



THE EFFECT OF ACTIVE KNOWLEDGE SHARING STRATEGIES FOR LEARNING OUTCOMES BIOLOGY SUBJECT OF EIGHT GRADE STUDENTS OF SMP NEGERI 5 SAMARINDA 2013/2014

Evie Palenewen and Edy Jumadil

Biology Education, Faculty of Teacher Training and Education, Mulawarman University

Email: Eviepalenewen@yahoo.com

Abstract

The Effect Of Active Knowledge Sharing Strategies For Learning Outcomes Biology Subject Of Eighth Grade Students Of Smp Negeri 5 Samarinda 2013/2014. This study aims to investigate the influence of Active Knowledge Sharing Strategies on learning outcomes Biology knowledge of eighth grade students of SMP N 5 Samarinda. This study is quasi-experimental (quasi -experiment) with a pretest - posttest control design group. Population in this study were all of students in the eight grade of SMP Negeri 5 Samarinda. The class VIII-A as experimental group and class VIII-B as a control group. Sampling was done using purposive sampling technique. Samples were 30 students for the class of Active Knowledge Sharing (VIII A) dan 30 students for the class of control group (VIII - B) .Retrieval of data using instruments achievement test in essay form. The hypothesis of this study is the application of learning strategies had influenced Active Knowledge Sharing on learning outcomes Biology subject of eighth grade students SMPN 5 Samarinda.Data analysis using t-test and results of study shows that the average difference of the two groups obtained t-value is greater than t-table ($3.35 > 1.671$). It means the alternative hypothesis (H_a) is accepted and the null hypothesis (H_0) is rejected. It shows that there are differences in student learning outcomes using Active Knowledge Sharing strategies between the class VIII A (experimental group) and class VIII B (control group) uses the direct instruction.

Key words: Active Knowledge Sharing, Direct Learning, learning

INTRODUCTION

Education is an important aspect for the development of human resources . Because education is one of way which is used not only to liberate man from having fallen behind, but also from ignorance and poverty. Education is believed to be able to instill the capacity for people to learn new knowledge and skills so as to obtain a productive human being. On the other hand, education is believed to be a vehicle for widening access and social mobility in society both horizontally and vertically. According to Silberman (2002), learning is not an automatic consequence of the delivery of information to students. Because, basically learning requires mental involvement, as well as actions . At the time of active learnin , students do most of the work of learning. He studied the ideas, how to solve problems and applying what he learned, and this is the basis fact of active learning .

During this time, the learning process is more often defined as a teacher who explains the material, while students listen passively. However, it have found that the quality of learning is enhanced when students get ample opportunity to ask questions, discussion, and use new knowledge actively obtained. In this way, new knowledge will tend to be quickly understood and controlled better. One effort to improve the quality of education is use to improve the learning process. Learning is basically of the interaction or reciprocal relationship between teachers and students in the educational situation. Therefore, teachers are required to teach patience, perseverance and open attitudes, in addition to proficiency in teaching and learning situations are more active.



Active learning is any form of learning that allows students to actively participate in the learning process itself, either in the form of students interaction as well as between students and teachers. Active learning is also a very effective method of learning to be able to provide a learning environment that is interactive, interesting and fun so that students are able to absorb knowledge and new knowledge, and use it for the benefit of themselves and their environment. Active learning is certainly a very important thing to be applied in these days, given the rapid development of science and thus require students intellectually and emotionally. In general, the active learning process also allows an interaction that occurs during the learning process will lead to positive interdependence, where the consolidation of learned knowledge can be only acquired jointly through active exploration in learning. Each students should be actively involved in the learning process and teachers should be able to provide students. For the assessment of each active learning process to be effective, it needs a high level of cooperation, so that will foster social skills. Thus, the quality of learning can be improved, so that mastery of the material will also increase.

Learning science, especially Biology teachers are required to be more creative in presenting the materials. Problems often occur in learning Biology still the dominant model of the conventional learning (lectures). Less conventional learning model provides opportunities for active student learning so that students tend to just quiet and just listen to the explanations of the teacher alone. Less strategy conventional learning facilitates teamwork between students with each other, so that the students tended to individually in the learning process and the lack of readiness of students in preparing learning materials and lack of student interest in the subject. Thus, we need a field of science that can develop critical thinking skills, creative, logical, and initiative. In classroom practice based on observation and experience in implementing Practice Teaching at SMP N 5 Samarinda and information from teachers that there is a lack of student motivation in learning Biology.

