

Talking Stick Learning Model Test on Biology Students Cognitive Learning Outcomes

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Abstract.

The talking stick learning model is a learning model that allows students to be active and creative so that Students cognitive learning outcomes can be achieved. This learning model basically uses the help of a stick, but in practice it can be combined with appropriate learning media. In this case, the researcher only used the stick as a test of the talking stick learning model on Studentscognitive learning outcomes. The method of testing this model used a quasi-experimental design with a One-group pretest-posttest design with 3 trials. The results of the research proved that the second (71.56) and third (78.44) experiments have reached the KKM (> 70). This proves that the talking stick learning model can improve Students cognitive biology learning outcomes.

Keywords: *Talking stick learning model, Students cognitive learning outcomes, quasi-experimental design.*

I. INTRODUCTION

Education is a really essential aspect in someone's life. Everyone must obtain education in their life, both formal education and non-formal education. A place where someone obtain education is called as school which is an educational institution. At school, there are teachers who have role in the learning process. Becoming a teacher is not an easy achievement because a teacher must have teaching skill so that the students understand what delivered by the teacher. One of the learning models that can be used is talking stick learning model. Such model enables the students to be active and creative as established by curriculum 2013 which requires teachers to be able to design a learning process well, make a more interesting learning situation and use learning method that can attract Studentsattention in every learning process [1]. As stated by Hakim & Pramukantoro [2], *Talking Stick* method uses the assistance of stick and those who hold the stick should answer the teachers' questions after the students learned the subject topic. This aims to improve the Studentslearning outcomes.

Talking stick can be done during or at the end of learning process. After the teacher explains the learning material, teacher asks the students to memorize the material at the range of time determined by the teacher until the talking stick model is ready to use. When the teacher and students start to use the talking stick learning

model, teacher will give the stick to one of the students randomly, and simultaneously the teacher and students will sing a song together while the stick is given from the first student to the other students in rotation until the singing is stopped by the teacher according to the rules agreed Manuaba et al [3].

Biology is one of important subjects in education field. This can be seen from the high biology subject period at school, in which Biology is given from the elementary school level to higher education level. Therefore, in order to improve the successfulness of Biology learning, the learning method must be paid attention. One of the way to maximize biology learning outcomes is by choosing the right learning model. By applying an effective learning model in teaching biology, the material delivered is expected to increase the Studentsactivities and materials presented can be well-comprehended by the students [4].

Every learning has strength and weakness, so does cooperative learning model of talking stick type [5]. The strengths of cooperative learning of talking stick type are; 1) Testing the Studentspreparedness, 2) training the students to read and comprehend the material fast, and 3) initially learning to comprehend the material more. Meanwhile, the weaknesses of cooperative learning of talking stick type are; 1) students tend to be individualist, 2) material learned is not sufficient, 3) clever students are easier in accepting the materials, while not smart enough students are difficult to accept the material, 4) teachers are difficult to supervise the students, and 5) the class's serenity is difficult to maintain.

According to Santoso, stages in applying cooperative learning model of talking stick type are [6]:

1. Teacher makes groups, each of them consists of 4-5 students.
2. Teacher prepares stick as the learning media.
3. Teacher prepares subject material that will be discussed, and gives opportunity to the students to read and learn the material through the book.
4. After the group finishes reading and learning the subject material, teacher allows the group members to close their book.
5. Teacher takes the stick and gives to one of the group members, then asks a question that needs to be answered by the group member who holds the stick, and so on until most of the students take parts answering each question raised by the teacher.
6. Other students are allowed to help their friends to answer the question if the group member unable to answer the question.
7. Teacher sums up the learning.
8. Teacher evaluates/assesses the learning, both in terms of group and individual.
9. Teacher closes the learning.

II. METHODS

This research was conducted through quasi-experimental method by using *One-group pretest–posttest design* where quasi-experimental research was used because it is difficult to obtain control group used for the research [7]. Observation was done twice, those were before providing the treatment, called as pretest, and after providing the treatment, called as posttest. Pre-treatment was observed to give information regarding the contra-factual principles (although it is rather weak) related to what might occur on the subject if there was no treatment, but there was difference between O1 and O2 which might be caused by factors other than the treatment [8].

