. The results showed that 1) the results of descriptive analysis were found in the experimental class using the Two Stay Two Stray type of cooperative learning model with a total score of 1,828 with an average of 79 of 23 students; 2) students' learning motivation uses the Two Stay Two Stray type of cooperative learning model in learning mathematics with a total score of 2008 with an average of 87 of 23 students; 3) the value of student learning outcomes in the control class is 64 and in the experimental class using the Two Stay Two Stray type of cooperative learning model is 79. So the difference in these values can be concluded that learning using the Two Stay Two Stray type of cooperative learning model is much better used in the teaching and learning process.

Keywords: *Two stay two stray, motivation, learning outcomes*

1. Introduction

Education is the basic capital for the development of the Indonesian nation, therefore the government always observes both formal and non-formal education. Education is a very important element for the development of citizens in general and children in particular, using one's education can increase the degree and prestige and increase insight and knowledge. Education is only in schools (formal education) but citizen education institutions, for example, reveal the taklim assembly, the association (Jumarudin, Abdul Gafur 2014).

Education seeks an environment that allows optimal development, interests, and abilities of students (Nasution, Hapidin, and Fridani 2020). From this understanding, it can be seen that the purpose of education is to create human beings who are able to develop self-ability and good personality. The purpose

of education is to develop the potential of students to become human beings who believe and fear Allah SWT, have noble character, and are knowledgeable, creative, independent, and become democratic and responsible citizens (UU Sisdiknas No 20: 2003).

Learning is a change in personality that reveals itself as a new pattern rather than risk in the form of skills, attitudes, habits, intelligence, or an understanding. Learning is a change in behavior, where this change can lead to better behavior, but there is also the possibility of leading to worse behavior (Purwanto 2014).

The learning process requires good learning origin, strategies, methods, and examples, so that learning is said to be successful, can make students understand and form relationships in the class. In addition, in the teaching and learning process there is a two-way relationship between the teacher and students, both of them hypnotize each other and will be able to choose the learning output. Teachers must have the ability to deliver lessons well, because this will have an impact on the teaching process and the learning output of students.

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The initial process that can be done by a teacher in learning is to stimulate student motivation, because motivation makes students happy with teaching and learning activities in class. Lack of motivation that students have in participating in the learning process in class, students will be lazy to learn, can hinder the achievement of goals based on the desired learning.

Motivation is the "push" of a conscious effort to influence a person's behavior so that certain results or goals are achieved (Hanifah dan Arrofa 2017). Motivation is a goal or a driving force with the actual goal being the power in the form of an opinion or achieving what is desired.

The Two Stay Two Stray learning model is one of the Two Stay Two Guest learning models introduced by Spencer Kagan in 1992. This Two Stay Two Stray model can be used in various subjects and all age levels of students, the Two Stay Two Stray learning model means in Indonesian i.e., there are only two guests left to give other groups an opportunity to explore the available information (Fithra Ramadian 2014).

Two stay two stray is a cooperative learning model, this model is carried out in groups, students in one class are made into small groups consisting of 4 to 6 people to understand the concept facilitated by the teacher. Learning the Two StayTwo Stray model is by sharing knowledge and experiences with other groups. This activity is group work, two students visit other groups and two other students stay in their groups to receive two guests from other groups, group work, return to their original group, work, group reports (Ngalimun 2016).

Applying the Two Stay Two Stray cooperative model, students will do more direct listening activities, not always by listening to what the teacher says (Anam 2015). Applying the Two StayTwo Stray learning model, students will be actively involved, so that it will stimulate students' enthusiasm in learning. Question and answer activities can be carried out by students from one group and another, by verifying the material obtained with the material presented. Students can evaluate themselves, how appropriate is their mindset towards a concept with the teacher's mindset.

