

The Effects of Snowball Throwing (ST) Model Aided by Activity Sheets with Nuances of Problem Solving on Student Skills

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Abstract - This study aims to determine the effects of *Snowball Throwing* (st) model aided by activity sheets with *Problem Solving* on the knowledge of students. The type of research used is a quasi-experimental research with Randomized Control Posted Only Design. The population used is VII grade students of Koto Baru Junior High School 1 that are registered in the 2018/2019 school year. Sampling using Simple random sampling technique and obtained class VII C as the experimental class and class VII D as the control class. The instrument used is an observation sheet. The data analysis is Man Whitney U test. The result shows that there are significant differences between the experimental and control classes where the value of the experimental class skills is higher than the control class. The average value of the skills of the experimental class is 3,30 (B+) and the control class is 3,02 (B). The conclusion of this study is that the learning competency aspects of the skills of students who follow the Snowball Throwing model aided by activity sheets with Problem Solving learning have a positive effect on the competency-based learning skill aspects of students who take conventional learning.

Keywords - *Snowball Throwing* model, *Problem Solving*, skills.

I. INTRODUCTION

The teaching and learning process is a process of communication between teachers and students or between students and students. Communication that occurs should be reciprocal communication created in such a way that the message delivered in the form of subject matter takes place effectively and efficiently. The teaching and learning process activities should be directed at increasing the activity of learners who emphasize more on how students can master the subject matter (Ayu, 2014: 136).

Biology is presented as one of the compulsory subjects, starting from the level of primary education to secondary education, besides biology is also used as a reference material for students' graduation. Therefore it is not excessive if it is expected that students have a better level of mastery and understanding in biology learning. One of the goals of biology learning is to be able to trigger students to

think critically, thus students can develop their abilities and knowledge of biology course.

Teachers must be able to choose strategies or models that are effective in the learning process, strategies or models that are less effective will have an impact on the low learning outcomes of students. With a system that is still centered on the teacher, it causes less conducive atmosphere in the learning process, which affects many students to not understand the concept of learning and also it lowers their learning outcomes.

Based on interviews with researchers with biology teachers who taught in class VII of Koto Baru Junior High School 1 in July 2018, information was obtained about the problems that arose during learning including teachers more often using conventional methods such as lectures, discussions, lack of cooperation between students when the discussion takes place, students prefer playing with

their peers, the lack of courage of students in issuing ideas or opinions when learning takes place and the learning outcomes of biology students are still below the KKM set by the school, it can be said that student learning outcomes are still low. To overcome the problems in Koto Baru 1 Junior High School, they use cooperative learning that can improve cooperation and learning outcomes of students in the learning process. Cooperative learning is a class into a small group so that students can work with the maximum abilities they have and learn from each other in the group. (Nuraieni, 2016: 48)

One of cooperative learning types (Cooperative Learning) is *Snowball Throwing*, which is a series of learning activities of students in groups to work together to master subject matter. This learning model trains students to be more responsive to receive messages from other students in the form of snowballs made of paper and convey the message to friends in one group. (Agustina, 2013: 19)

This *Snowball Throwing* model can provide opportunities for friends in groups to formulate questions systematically. (Widodo, 2009: 45) One of the advantages of the *Snowball Throwing* learning model is that students are actively involved in the learning process, learning becomes more effective and all three aspects of knowledge, attitudes, and skills can be achieved. The weakness of *Snowball Throwing* is that it is difficult for students to make questions properly and correctly, and it is difficult to understand by students who receive questions that are less clear in direction so that it is troublesome in answering these questions. To cover up the shortcomings of *Snowball Throwing*, *Problem Solving* is used.

Problem Solving has the potential to train students to think creatively in dealing with various problems, both personal and group problems to solve themselves or together. The teacher's job in *Problem Solving* is to give cases or problems to students to solve (Sani, 2014: 243).

The advantages of *Problem Solving* are training students to design inventions, think and act creatively, solve problems faced realistically, identify and conduct investigations, interpret and evaluate the results of observations, stimulate the development of students' progress in thinking to solve problems faced correctly, and make school education more relevant to life, especially the world of work (Basri, 2015: 98).

Based on Nurhawilis's study (2015), it was shown that the application of the *Problem Solving* approach with LKS

had a positive impact on improving the biology learning outcomes of class IX.D Padang State Middle School 11. While the research conducted by Awal (2014) shows that using the *Snowball Throwing* model can improve student learning outcomes in human digestive system material in class VIII of SMP Negeri 4 Minas academic year 2013/2014.

A research of Rasyid and Sumiati Side (2011) with the title of The Effect of the Application of *Snowball Throwing* Learning on Learning Outcomes of Class X Students of SMAN I Bajeng Kab. Gowa (Study of Hydrocarbon Compound Main Material) shows that there is a positive effect of *Snowball Throwing* learning on student learning outcomes with a significance of 0,000. This learning can increase student learning activities, 81.88% of students answer questions according to indicators, 79.34% of students discuss in groups.