All students in VIII grade of SMP Tamansiswa Pematangsiantar Academic Year 2019-2020 as the research population. There are six classes with total of 192 students. The samples taken to test the talking stick model used *Cluster Random Sampling* and VIII-C class consisting of 32 students was set as the research samples.

Furthermore, multiple choice test (A, B, C and D) was employed to collect the data consisting of 10 questions given during *pretest* and *posttest*. Every correct answer was given 10 score, so the score range was 0-100 with the formulation of:

$$NA = \frac{\text{Number of Correct Answer}}{\text{Number of Question}} \times 100$$

Data collected was in the form of VIII-C Class Studentsbiology learning outcomes based on the pretest and posttest that were performed three times. Furthermore, score distribution between the pretest and posttest was done by comparing each meeting.

III. RESULT AND DISCUSSION

Studentslearning outcomes of VIII Class of SMP tamansiswa Pematangsiantar Academic Year of 2019/2020 was in the form of pretest and posttest result to measure the Studentsbiology cognitive. The difference of mean score between pretest and posttest in each trial is portrayed in Figure 1.

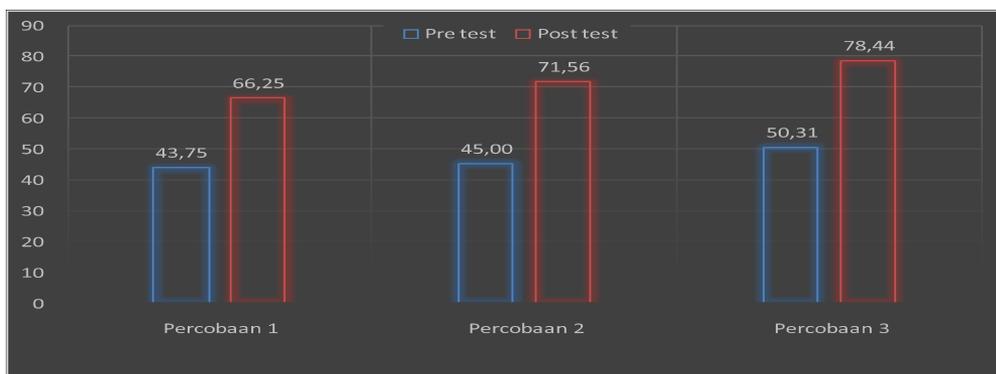


Figure 1. Difference of pretest and posttest mean score

Figure 1 above illustrates that during the use of talking stick learning mode, posttest result increased and the trial which successfully reached the Minimum Score Criteria (KKM/Kriteria Ketuntasan Minimal) of 70 was the second trial (71.56) and the third trial of (78.44). This proves that talking stick model affected the Studentsbiology cognitive learning outcomes of the sample class. According to the previous study [9] *Cooperative Learning* model if talking stick type can increase the integrated thematic learning process at primary school, proven by the Studentslearning outcomes which increased from the cycle I (71.8/C) to cycle II (90.62/B). Another previous study [10] also encourages that talking stick model can improve the Studentslearning outcomes concerning the integrated thematic learning.

Talking stick model does not only improve biology cognitive learning outcomes, but it also can be applied in various other subjects or material including history [11], mathematics [12], and two-dimensional figure subject [13]. In addition to improve the learning outcomes, talking stick model also improves the concept mastery [14], skills of communicating history learning [15], learning achievement in the form of cognitive, affective and psychomotor [16]. Talking stick model can also be combined with dice learning media and *Microsoft power point* [17], visual media [18], audiovisual media [19], story book with picture media [20], figure media [21], and riddle media [22].

According to the previous studies, talking stick media indicated improvement in learning outcomes, concept mastery and learning achievement including cognitive, affective and psychomotor. Talking stick media can also be applied in learning media such as audiovisual, power point, and riddles which all improves Studentslearning outcomes. This proves that talking stick media can be applied in various subjects, material and class grade or school level.

IV. CONCLUSION

The use of talking stick learning model through *One-group pretest–posttest design* was proven to improve Studentsbiology cognitive learning outcomes of VIII class of SMP taman siswa Pematang siantar academic year of 2019/2020. In three times model trial at class using talking stick media, the second and third trial has achieved the minimum score criteria by 71.56 and 78.44, respectively. Talking stick learning media can be used in various subjects and materials as well as combined with other learning media including audiovisual and others. In addition to be used on subjects in Junior High School, primary school can also use this thematic learning model.

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