The application of the Cooperative learning model, in this case the Two Stay Two Stray learning model, on the motivation and learning outcomes of students' mathematics on the FPB and KPK materials. as follows :

a. Phase 1

Presenting and setting learning objectives. The teacher sets the core learning objectives and prepares students to be ready to learn.

b. Phase 2

Presenting information. The teacher presents information to students verbally

The teacher conveys learning indicators from the material, introduces, and explains the concepts of FPB and KPK (in finding the concept and determining the FPB and KPK groups of students are guided using the Big Ruler).

c. Phase 3

Organize students in study teams. Organizing students into learning teams. The teacher explains to the students how to implement Two Stay Two Stray and helps the group make an efficient transition. The steps are (Irham 2017):

- 1) Students are divided into 5 groups, 2 groups consist of 4 members and 3 groups consist of 5 members.
- 2) The group of students is a heterogeneous group and students respect each other
- 3) Two people from each group will leave the group and visit another group
- 4) Group members staying in the group will share their work and information with their guests
- 5) Guests excuse themselves and return to their own groups and report their findings from other groups
- 6) Groups match and discuss the results of their work (Nurkaton 2019).

d. Phase 4

Helping team work and learning. The teacher helps the learning team as long as the students complete the task

e. Phase 5

Material test. The teacher tests students' knowledge about various learning materials or groups presenting their work

f. Phase 6

Give acknowledgment. Teachers give awards to recognize individual and group efforts and achievements

Motivation is defined as a person's strength that can lead to a level of persistence and enthusiasm in carrying out an activity, both originating within the person himself (intrinsic motivation) and from outside the individual (extrinsic motivation) (Kompri 2015).

Teachers can use various ways to generate or mobilize students' learning motivation, including the following:

- a. Giving numbers, in general, every student wants to know the results of his work in the form of numbers given by the teacher. Students who get good grades will get great learning motivation, on the other hand students who get less scores, may be frustrated or can also be a booster to learn better.
- b. Praise, giving praise to students for things that have been done with great success as an incentive to learn. Praise creates a sense of satisfaction and pleasure.

c. Prizes, this can also be done by the teacher within certain limits, for example giving prizes at the end of the semester to students who get good learning outcomes.

In addition, students face challenges and problems that are currently faced and trusted so that they encourage more thorough and thorough learning. In this study, to measure learning motivation, the researcher used a learning motivation questionnaire which was described in the statement items.

Learning outcomes consist of two words, namely results and learning. The result is the result of doing a process or activity that results in a functional change in the input (Purwanto 2014). Learning is a mental activity that takes place in active interaction with the environment that results in changes in knowledge, skills and attitudes. It can be concluded that learning output is a change in behavior that occurs after students or students follow the synchronous teaching and learning process using educational goals.

Mathematics learning outcomes are measurable results from an attempt to find out the extent of learning success in mastering competencies in the mathematics section. Mathematics learning outcomes are the abilities that students have after they receive their mathematics learning experiences (Sholihin 2013). Based on the understanding of learning, learning outcomes, and mathematics, it can be concluded that mathematics learning outcomes are the level of success or mastery of a student in the field of mathematics studies after receiving learning experiences or after taking the teaching and learning process which can be seen in the values obtained (in the form of numbers or letters) from test results

Based on the author's thoughts and observations that to increase motivation and learning outcomes of mathematics in schools, a learning model that involves student activities as a whole and collaboration between students is needed. However, the reality in the field today, especially at SD Negeri 61 Palongki, shows that the learning process is still dominated by teachers with conventional learning models. Conventional learning in question is learning that is dominated by lectures and classically without any division of student groups. Especially for FPB and KPK mathematics learning, teachers mostly use the lecture method without any demonstration.

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2. Method

This study applies a quantitative approach using the Quasy Experimental Design research method. This study aims to find the effect caused by the treatment or treatment in the form of the use of cooperative learning models in learning mathematics on motivation and learning outcomes.

The research design used was a pretest and posttest control group design. In this simple experimental design there are two groups, namely the first group which is given the treatment applying the Two Stay Two Stray learning model called the experimental group and the other group only applies the conventional model called the control group.