For example, when the teacher explained to the class the students respond to the teacher's explanation lacking. Students activity was minimal at all, they just sit quietly and sometimes look sleepy. In addition, the students tend to memorize biology concepts such as what is stated in the book, so that students' skills in critical thinking is still very low. Likewise, in the learning process has not exactly fit with the concept of learning. In addition to the reality above, students are given a question and also given the opportunity to ask nothing serious and no one wants to even ask or answer the questions so teachers found it difficult to assess the cognitive, affective and psychomotor assessment. In response to this it is necessary to apply a learning strategy that is believed to enable the learning process in the classroom. One application that can be used to overcome is to use active learning in order to stimulate students to become active in learning and seeking information from various sources. In active learning, there are different learning strategies, one of which is an Active Knowledge Sharing (AKS).

Biology is one part of the science that have effect in mastering science and technology. Biology is more stressed on teaching and learning activities, developing the concept of process and students creativity with various learning strategies that in accordance with the study materials being taught. Problemsof learning Biology among connected with creativity, teaching materials or the method. In fact, the learning process at school, the teachers did not give chance to students to increase their creativity. Biology, indispensable appropriate learning strategies can be optimally engage students both intellectually and emotionally, because teaching biology emphasis on process skills. Biology deals with how to find out and understand about the nature systematically, so that not only the



mastery of biological knowledge in the form of a collection of facts, concepts, principles, but also a process of discovery.

Active Knowledge Sharing strategy meaningful exchange of knowledge. Active knowledge sharing strategy is a learning strategy by giving emphasis to the students to help each other answer questions that are not known to other friends . This means that students can not answer the question disilahkan untuk mencari answers from a friend who knows the answer and students who know the answer to help friends yang kesulitan emphasized .

Active Knowledge Sharing strategy can be used to view the level of students' abilities and teamwork . This strategy can be performed on almost all subjects . Students can learn actively using their minds which means student can think independently and innovative not only accepted from the teachers. Students are given more opportunities to express their opinions both in terms of answering the question, ask the teacher and other friends during the learning process. Students can work together with other friends to exchange knowledge and thus be motivated to learn by do the learning activities that increase learning outcomes. The use of Active Knowledge Sharing strategy will lead students to further develop the process of science skills because the students are focus on the ability of its implementation which refers to skills such as how to do observation by students, using tools, students prediction, actively ask questions and do experiment so that students are more familiar with process of skills, teachers are expected to assess students' process of science skills that have been rarely used in the assessment. The success of the learning process for the achievement of learning objectives is required use appropriate learning strategies .According to the statements above, researchers want to know are there any effects of Active Learning Strategies toward the Biology Learning Outcomes of Eighth grades students of SMPN 5 Samarinda.

RESEARCH METHOD

In this study was used Quasi Experimental, it is a type of research that uses the entire subject in the group study (intact group) for treatment, not instead of using subjects drawn at random. According to Sugiyono, Quasi-experimental method is a research method that used to find out the influence of certain treatment to the other in controlled situation. Quasi Experimental design is used because in fact it is difficult to get the control group of the study (Sugiyono, 2009).

Variables and Operational definition

a. variables

The independent variable in this study is the learning strategy of Active Knowledge Sharing. That is a learning strategy that gives emphasis to the students to help each other answer questions that are not known to other friends.

b. dependent variable

The dependent variable in this study is the biology learning outcomes by eighth grades students of SMP Negeri 5 Samarinda.

Operational definitions

- a. Active Knowledge Sharing is a method to enable learners from the beginning through sharing / exchanging knowledge (Suyadi, 2013).
- b. The result of students learning is the students' ability after they get their learning experience. These abilities consist of knowledge, comprehension, implementation, analysis, evaluation and creativity

after having a learning experience. The results of this study can be measured using a written test given to students

Research Design

The study was designed using a quasi-experimental model pretest-posttest Control Group. The measurements were taken after being given good treatment in treatment group A and treatment group B. Group A's treatment using Active Knowledge Sharing learning strategy, while the Group B's treatment using conventional learning. Then make observations for the dependent variable phase measurements.

