

Differences of Basic School Students' Network Results in the Implementation of STAD Type Cooperative Learning Models Aided by Animation Media and Power Point Media in the Plant Subtemes of My Friends from Learning Activities

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Abstract

The purpose of this study was to determine the differences in student learning outcomes in terms of student learning activities through the implementation of cooperative learning model Student Team Achievement Divisions (STAD) assisted by animation media and cooperative learning model type student team achievement divisions (STAD) assisted by power point media. This research will be conducted at SD Negeri 11 Rantau Selatan in Class VI the 2019/2020 Academic Year. The sampling technique uses purposive sampling, where researchers can determine samples based on specific objectives. The researcher determined that the sample in the study consisted of 2 classes, namely class VI a as a class of cooperative learning model type STAD assisted by animation media as many as 33 people, and class VI as many as 33 people as a class of cooperative learning model type STAD assisted by Power Point media. The instruments used were the Observation Sheet and the Test / Question Sheet. Measurements were made by Reliability, Distinguishing Power Analysis, Descriptive Data Analysis, Prerequisite Test Analysis, Two Ways ANOVA Hypothesis Test Analysis. The results of the study There are differences in learning outcomes in the sub-theme of Tumbuhan Sahabatku between those taught with the Cooperative Learning Model Type Student Team Achievement Division with animation aided with the Cooperative Learning Model Type Student Team Achievement Division assisted by Media Power Point in Class VI SD Negeri 11 Rantau Selatan, There are differences in results study of students who have high learning activities in the sub-theme of Tumbuhan Sahabatku, and there is an interaction between learning models and learning activities in influencing student learning outcomes in the sub-theme of Tumbuhan Sahabatku.

Keywords

STAD type cooperative learning model; animation media; power point media; learning outcomes; student learning activities



I. Introduction

Under the Act - Law Sisdiknas on National Education System No. 20 of 2003 concerning the National Education System states that national education functions to develop capabilities and shape the character and civilization of a nation with dignity in the framework of educating the nation's life. Suryosubroto (2010:11) argues that "Education aims to develop the potential of students to become human beings who believe and fear God Almighty, noble,

healthy, knowledgeable, capable, creative, independent and become democratic and responsible citizens."

In fact, the effort - effort in improving the quality of education in Indonesia until now has not been fully achieved. This can be seen in the survey conducted by Trends in International Mathematics and Science Study (TIMSS) and the Program for International Student Assessment (PISA) which shows that learning outcomes in Indonesia are still low.

The low learning outcomes also occurred in SD Negeri 11 Bakaran Batu Rantau Selatan. Based on the results of observations, it is known that teachers still use conventional learning, students are less able to understand how to learn, think, and motivate themselves (self motivations), and students do not master the material and are less active in following lessons. In addition, at SD Negeri 11 Rantau Selatan in the learning process, especially for the Plant Sub-theme of My Friends in Class VI, the teacher has not used animation media so that the material is difficult to understand because it involves various plants and the environment in carrying out its functions. This results in student activities such as participating in implementing and developing a concept rarely done. Even though this activity is one of the important learning experiences for students. One of the right steps that teachers can take is to change learning patterns by incorporating elements of technology as a tool in the learning process considering the rapid development of technology today (Yusrizal et al., 2019).

Students are not much involved in the learning process as a result of which students are passive in learning and student learning outcomes are low. It is known that 58% of students have not reached the minimum completeness criteria (KKM), and the average yield - average earned sixth grade student at Plant Subtheme FRIENDS year 2018/2019 is 55. This value, has not reached the minimum completeness criteria (KKM) as determined by school, namely ≥ 75 . One of the efforts made so that the learning process can increase the activity and learning outcomes maximally, then used media that can make it easier for students to remember, understand and convey back, namely by using animation media.

Media has an important role in the learning process, with the media students can easily understand the material being taught (Yusrizal et al., 2019). Suprijono (2013: 15) argues that the animation is able to explain something complex or complicated only by exposing the images or words - words. With this ability, we can use this animation to explain material that is clearly not visible, by visualizing the material being described, we can illustrate the lesson. This is supported by the results of research conducted by Trianto (2011: 7) which states that "The use of multimedia animation with the Think Pair Share (TPS) type of cooperative learning model has a significant effect on mastery of the subject matter of Human and Animal Reproductive Systems".

