

Differences in Use of the Learning Model Jigsaw Type Cooperative with Talking Stick on Student Learning Results Class X OTKP SMKS Budisatrya Medan

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Abstract

Research Title: Differences in the Use of Jigsaw and Talking Stick Cooperative Learning Models on Archival Learning Outcomes of Class X OTKP Students at Budisatrya Private Vocational School in Medan for the 2021-2022 Academic Year. The purpose of the study was to determine the differences in the use of the Jigsaw Cooperative learning model with the Talking Stick on Archival learning outcomes. The research method uses Post-test Only Control Design. The population in the study were all students of class X OTKP SMKS Budisatrya Medan. The research sample is class X OTKP 1 and X OTKP 2 totaling 40 students. The research instrument used was interviews, tests, and documentation. The results obtained that the t_{count} value is greater than t_{table} , where $t_{count} = 2.272 > t_{table} = 1.685$. Thus, H_0 is rejected and H_a is accepted. Conclusion: there are differences in the use of the Jigsaw Cooperative learning model with the Talking Stick on student archive learning outcomes.

Keywords

jigsaw model;
talking stick;
learning outcomes



I. Introduction

Education is essentially an effort to make changes to individuals which in turn is expected to change society for the better. Education in general is a process of changing the behavior and attitudes of a person or group of people (students) in an effort to mature students through teaching, training, action processes, and ways of educating. Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation and state. Education is a very important human need because education has a duty to prepare Human Resources (HR) for the development of the nation and state (Pradana et al, 2020). According to Astuti et al (2019) Education is an obligation of every human being that must be pursued to hold responsibilities and try to produce progress in knowledge and experience for the lives of every individual. Education is one of the efforts to improve the ability of human intelligence, thus he is able to improve the quality of his life (Saleh and Mujahiddin, 2020). Education is expected to be able to answer all the challenges of the times and be able to foster national generations, so that people become reliable and of high quality, with strong characteristics, clear identities and able to deal with current and future problems (Azhar, 2018). Education and skills are the main keys in gaining social status in community life (Lubis et al, 2019).

Education is a very complex thing because through education it can improve the quality of human resources. With the quality of existing resources, humans try to develop their

potential, and change their behavior for the better. School as a formal educational institution provides facilities for students to carry out various learning activities in order to gain educational experience. So that it can encourage the growth and development of students towards the goals they aspire to. However, in the current era of globalization, the application of learning models tends to still exist that are not in accordance with the material to be delivered, one of which is at the Budisatrya Private Vocational School in Medan.

Based on initial observations which showed that Archival learning at the school was good. According to observations, the teacher has provided detailed explanations or information about teaching materials using learning models. It's just that in a situation like this, it can be seen that the learning model used by the teacher in the Archival material has not been fully accepted or understood by students. Seen when students do not understand the material presented by the teacher so they have to explain again so that students understand more easily.

With this good overall, it is to see if there is a better improvement if the Jigsaw and Talking Stick learning models are used in Archives learning. Using the Jigsaw and Talking Stick models because so far teachers have not implemented or used these two learning models in the Archives teaching and learning process. The Jigsaw and Talking Stick models are learning models that are focused on this research. The Jigsaw and Talking Stick type of learning model is a learning model that requires students to learn and work together in a group. The Jigsaw type learning model is a learning model in which each student is given different material in one group, then students are grouped in expert groups to discuss the material received,

While the Talking Stick learning model is a learning model that is carried out using the help of a stick, whoever holds the stick must answer questions from the teacher after the students learn the subject matter. The talking stick model can trigger a student's readiness and adaptation in learning activities. This is because each student has the same opportunity to answer at any time when the stick is in his hand. The use of this learning model encourages students to dare to express their opinions. This learning model can make the classroom conditions cheerful and enthusiastic, so with these conditions students are better able to digest the material well and overcome boredom with a subject matter. With the use of these two models, it is hoped that the value of students can be maximized.

II. Research Method

The research method used is a type of quantitative research. With the research design using Post-test Only Control Design. The data collection instrument was by giving a test containing 20 multiple-choice objective test questions. Data collection techniques using interviews, tests, and documentation.

Interview is a method of collecting data used to obtain information directly from the source. In addition, the test is a series of questions or exercises and other tools used to measure skills, knowledge, intelligence, abilities or talents possessed by individuals or groups.