Data Collection Techniques

Data collection techniques used in the study is a test that give formative test to each sampled class research with the same questions, then both of formative test result was compared to be analyzed.

1. Pre-test, is conducted to determine the ability of thinking and learning is done before the learning activity.
2. Giving Treatment to the class which is used as the subject of research by the treatment of Active Learning Knowledge Sharing model.
3. Post-test, measures the ability of thinking and learning after the learning activities. And all of the materials in the final exam will be held as much as 5 questions, then the test results were compared to be analyzed.

Data Analysis Techniques

Data collected techniques in this study is a statistical technique t-test, the research variables are students learning outcomes in the form of the average scores of the use of Active Knowledge Sharing learning strategy in Biology subject. In t-test auxiliary work table, the learning results which using Active learning Knowledge Sharing Strategy is marked as X1 symbol and learning result which using direct teaching model is marked as X2 symbol. To obtain the data, the researcher takes the score of formative tests. Before doing the test – t, the researchers need to know whether the data were normally distributed and have the same variance.

Normality test

Normality test is performed to determine whether the data to be normally distributed test or abnormal, as this affects the subsequent testing. If the data are normally distributed then it is better to use parametric statistics, if the data are not normally distributed then it is better to use non-parametric statistics.

To determine whether the data comes from normally distributed population, then tested for normality using the Kolmogorov-Smirnov test.

Homogeneity test

Homegeneity test is performed to determine whether the data were analyzed have the same variance. If the statistical data on the numbers show the significant scores of less than 0.05, it can be said that the data is homogeneous.

Formula :

$$F_{\text{value}} = \frac{S_1^2}{S_2^2} \text{ where } S_1^2 > S_2^2$$

To determine the role of the ability of the test to the successful implementation of student learning, the researchers used statistical analysis techniques with t-test technique with the following formula

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\left(\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}\right)\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

where:

X1 = Mean of classes using Active Knowledge Sharing learning strategy

X2 = Mean of class that using conventional learning strategies

n1 = number of subjects taught by Active Knowledge Sharing learning strategy

n2 = number of subjects taught by conventional teaching strategies

S₁² = variance of the class that uses Active Knowledge Sharing learning strategies

S₂² = Variance of a class that uses a conventional learning strategies

$$\sum_{i=1}^N (X_1 - \bar{X}_1)^2$$

$$S_1^2 = \frac{\quad}{n(n-1)}$$

To reject or accept the hypothesis first made null hypothesis (Ho) that there is no effect of the application of Active Knowledge Sharing learning strategies on learning outcomes of students in Biology subject of SMP Negeri 5 Samarinda. Furthermore (Ho) is tested by t-test.

Accepted Ho are:

1. If tcount ≥ ttable the hypotesis Ho is rejected and Ha is accepted with assumption that no effect of the application of Active Knowledge Sharing learning strategies on learning outcomes of students in science Biology subject of eight grades in SMP Negeri 5 Samarinda.
2. If tcount < ttable the hypothesis Ho is accepted and Ha is rejected with assumption that no effect of the application of Active Knowledge Sharing learning strategies on learning outcomes of students in science Biology subject of eight grades in SMP Negeri 5 Samarinda.

DISCUSSION

This study aims to determine are there any effect of Active Knowledge Sharing (AKS) learning strategy in Biology Students Learning Outcomes of eighth Grades students of SMPN 5 Samarinda. This research was conducted by using data of 60 students were divided into two classes, namely class VIII A learning strategy that uses the Active Knowledge Sharing and VIII B as class control group.

Based on the statistical test is known that there are differences in learning outcomes which using Active Knowledge Sharing with untreated (control class) on learning outcomes of Biology subject at the eighth grade students of SMP Negeri 5 Samarinda. The results showed that the average scores of class VIII - A treated with Active Knowledge Sharing is 79.6 and the average scores of class VIII – B which untreated was 69.8.