Meanwhile, Sutikno and Sobry (2013: 51) share the same opinion that learning models essentially serve as guidelines for the design or design carried out by teachers in carrying out the learning process. In the application of the learning process, in the selection of this learning model various factors that develop greatly influence and are influenced by the nature and subject matter to be taught, besides that it can also be influenced by the objectives to be achieved in the process and the results of the teaching and not forgetting the factors involved with the level of ability of students. In addition, learning models always have stages or are syntactic in nature that occur in the learning process experienced by students with teacher guidance. Between the stages or syntax with each other syntax also has their respective differences. Thus the teacher is required to be able to design appropriate learning model in order to obtain the results of learning (Yusrizal & Fatmawati, 2020)

Based on the description of the data above along with the facts observed by researchers at SD Negeri 11 Rantau Selatan, researchers are interested in conducting research on differences and student learning outcomes through the implementation of cooperative learning models through media and PowerPoint models that help collaborative learning models in terms of Learning Activities.

The reason the researchers conducted research in Class VI SD Negeri 11 Rantau Selatan was that there was a significant difference in student learning outcomes in terms of student learning activities, so that researchers were interested in knowing the implementation process of the learning model assisted by animation media with power points carried out by the teacher to the students.

II. Review of Literatures

2.1 Overview of the type Cooperative Learning Student Team Achievement Divisions Assisted Media Animation

When referring to the origin of the word Media which comes from Latin, namely Medius, which means intermediary or message. Referring to Andi's opinion (2013: 27) states that "Media can be interpreted as an intermediary or messenger of messages from sender to recipient of messages". Meanwhile, according to Sanaky (2009: 19) argues that media are people, materials, or events that create conditions that allow students to gain learning experiences. Media is narrowly defined as a tool to change the visual or verbal information sent.

Gagne in Sadiman and Rahardjo (2014:6) state that media are various types of components in the student environment that can stimulate them to learn. In its application, Media is a means of sending messages to source recipients. In other words, it can be said as a means of conveying messages to people who receive messages in the media. In the teaching process, media is a source of learning that helps teachers enrich students' knowledge and ideas.

In their role, the media try to facilitate the means or process of achieving educational goals, and instructors believe that with the help of media, students can enhance their educational activities in the long term during the teaching and learning process. We hope that with the help of media, students will have better educational processes and outcomes than educational activities without media assistance. Different variables in the teaching process used by teachers and various types and types of learning media are sources of knowledge that can be mastered by students.

The use or application of supported media use is appropriate, in future learning there must be a solution or solution that is very useful for various problems related to the conditions and conditions of student interest and motivation to learn. Sardiman (2008: 31) argues that the use of appropriate learning media through learning media will increase student attention to the topic under study, so that student interest and motivation can increase, students will be more focused, and it is hoped that the learning process will be better, so that in the end, student learning achievement will increase.

In this case, in using the Student Team Achievement Divisions model, media participation as a learning tool must be chosen appropriately and students must be really helped to understand the material presented. Thus, it is hoped that they will be able to encourage students to develop cognitive, affective and psychomotor aspects of students.

2.2 Implementation / presentation of Learning with Animated Media

There are several things that must be considered by the teacher when carrying out learning using animation media and the teacher must consider the following points:

1. Teachers must ensure that the necessary facilities and infrastructure are available and functioning properly and correctly.
2. He teacher must explain to students the learning objectives to be achieved
3. The teacher can explain the subject matter to students during the learning process
4. The teacher can avoid as many events as possible that can disrupt the concentration of students during the learning process. Follow-up in the Learning Process assisted by Animation Media.

Students who learn with combined media of words and pictures are better than just using words (Yusrizal et al., 2019). In assisted learning media animation, a follow-up is needed to see the extent to which the success of the learning process is done. This research can be conducted to strengthen students' perceptions of what has been done through animation media, and can also be used to measure the effectiveness of learning that has occurred. Follow-up activities that can be done, including discussions, observations, experiments, and practical tests.