III. Results and Discussion

3.1 Profile of Budisatrya Medan Private Vocational School

Budisatrya Medan Private Vocational School, which is located at Jalan Letda Sujono No. 166 Medan, Ex. Bandar Selamat, Kec. Medan Tembung, Postal Code 202225. It has 23 teachers and employees. It has 11 classes with a total number of 272 students. The learning and teaching process goes well and smoothly with adequate facilities and infrastructure. And has extracurricular activities such as English Club, Japanese Club, Accounting Club, and Scouts.

3.2 Vision and Mission of Budisatrya Medan Private Vocational School

The vision of the Budisatrya Medan Private Vocational School is the realization of a Vocational High School that produces human resources with noble character, excellence, character, entrepreneurial spirit, and global perspective.

The mission of the Budisatrya Medan Private Vocational School is as follows:

- Building the character of students who uphold virtuous religious and cultural norms. Produce students who are smart, skilled, competitive, innovative, creative, and independent.
- Forming students who are competitive and creative to meet the needs of human resources in the business world and the industrial world.
- Fostering an entrepreneurial spirit and being independent and able to equip students to create jobs for themselves and others.
- Develop school management and technology-based learning systems.

3.3 Discussion of Research Results

In essence, learning is a process of interaction with all situations that exist around the individual. Learning as a change in behavior of the individual and the individual with his environment. Learning is a process of thinking and changing through several stages or exercises repeatedly to acquire knowledge. While learning outcomes are changes in behavior that occur after participating in learning in accordance with educational goals in the cognitive, affective and psychomotor domains.

Learning outcomes are the peak level of the learning process, where learning outcomes are evidence obtained from the learning process. In this case, the learning process begins by saying greetings, greeting and asking students how they are doing, about homework, previous lessons, giving brief notes about the lessons to be studied. The teacher provides reinforcement and conveys important messages related to the material being studied, closing the lesson by praying together.

The learning process is related to the learning model. The learning model refers to the learning approach that will be used, including teaching objectives, stages in learning activities, learning environment, and classroom management. So, the learning model is a procedure used as a guide to achieve learning objectives. One of them is the cooperative learning model. This learning arises from the concept that students will find and understand difficult concepts more easily if they discuss each other with their friends. Students routinely work in groups to help each other solve complex problems.

Using Jigsaw and Talking Stick methods. Jigsaw is a cooperative learning model in which students' study in small groups consisting of 4-6 people heterogeneously and students work together in positive interdependence and are responsible independently. Jigsaw cooperative learning model makes students more active in learning, because with this model,

the knowledge and skills acquired by students are expected not to be the result of remembering a set of facts, but the result of finding out for themselves. Meanwhile, Talking Stick is a learning model with the help of a stick, holding a stick is required to answer the questions given after studying the subject matter. The Talking Stick learning model can test students' readiness, train students to read and speak and understand the subject matter in a fun way.

The findings of the study show that student archiving learning outcomes taught using the Jigsaw type cooperative learning model are higher than student archiving learning outcomes taught using the Talking Stick learning model in class X OTKP students at Budisatrya Private Vocational High School Medan in the 2021-2022 academic year. In this case, class X OTKP 2 is a class taught with the Jigsaw learning model and class X OTKP 1 is a class taught with the Talking Stick learning model. The sample was selected based on a random sampling technique through a number draw system.

Both classes were given treatment with different learning models, but with the same material. After being given treatment, then at the end of the meeting in the study, students were given a learning outcome test of 20 items in the form of multiple choice to find out how the learning outcomes of the two classes were after being treated with different learning models.

To find out the results of using the Jigsaw and Talking Stick learning models, it can be calculated using the formula for the average and standard deviation. Each sample class in this study amounted to 20 students. The following is the value data for using the Jigsaw model after being added and squared:

Table 1. Tabulation of Values Using the Jigsaw Model

N	Total Value X1	Total Value X1 ²
20	1725	149225

From the table above, the data obtained for the Jigsaw class are as follows:

$$\sum X_1 = 1725 \quad \sum X_1^2 = 149225 \quad N = 20$$

Then, find the average value by using the formula:

$$\bar{X} = \frac{\sum x_i}{n} = \frac{1725}{20} = 86,25$$

While the variance is calculated using the following formula:

$$S_1^2 = \frac{n \sum_{i=1}^n x_i^2 - (\sum_{i=1}^n x_i)^2}{n(n-1)}$$

$$S_1^2 = \frac{20 \cdot 149225 - (1725)^2}{20(20-1)}$$

$$S_1^2 = \frac{2984500 - 2975625}{20(19)}$$

$$S_1^2 = \frac{8875}{380}$$

$$S_1^2 = 23,35$$

Furthermore, the use of the Talking Stick model with a sample of 20 students which is also calculated using the formula for the mean and standard deviation. The following is the data on the value of using the Talking Stick model after being added and squared:

Table 2. Tabulation of Values Using the Talking Stick Model

N	Total Value X2	Total Value X2 ²
20	1675	140775

From the table above, the data obtained for the Talking Stick class are as follows:

$$\sum X_2 = 1675 \quad \sum X_2^2 = 140775 \quad N = 20$$

Then, find the average value by using the formula:

$$\bar{X} = \frac{\sum x_i}{n} = \frac{1675}{20} = 83,75$$

While the variance is calculated using the following formula:

$$S_2^2 = \frac{n \sum_{i=1}^n x_i^2 - (\sum_{i=1}^n x_i)^2}{n(n-1)}$$

$$S_2^2 = \frac{20 \cdot 140775 - (1675)^2}{20(20-1)}$$

$$S_2^2 = \frac{2815500 - 2805625}{20(19)}$$

$$S_2^2 = \frac{9875}{380}$$

$$S_2^2 = 25,98$$

After knowing the value of using the two learning models, then the two classes were given a test to determine the value of archival learning outcomes. The data that has been obtained previously, then tested the hypothesis by t test. The following is archival learning outcomes data with a total sample of 40 students:

Table 3. Data Tabulation of Student Archive Learning Outcomes

N	Total Y Value	Total Y ² . Value
40	3470	86.75

In the calculation of the previous data have been obtained:

$$\bar{X}_1 = 86,25 \quad S_1^2 = 23,35 \quad N_1 = 20$$

$$\bar{X}_2 = 83,75 \quad S_2^2 = 25,98 \quad N_2 = 20$$

So:

$$t_{hitung} = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

$$\begin{aligned}
 t_{hitung} &= \frac{86,25 - 83,75}{\sqrt{\frac{23,35}{20} + \frac{25,98}{20}}} \\
 t_{hitung} &= \frac{2,50}{\sqrt{\frac{49,33}{40}}} \\
 t_{hitung} &= \frac{2,50}{\sqrt{1,23}} \\
 t_{hitung} &= \frac{2,50}{1,10} \\
 t_{hitung} &= 2,272
 \end{aligned}$$

Based on the results of the calculation of the hypothesis test above, the results obtained at significance with $\alpha = 0.05$ and $dk = (20 + 20 - 2) = 38$, then the results obtained $t_{count} = 2.272$ and $t_{table} = 1.685$ obtained from the distribution list t. So, the average value for the class that uses the Jigsaw learning model, namely class X OTKP 2 is 86.25 and the variance is 23.35. As for the class that uses the Talking Stick learning model, namely class X OTKP 1, the average value is 83.75 and the variance is 25.98.

Thus, $t_{count} > t_{table}$ is $2.272 > 1.685$, so H_0 is rejected and H_a is accepted. This shows that $H_a : 1 \ 2 \square$ There are differences in the learning outcomes of students who are taught with the Jigsaw type of cooperative learning model and students who are taught using Talking Stick learning in the Archives subject of class X OTKP Budisatrya Private Vocational School Medan. Where the student archiving learning outcomes taught using the Jigsaw cooperative learning model were higher than the student archiving learning outcomes taught using the Talking Stick learning model.

IV. Conclusion

In general, the research was in accordance with the expected objectives, namely knowing the use of the -type cooperative learning model Jigsaw with Talking Stick. The application of Jigsaw is to form the original group and proceed to the expert group, the expert group learns the material discussed with the home group and then presents the material in front of the class. The application of the Talking Stick is that the teacher prepares a stick, the student who holds the stick must first answer questions from the teacher after studying the core material, then the activity is repeated continuously. In accordance with the explanation above, it is known that there are differences in the use of the two learning models. From the application of the two learning models, the authors found differences in student archiving learning outcomes assessed based on test results.

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