The experimental and control groups will be given a pre-test (T1) before the treatment is given using the questions that have been made. Pre-test is used to determine the initial ability of students to give a test before starting learning. After the treatment, both groups were given a post-test (T2) to obtain information on increasing motivation and learning outcomes of fourth

graders, especially at SD Negeri 61 Palongki, Bone Regency. Prior to the implementation of the pre-test and post-test, the instrument questions that have been made will be validated by experts such as supervisors and other competent lecturers. The data collection techniques in this study are:

a) Test

The test given is a written test (essay) to determine student learning outcomes using the Two Stay Two Stray learning model. The test was first validated and given to students before (pre-test) and after treatment (post-test) in both classes. The instrument validation in this study was consulted with experts in this case the supervisor and other competent lecturers by being asked for their opinions about the instruments that had been prepared. After the instrument has been consulted and has met the criteria and requirements, the next step is to carry out field trials. The results of the student test will be scored according to the assessment criteria.

b) Non-Test

The non-test that will be given is in the form of a motivational questionnaire to students before (pre-test) and after treatment (post-test) for both classes to find out how the influence of students' learning motivation in using the Two Stay Two Stray learning model.

c) Documentation

This technique is used by researchers to obtain general school data in the form of a list of names of fourth grade students at SD Negeri 61 Palongki and SD Negeri 58 Ulo.

Descriptive statistics are statistics used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the public or generalizations (Sugiyono, 2015).

Inferential statistical analysis was performed to test the established statistical hypotheses. However, before testing the hypothesis first, the tests were carried out, namely the normality test and homogeneity test.

Hypothesis testing In this study, the t-test was used to test the hypothesis that is there any effect of the two stay two stray learning model on the motivation and learning outcomes of fourth grade students.

$$H_0 : \begin{pmatrix} \mu_1 \\ \mu_1 \end{pmatrix} = \begin{pmatrix} \mu_2 \\ \mu_2 \end{pmatrix}$$

$$H_1 : \begin{pmatrix} \mu_1 \\ \mu_1 \end{pmatrix} \neq \begin{pmatrix} \mu_2 \\ \mu_2 \end{pmatrix}$$

μ_1 : The average learning motivation of students who are taught using the Two Stay Two Stray type of learning model in learning mathematics

μ_2 : The average learning motivation of students who are taught without using the Two Stay Two Stray type of learning model in learning mathematics

μ_1 : Average learning outcomes of students who are taught using the Two Stay Two Stray type of learning model in learning mathematics

μ_2 : Average learning outcomes of students who are taught without using the Two Stay Two Stray type of learning model in learning mathematics

If the value of t-table > t-count then H_0 is rejected and H_a is accepted, that is, there is an influence of the Two Stay Two Stray type learning model in learning mathematics on motivation and learning outcomes.

If the value of t-table < t-count, then H_0 is accepted and H_a is rejected, that is, there is no effect of the digital literacy-based blended learning model on motivation and learning outcomes. Based on the hypothesis, the criteria used to determine the assumption are if Sig. at t-table > t-count then H_0 is rejected and if t-table < t-count then H_1 is accepted.

3. Result and Discussion

This study was conducted to determine students' learning motivation by providing a questionnaire at the beginning of learning before being given treatment and at the end of learning after being given treatment using the Two Stay Two Stray type of cooperative learning model. That in the initial learning questionnaire before being given treatment, with an average score of 60 and after students were given treatment using the Two Stay Two Stray type cooperative learning model then given a posttest the student's score increased by an average of 87 out of 23 students, if you look at the data in at the beginning of learning and at the end of learning (attachment 1), it can be concluded that using the Two Stay Two Stray type of cooperative learning model can increase the learning motivation of fourth grade students.

The results of the percentage achievement of students' learning motivation in the questionnaire at the beginning of learning before being given treatment were found to be still lacking, but after the treatment given during the learning process there was an increase. It can be concluded that there is an influence on students' learning motivation in the application of the Two Stay Two Stray type of cooperative learning model.

With the results of the percentage value of the experimental class before and after being given treatment, it can be concluded that the Two Stay Two Stray type cooperative learning model can increase the learning motivation of fourth grade students.