2.3 Study of Student Learning Outcomes

Learning and teaching are inseparable concepts. Learning refers to what a person has to do as a subject in learning. Meanwhile, teaching refers to what a teacher should do as a teacher. Two teaching and learning concepts carried out by students and teachers are integrated in one activity. Between the two there is an interaction with the teacher. The ability that students have from the teaching and learning process alone must be able to get results through one's creativity without the intervention of others as teachers. Therefore, the learning outcomes referred to here are the abilities a student has after receiving treatment from the teacher (teacher), as stated by Sudjana, learning outcomes are the abilities students have after receiving their learning experience. Learning outcomes are a form of achievement students as well as a symbol of the success of educators in learning students (Yusuf in Sitorus (2019).

According to Sorden in Resien (2020) technology can open many opportunities for students to learn. But on the other hand teachers still have difficulty using technology effectively. Utomo (2020) Education aims to make students happy and make the lives of students better in the future and to achieve happiness in the world and the hereafter based on faith, knowledge, and charity. In principle, it can be explained that learning outcomes are abilities possessed by students after students receive their learning experiences, in the form of changing patterns of thinking, values, understanding, attitudes, appreciation, and skills. Learning outcomes obtained by students are things that cannot be separated from learning activities. This is because learning activities are a process while learning achievement is the result of the learning process. Regarding learning outcomes, as Dimiyati and Mudjiono (2006: 3) state that learning outcomes are the result of an interaction of learning actions and teaching acts. From the teacher's side, the teaching act ends with a process of evaluating learning outcomes. From the student's point of view, learning outcomes represent the end and peak of the learning process. Learning outcomes are results that have been obtained by students which are manifested in the form of scores or numbers after taking the test at the end of the learning process.

Hamalik (2006:30) said that learning outcomes are when a person has learned there will be a change in the person behavior, for example from not knowing to knowing and from not understanding. to understand. Meanwhile, Djamarah (2008 45) states that

learning outcomes are the achievements of an activity that has been done, created, both individually and in groups. Results will never be produced as long as people don't do something. To produce an achievement requires a very big struggle and sacrifice. Only tenacity, earnest, high will and a sense of self-optimism are able to achieve it.

Some experts argue that student performance is also influenced by several factors. These factors are an integral part of the input component in education itself. As stated by Blom in Darsana (2014: 10), they argue that there are three areas of learning, namely cognitive, effective, and motor skills. While referring to Sarah (2014: 6), he argues that "learning outcomes are changes that cause people to change their attitudes and behavior or learning outcomes, action patterns, values, ideas about attitudes and perceptions and abilities". It follows from this statement that learning outcomes are significant changes in student behavior when the teaching and learning process is carried out in accordance with the learning objectives.

III. Research Method

Type of this research is experiment with Design factorial 2x2. This research was conducted at SD Negeri 11 Rantau Selatan. The population in this study were all grade VI students at SD Negeri 11 Rantau Selatan. The sample chosen in this study were two classes, experimental class 1 and experimental class 2 in class VI SD Negeri 11 Rantau Selatan. The sampling technique uses *purposive sampling*, which can determine the sample based on certain objectives. The data collection data used in this study is the observation and tests of learning outcomes. The data analysis technique used in this research is inferential statistical techniques. Hypothesis testing is done by using the Two Way Anova test with a significant level of 0.05. Before the Two Way Anova test is carried out, first the analysis requirements test is carried out, namely the normality test and the homogeneity test of the data. The normality test was carried out by the Kolmogorov-Smirnov test while the data homogeneity test was carried out by the Levene test with a significant level of 0.05.