Isnawan's (2016) study entitled Effectiveness of Cooperative Learning Approach (*Snowball Throwing* in Logics Instruction at AMIKOM Mataram) shows the results of instruction approaching (type of snowball and conventional cooperative learning) effective and snowball type cooperative learning throws approaches more effective than conventional approaches in logic instruction which can be seen from the aspect of mathematics achievement of students in the 2014/2015 academic year at AMIKOM Mataram Putri (2016), entitled "The Effectiveness of the *Snowball Throwing* Method In Teaching Writing Procedure Text" which shows the use of the *Snowball Throwing* model is more effective in teaching writing procedure texts to seventh grade students of SMP Negeri 1 Paguyangan in Jakarta 2016/2016 academic year. while Ma'sum (2018) entitled "Improve Mathematical Learning Creativities of Junior High School Students Through *Snowball Throwing* Type of Cooperative Learning" which shows the results that the model of throwing a snowball can increase student creativity, provide good and pleasant atmosphere, and produce a response positive for mathematics learning activities.

II. METHOD

This type of research is quasi-experimental research with a Randomized Control study design. Posted Only Design with a population of class VII participants of Koto Baru SMPN 1 registered in 2018/2019. in this study sampling was done by simple random sampling technique experimental class VII C and control class VII D. the instrument used was the skill observation sheet. Data analysis was performed by statistical tests, namely the Man

Whitney test using the help of SPSS 16 software.

III. RESULTS AND DISCUSSION

The data obtained in this study is the skill competence of the experimental class and control class.

Table 14. The results of data on student skills

Class	N	$\bar{x}$	Predikat	Sig.
Experimental	28	3.30	B+	0.009
Control	28	3.02	B	

The criteria for testing this hypothesis are if the significance value obtained is greater than 0.05 then H_0 is accepted and if the significance value obtained is less than 0.05 then H_1 is accepted for significance. The skill hypothesis test results of the skill hypothesis test are 0.009. Based on the table it is known that the value of the skill realm is 0.009. This indicates that the value of sig. < 0.05, which means that H_0 is rejected. It is known that the learning competencies of the skills of students who follow the *Snowball Throwing* (ST) model assisted with a sheet of activities with *Problem Solving* nuance have a positive effect than the realm of learning competencies of students who take conventional learning.

In this learning students discuss in their groups and present the results of their discussions through presentations in front of the class. The existence of discussion and presentation activities will help students develop the skills of students in the learning process.

In learning with the use of the *Snowball Throwing* (ST) learning model assisted with activity sheets nuanced *Problem Solving* students are not given material, but students learn independently about the material to be learned by building the ability to draw conclusions, communicate with each other, express their opinions and exchange information with other students.

Furthermore, skills assessment in the control class is lower than the experimental class because of the lack of communication of students in the learning process. According to Kunandar (2013), skills competency assessment is an assessment conducted by the teacher to measure the level of achievement of skills competencies of students which includes aspects of imitation, manipulation, precision, articulation and naturalization.

At the time of practicum in the science laboratory the students were very excited about practicing water pollution. They observed three fish that were put in three glasses, where 1 glass filled with clear water which was not added

anything, glass 2 filled with clear water added with one spoon of detergent powder and glass 3 filled with clear water added with two spoons of powdered detergent.

The students are expected to observe how the initial conditions of fish, after adding detergent from the first 3 minutes to 9 minutes. Until the final condition of the fish. After that students are expected to be able to answer questions on the discussion sheet relating to water pollution.

Each group carried out a practicum and observed what happened to the fish in each glass that had been prepared. When observing objects, they are very enthusiastic in carrying out the practice. The difference between the control and experiment classes is that in the experimental class students tend to be more active, this is supported because the use of the *Snowball Throwing* (ST) learning model is assisted by a sheet of activities with *Problem Solving* in the experimental class that can improve the activities of students and be more enthusiastic in the learning process. Hence, during practicum, the students are not awkward when group activities are being carried out. Compared to the control class who are accustomed to conventional learning, so that when group learning students tend to be rigid and less active.

IV. Conclusion

Learning skills competency aspects of students who follow the *Snowball Throwing* model are assisted with sheets of nuanced activities in learning, because conventional learning with the lecture method of students tends to only receive information from what the teacher delivered. Wahyuningsih, et al. (2011) found that the excitement and excitement of learning in students will maximize learning by students. Learning skills competency aspects of students who follow the *Snowball Throwing* model are assisted with nuanced activity sheets.

Students in the experimental class are more active and enthusiastic in the learning process influenced by the knowledge of students before doing practicum (during the class study). A high understanding of learning material will motivate students to be more active in the learning process. The competence of knowledge, attitudes and skills is a competency that is related and cannot be separated. This is in accordance with Wahyuningsih, et al., (2011) statement that realm competence cannot be separated from the competencies of the realm of knowledge and attitudes. Sarah (2018) states that the activeness of students in learning is related to the achievement of knowledge

competencies, attitudes and skills of students.

Problem Solving learning has a positive effect on learning competencies aspects of the skills of students who follow conventional learning.

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