Student learning outcomes in the pretest and posttest using the Two Stay Two Stray type of cooperative learning model, that in the pretest before being given treatment, with an average number of 60 and after the students were given treatment using the Two Stay Two Stray type cooperative learning model then the posttest score was given students increased to an average of 79 out of 23 students, if we look at the pretest and posttest data (attachment 3), it can be concluded that using the Two Stay Two Stray type of cooperative learning model can improve the learning outcomes of fourth grade students.

The percentage value of the achievement of student learning outcomes in the pretest before being given treatment was found to be very less. After the posttest was given treatment using the cooperative learning model type Two Stay Two Stray found a significant increase in value. With the results of the percentage value of the experimental class before and after being given treatment, it can be concluded that the Two Stay Two Stray type of cooperative learning model can improve the learning outcomes of fourth grade students. The data normality test phase, using the Liliefors test (kolmogrov-smirnov) at a significance level of 0.05. The normality test was carried out to determine whether the measurement data was normal or not. Calculation of normality test using SPSS v.25. The following are the results of the data normality test using the Liliefors test (kolmogrov-smirnov). It is known that the normality test on learning motivation using the Two Stay Two Stray type cooperative learning model with a value of sig. $0.049 < 0.05$ with the measurement results normally distributed. Meanwhile, students' learning motivation without using the Two Stay Two Stray type of cooperative learning model with a sig. $0.001 < 0.05$ with the measurement results normally distributed.

Assessment of student learning outcomes using the cooperative learning model type Two Stay Two Stray with a value of sig. $0.026 < 0.05$ with the measurement results normally distributed. While student learning outcomes use the cooperative learning model type Two Stay Two Stray with a value of sig. $0.001 < 0.05$ with the measurement results normally distributed.

Next, the homogeneity test will be carried out to determine whether the data is homogeneously distributed or not, following the results of the homogeneity test

It was found that the learning outcomes data with the value of sig. $0.017 > 0.05$ with the decision that learning outcomes are normally distributed. Likewise with student learning motivation with sig. $0.866 > 0.05$ with the decision that learning motivation has a homogeneous distribution.

After the normality test and homogeneity test have been carried out, the next hypothesis will be tested to determine the effect of the Two Stay Two Stray type of cooperative learning model on student motivation and learning outcomes.

The value of t count is found to be 13,207 where ttable is found with 2.0738, where $tcount > ttable$ is $13,207 > 2.0738$, with the decision that there is an effect of using the Two Stay Two Stray type of cooperative learning model on students' learning motivation. Next to test student learning outcomes

The t count value was found to be 8,510 where ttable was found with 2.0738, where $tcount > ttable$ was $8,510 > 2.0738$, with the decision that there was an effect of using the Two Stay Two Stray type of cooperative learning model on student motivation and learning outcomes.

This is supported by the results of research from Apriani et al. which showed that there was an increase in motivation scores in the experimental class (Apriani et al., 2018). This learning model is also known to cause students' learning motivation (Septiani et al., 2015), (Hanifah, 2018), (Al Anshori & Sohriati, 2017), (Meliana et al., 2018), and (Hidayat, 2015).

4. Conclusion

Students' learning motivation using the Two Stay Two Stray type of cooperative learning model in mathematics learning shows a significant effect, the total score is 1,380 an average of 60 and after the students are given treatment using the Two Stay Two Stray type cooperative learning model then given the end of learning the student's score increases to 2008 with an average of 87 of 23 students, if we look at the data at the beginning of learning and the end of learning, it can be concluded that using the Two Stay Two Stray type of cooperative learning model can increase the learning motivation of fourth grade students.

Student learning outcomes using the Two Stay Two Stray type cooperative learning model are better than student learning outcomes without using the Two Stay Two Stray type cooperative learning model. It was found that the value of student learning outcomes in the control class that did not use the Two Stay Two Stray type of cooperative learning model was 64 and in the experimental class using the Two Stay Two Stray type of cooperative learning model was 79. So the difference in values can be concluded that learning by using the learning model Two Stay Two Stray cooperative type is much better used in the teaching and learning process.

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