IV. Results and Discussion

4.1 Results

a. Differences in Student Learning Outcomes Taught By the Cooperative Learning Model Type STAD Assisted by Animation Media and STAD Learning Model Assisted by Powerpoint Media

Based on the results of the test table results of the test items on 33 respondents in Experiment Class 1 (Cooperative Learning Model Type Student Team Achievement Divisions Assisted by Animated Media) and 33 respondents in experimental class 2 (Cooperative Learning Model Type Student Team Achievement Divisions Assisted by Media Power Point) in Learning outcomes, then the test results of the Cooperative Learning Model Type Student Team Achievement Divisions Assisted by Animated Media and Cooperative Learning Model Type of Student Team Achievement Divisions Assisted by Media Power Point obtained values of the range of value intervals based on the test results, as follows:

Table 1. Range of Interval Test Results for Test Questions in the Experimental Class 1

| Test Test Results | No. | Interval | F |
|--|-----|---------------|----|
| 25 = 83.25 26 = 86.58 27 = 89.91 | 1 | 83.25 - 86.50 | 6 |
| 29 = 96.57 30 = 99.90 | 2 | 89.91 - 99.90 | 27 |
| 1 = 3.33 | | | 33 |

Table 2. Range of Interval Results of Test Questions in the Experimental Class 2

| Test Test Results | No. | Interval | F |
|--|-----|---------------|----|
| 25 = 83.25 26 = 86.58 27 = 89.91 | 1 | 83.25 - 86.50 | 8 |
| 29 = 96.57 30 = 99.90 | 2 | 89.91 - 99.90 | 25 |
| 1 = 3.33 | | | 33 |

By determining the range of the test results interval, the resulting frequency distribution table (output) from the results of data processing with SPSS. Version 25 IBM is its class, not in interval writing. Thus, if it is written there like the number 1, it means that the intended data is in the range 83.25 - 86.50. Likewise, if the number 2 is displayed, the data range is 89.91 - 99.90. The results of the test data test above show that there were 6 respondents who obtained values in the range 83.25 - 86.50 and there were 27 respondents who obtained scores in the range 89.91 - 99.90. The number of ranges obtained is based on the distribution of the number of questions as many as 30 items with a value of 3.33 per item score.

b. Differences in Student Learning Outcomes in terms of Learning Activities

Based on the results of observations in the experimental class, it can be seen that the activeness (Variable Moderator) of students at the observation meeting is classified as good, as seen in indicators 1-8, almost all of the activities described by the researcher are in the good category. Student indicators look well at the learning process from 66 respondents (Experiment Class 1 and Experiment Class 2), 30 respondents or 45.5% in good category (3.00) and 36 respondents or 54.5% very good category (4.00). For the observation of learning activities on the observation of the respondents to supervise, the data obtained were 44 respondents or 66.7% in the good category (3.00) and 8 respondents or 33.3% of the respondents in the very good category (4.00). In the results of observations of respondents who heard, it was found that 44 respondents or 66.7% were categorized as good (3.00) and 8 respondents or 33.3% of respondents were categorized as very good (4.00). In the results of student participation assessed based on the results of observations obtained data from 44 respondents in the good category s (3.00) or 66.7% and 22 respondents or 33.3% in the very good category (4.00).

In the observation assessment Motivation, Persistence and Autism students found to exist 64 respondents, or 48.5 % categorized as good (3.00) and 34 respondents, or 51.5% categorized as very good (4.00) on indicators of relationship among respondent observation data obtained 32 respondents or 48.5% were in the good category (3.00) and 34

respondents or 51.5% were in the very good category (4.00). Furthermore, in the results of the observation of the relationship between students and teachers, data on the value of respondents were 2 respondents or 3.0% in the good category (3.0) and 62 respondents or 97.0% in the very good category (4.0) and the same thing happened to the Observation Indicator. The effectiveness of understanding time obtained by the value of respondents as many as 2 respondents or 3.0% in the good category (3.0) and 64 respondents or 97.0% in the very good category (4.0). For more details, it can be described in the following observation data table:

Table 3. Table of Student Learning Activities

| Student Learning Activities | | | | | |
|-----------------------------|------|----|---------|---------------|--------------------|
| | | F | Percent | Valid Percent | Cumulative Percent |
| Valid | High | 33 | 100.0 | 100.0 | 100.0 |

From data processing through statistical data processing SPSS IBM Statistics version 25 on data processing rubric assessment of the Learning Activity Observation Sheet carried out to the class that was carried out by the experiment, the data was obtained from 66 respondents consisting of experimental class 1 and experimental class 2 who were assessed in the Observation Sheet. Learning Activities with High Validity at the Respondent Frequency of 66 People with a percentage of 100 percent are valid and cumulative.