The effect of Active Knowledge Sharing learning strategies on learning outcomes of Biology subject class VIII A students at SMP Negeri 5 Samarinda also can be seen in the graph which shows the effect of learning strategies on Active Knowledge Sharing.

Based on the analysis of the data manually is known that the F count is smaller than the F table (1.89 < 4.00) and t-count greater than the t-table (3.35 > 1.671). Thus, Ho is rejected and Ha is

accepted that there are significant learning outcomes of students who use learning strategies Active Knowledge Sharing.

From the data analysis is known that there are the effects of learning outcomes in the classroom which using Active Knowledge Sharing learning strategy with untreated (control class) on learning outcomes of students in Biology students. The results of this study indicate that the learning outcomes of students who use learning strategies Active Knowledge Sharing has better learning outcomes of the class who did not receive this treatment. It appropriate with the opinion of Dewi (2012) that the Active Knowledge Sharing is a strategy that emphasizes the students to share and assist in solving the questions. In other words, " when there are students who are not able to answer any questions or difficulty answering, the other students are able to answer his questions can help to resolve a given question". This is also in accordance with the steps of Active Knowledge Sharing in which students search for other students to answer questions they did not know the answer. Students can exchange knowledge and cooperate with each other in solving problems given by the teacher so as to help them be more confident in answering questions that have given. According to Zaini (2002) Active Knowledge Sharing is a learning strategy that can bring students to be ready to learn material before the material is taught and trained students for teamwork. It is very good to use for students that have properties that are less individualism in cooperation in the discussions

The effect of Active Knowledge Sharing to the learning outcomes of class VIII A and VIII B class as the control class is also likely influenced by several factors, including factor that can affect student learning outcomes are both physical and psychological condition at the time of the students participating in learning where teaching and learning activities at eighth grades students of SMPN 5 Samarinda. This is in accordance with the opinion of J. Biggers who say that studying in the morning is more effective than learning at other times. This is because in the morning students condition physically and mentally are fresh and brain memory is empty, so it is easy to absorb the material being taught.

The general constraints encountered during the research process including :

- 1 . The time the division of the group, there are some students who are not willing to be grouped with his friends in a group that has been determined by a group of teachers with a reason to want his own choice and does not fit in with friends who grouped teachers
- 2 . There are students who lack communication with a group of friends so that researchers should pay attention to the group
- 3 . Existence of differences in character between the students in each group resulted in difficulties students to work together
- 4 . Difficulty in maximizing the time available for learning and meeting lasted for most holidays.

Given the constraints as above, a solution that can be given is to emphasize to students about the importance of teamwork in solving the issue of their problems without having to choose friend. As for the problem of time because of the time knock off to be replaced by the next meeting

CONCLUSION AND SUGGESTIONS

Conclusion

Based on the research and analysis of data, it can be concluded as follows :

- 1 . Whereas there are significant Active Knowledge Sharing learning strategies on students learning outcomes of Biology subjects at eighth grades students of SMPN 5 Samarinda. It is based on of t-count is larger than t-table ($3.35 > 1.671$).



- 2 . Active Knowledge Sharing learning strategy has a significant effect on learning outcomes of Biology subject which is compared with conventional learning.

Suggestion

Based on the research that has been done , the authors present some suggestions as follows :

- 1 . The biology teachers is better to implement cooperative learning strategies in the implementation of learning as an alternative to improve learning outcomes.
- 2 . The other researchers who want to do the same with this research study should apply Active Knowledge Sharing learning strategies on different materials, so it will be known whether the learning strategy is suitable for all material on the biology of learning .
- 3 . Expected that students always follow and participate actively in the activities of the learning process and continue to improve their ability to mastery the learning materials.

REFERENCES

- Hamid, M., S. 2011. *Metode Edutainment*. Yogyakarta: Diva Press
- Silberman, M. L. 2002. *Active Learning: 101 Strategi Pembelajaran Aktif*. Yogyakarta: Yappendis.
- Sugiyono. 2009. *Metode Penelitian Pendidikan*. Bandung: CV Alfabeta.
- Pramudjono.2004. *Statistik Dasar*. Samarinda: Universitas Mulawarman.