1. Hypothesis Test

First Hypothesis

$$H_0: \mu A_1 = \mu A_2$$

$$H_a: \mu A_1 \neq \mu A_2$$

The test results in the table above show the sig value of 0.485. Because $\text{sig} > 0.05$, it can be stated that the model fulfills the homogeneity assumption. Furthermore, the ANOVA test results show that there is a direct effect of the implementation of the cooperative learning model type Student Team Achievement Divisions assisted by animation media on learning outcomes. This can be seen from the F value of 21,757 and significant at $p = 0.72.2$, which means that the variability of the Cooperative Learning Model Type Student Team Achievement Division Assisted by Animated Media to Learning Outcomes is 72.2%.

2. Second Hypothesis

$$H_0: \mu B_1 = \mu B_2$$

$$H_a: \mu B_1 \neq \mu B_2$$

The test results in the table above show the sig value of 0.821. Because $\text{sig} > 0.05$, it can be stated that the model fulfills the homogeneity assumption. Furthermore, the ANOVA test results show that there is a direct effect of the implementation of the Cooperative Learning Model Type Student Team Achievement Division with Media Power Point on high learning outcomes because from data processing there is no low learning activity found in the two experimental classes. This can be seen from the F value of 16.47 and significant at $p = 0.821$, which means that the variability of the Cooperative Learning Model Type Student Team Achievement Division Assisted by Media Power

Point on Learning Outcomes in each experimental class that has high learning activity is 82.1 %.

Third Hypothesis

$H_0 : A > B = 0$

$H_a : A < B \neq$

The results of the ANOVA test show that there is a direct effect of the implementation of the Cooperative Learning Model Type Student Team Achievement Division Assisted by Animation Media and Cooperative Learning Model Type Student Team Achievement Division Assisted by Media Power Point on Learning Outcomes. This can be seen from the F value of 82.666 and significant at $p = 0.814$, this means that the variability of the Cooperative Learning Model Type Student Team Achievement Division Assisted by Animated Media and Cooperative Learning Model Type Student Team Achievement Divisions Assisted by Media Power Point on Learning Outcomes are by 81.4%.

Table 5. Hypothesis Testing With F Test

| Tests of Between-Subjects Effects | | | | | |
|--|-------------------------|----|-------------|------------|------|
| Dependent Variable: Learning Outcomes | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. |
| Corrected Model | 194,265 ^a | 12 | 16,189 | 82,666 | .814 |
| Intercept | 39118,214 | 1 | 39118,214 | 199752,585 | .000 |
| Learning Model (Independent Variable) | 35,720 | 3 | 11,907 | 60,800 | .000 |
| Learning activity (Variable Moderator) | 33,962 | 4 | 8,491 | 43,356 | .000 |
| VB * VM | .304 | 4 | .076 | .389 | .814 |
| Learning outcomes (Dependent variable) | 3,917 | 20 | .196 | | |
| Total | 105373,000 | 33 | | | |
| Corrected Total | 198,182 | 32 | | | |

a. R Squared = .980 (Adjusted R Squared = .968)

4.2 Discussion

The difference in student learning outcomes in the Implementation of Cooperative Learning Model Type Student Team Achievement Divisions assisted by Animation media and Cooperative Learning Model Type Student Team Achievement Divisions assisted by power point media on the sub-theme of Plants my best friend in terms of student learning activities in each experimental class obtained results based on sheets The test given to 33 respondents from the experimental class 1 and 33 respondents from the experimental class 2, then from the calculation results above, it can be seen that the Cronbach Alpha

Reliability results data is 0.752, which when viewed on the Category scale the reliability coefficient is very high. So that from the results of the respondents' answers to all test questions, which are calculated with the IBM SPSS Statistical Software Version 25 shows high reliability results from the respondents' answers.

The difference between each experimental class that uses the Cooperative Learning Model Type Student Team Achievement Divisions assisted with Animation media and Cooperative Learning Model Type Student Team Achievement Divisions Assisted by power point media on the sub-theme of my friend's plants in terms of student learning activities, the results of the research conducted show that Subjects who previously were less active in group learning expressed their opinions and stuttered in expressing their opinions, by implementing the Cooperative Learning Model Type Student Team Achievement Divisions assisted by media This animation can stimulate subjects to be more active and active in the learning process. This can be seen from the F value of 21,757 and significant at $p = 0.72.2$, which means that the variability of the Cooperative Learning Model Type Student Team Achievement Division Assisted by Animated Media to Learning Outcomes is 72.2%.

For data calculation of the two Independent Variables to Bound Variables, the results of the calculation of the ANOVA test results show that there is a direct effect of the Implementation of Cooperative Learning Model Type Student Team Achievement Division Assisted by Animated Media and Cooperative Learning Model Type Student Team Achievement Division Assisted by Media Power Point on Learning Outcomes. This means that the variability of the Cooperative Learning Model Type Student Team Achievement Division Assisted by Animated Media and Cooperative Learning Model Type of Student Team Achievement Divisions Assisted by Media Power Point on Learning Outcomes amounted to 81.4%.

This can prove that discussion and cooperative learning techniques can be used in the classroom to increase student activity in learning. It is also explained that the objectives of the Cooperative Learning Model Type Student Team Achievement Divisions assisted with Animation media and Cooperative Learning Model Type Student Team Achievement Divisions power point media can foster student activeness and learning outcomes in teaching and learning activities. So with the results that have been achieved it can be stated that the Cooperative Learning Model Type Student Team Achievement Division assisted by animation media and Cooperative Learning Model Type Student Team Achievement Divisions assisted by power point media provide a difference in learning outcomes in terms of student learning activities. When viewed from the percentage difference in the implementation of the two variables, data is obtained that in the first independent variable (Cooperative Learning Model Type Student Team Achievement Division assisted with Animation Media) is 72.2%, this percentage is higher when compared to the data on the second independent variable (Model Cooperative Learning Type Student Team Achievement Division assisted by Media Power Point) amounted to 70.7% while the percentage of each Independent Variable to Moderator Variable obtained a high percentage of 96.8%.

Furthermore, the difference between each experimental class using cooperative learning model type Student Team Achievement Divisions assisted with Animation media (Experiment Class 1) and Cooperative Learning Model Type Student Team Achievement Divisions Assisted by Media Power point (Experiment Class 2), Based on the calculation of the analysis presented above, it can be explained about the differences in student learning, showing clearly that there are differences in learning outcomes in each experimental class. The experimental class uses the Cooperative Learning Model Type

Student Team Achievement Divisions assisted by animation media and the experimental class uses the Cooperative Learning Model Type Student Team Achievement Divisions assisted by power point media which focuses on cooperation, solidarity, independence, activeness, the ability to socialize well and respect rights and other people's opinions in problem solving, so that they can exchange ideas well, can explore the knowledge that has been obtained with the aim of understanding and students can also be more used to socializing with teachers and friends well.

V. Conclusion

Based on the results of research and discussion, several conclusions can be drawn including the following:

1. There is a difference in learning outcomes in the Sub-theme of Tanaman Sahabatku between those taught with the Cooperative Learning Model Type Student Team Achievement Division with animation assistance and the Cooperative Learning Model Type Student Team Achievement Division assisted by Media Power Point for Class VI Students SD Negeri 11 Rantau Selatan
2. There are differences in the learning outcomes of students who have high learning activities and students who have low learning activities in the Plant Sub-Theme of My Friends. The ANOVA test results show that there is a direct effect of the implementation of the Cooperative Learning Model Type Student Team Achievement Division with Media Power Point on high learning outcomes because from data processing there is no low learning activity found in the two experimental classes.
3. There is an interaction between learning models and learning activities in influencing student learning outcomes in the Plant Sub-Theme of My Friends. The results of the ANOVA test show that there is a direct effect of the Implementation of Cooperative Learning Model Type Student Team Achievement Division with Animated Media and Cooperative Learning Model Type Student Team Achievement Division Assisted by Media Power Point on Learning Outcomes

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