



THE IMPLEMENTATION OF ACTIVE GIVING QUESTIONS AND GETTING ANSWER STRATEGY IN DIRECT INSTRUCTION LEARNING MODEL TO IMPROVE BIOLOGY LEARNING OUTCOMES CLASS XI IPA 3 SMAN 5 KENDARI

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Abstract

This class action research aims to improve the learning outcomes of biology students of Class XI IPA 3 SMA Negeri 5 Kendari through learning active strategy giving questions and getting answers in the direct instruction learning model. The subjects of this study were all students registered in the even semester of the 2013/2014 academic year class XI IPA 3 SMA Negeri 5 Kendari with a total of 42 students, consisting of 11 male students and 31 female students. The initial data collection technique was done by interview and observation. The source of data from the study is the measurement of student learning outcomes tests using learning outcomes indicators according to Anderson and Krathwohl in cycle I, cycle II, and cycle III. The data obtained were analyzed using descriptive data. The results of this study concluded that the average learning achievement of students in the first cycle was 68.55%, the second cycle was 61.695 and in the third cycle was 81.81%.

Keywords: Giving Questions and Getting Answer, Direct Instruction, Learning Outcome

A. Introduction

Education is series of communication activities among people so that they can grow and develop as whole people. Education is also a deliberate and planned effort to improve the achievements and abilities of students to benefit their life interests, both as individuals and citizens.

The quality of education is largely determined by the quality of the teachers. Teachers are usually people who meet and teach students face to face in the classroom. However, without qualified teacher, neither good/modern educational curriculum nor strategic planing are design, the results might be not as well as teacher expected. As we can see, the importance of the role and quality of a teacher alongside the many problems faced by teachers.

The result of an educational process is strongly influenced by ongoing learning. Learning is a complicated process because it does not merely absorb information from the teacher but involves a variety of activities and actions that must be taken by students to get better learning outcomes. The learning process is composed of a number of components or elements that are interrelated and interact with one another. The interaction between the teacher and students

during the teaching and learning process takes place, plays an important role to achieve the desired learning and learning goals.

Based on the results of preliminary observations, there are problems in learning process such as many students ignore the teacher when the teacher is explaining the material and afraid of asking unclear material that has been delivered by teacher, as the result, low student learning outcomes was low compared to the value of the Minimum Mastery Criteria (KKM) set by the school on the respiratory system material, that is 70% of students in the class have scored ≥ 75 .

In addition, observation results also show that the low learning outcomes of students are influenced by various factors, such as lack of learning method and model variety, lack of student's interest, activity, and social interaction. Moreover, lack of student's activity and social interaction itself, push student to learn individually, so that learning outcomes and activities did not varied as expected.

Based on these problems, actions in classroom is needed to improve learning outcomes in biology learning process, especially in respiratory system. One of the solution that might improve student's learning process is to apply other learning models and strategies that prioritize the activeness of students and provide opportunities for students to develop their abilities, in this case, the ability to ask and answer. It is a modified Direct Instruction learning model using an active Giving Questions and Getting Answer strategy. Direct Instruction learning model can maximize the use of student learning time because Direct Instruction learning is designed to improve the mastery of various skills (procedural knowledge) and factual knowledge that can be taught step by step (Arends, 2008: 295). While the active strategy of Giving Questions and Getting Answers according to Silberman (2013: 254) is an implementation of constructivist learning that places students as subjects in learning.

Based on this, the active strategy of Giving Questions and Getting Answers is very important to be applied in learning biology. This strategy can train students to have the abilities and skills to ask and answer questions, so this strategy needs to be applied to improve the learning outcomes of biology class XI IPA3 SMAN 5 Kendari.

B. Literature Review

1. Learning Outcomes

Learning outcomes related to achievement in obtaining abilities in accordance with planned specific objectives. Thus, the main task of the teacher in this activity is to design instruments that can collect data about the success of students achieving learning objectives. Based on these data the teacher can develop and improve learning programs, while the task of a designer in determining learning outcomes is in addition to determining the instruments also determine the success criteria. This needs to be done because with clear criteria it can be determined what students should do in learning the contents or learning material (Sanjaya, 2011: 13).

Learning outcomes, in general, can be categorized into three indicators, namely: (1) learning effectiveness, which is usually measured by the level of success (achievement) of students from various angles, (2) learning efficiency which is usually measured by learning time and learning costs, and (3) the attractiveness of learning which is always measured by the tendency of students to want to learn continuously. Specifically, learning outcomes are a performance that is indicated by an ability obtained (Wulan, 2012: 35).

Furthermore, according to Arikunto (2009: 53), what is meant by a learning achievement test or achievement test is a tool or procedure used to find out or measure learning outcomes by means of rules that have been set. According to Hakim (2007: 12), student learning outcomes are much influenced by various factors both from themselves (internal) and from outside themselves (external).

2. Strategy of Active Giving Questions and Getting Answer (GQGA)

The active learning strategy Giving Questions and Getting Answers was invented by Spancer Kagan, Swiss in 1963. This strategy was developed to train student's asking and answering skills, because basically, the strategy is a modification of the question and answer method which is a collaboration with using pieces of paper as a medium (Chasana, et al., 2012: 30).

Active learning strategies Giving Questions and Getting Answers basically provides opportunities for students to work together during their learning process to build understanding and skills through interaction with their social environment, such as peers and other learning resources. Interaction with the environment allows students to improve their

understanding and enrich their knowledge through questioning or discussion activities in their study group, in addition, the teacher acts as a guide in a class. Scientific attitudes of students such as curiosity, cooperation, confidence, responsibility, accuracy, tolerance, and discipline are needed to improve student learning outcomes (Yulia, et al., 2012: 4).

The active learning strategy Giving Questions and Getting Answers is a team-building strategy to involve students in reviewing the previous subject matter. In active learning, the type of giving questions and getting answers every student has the opportunity to communicate in the classroom. Students who have mastered the material can share their knowledge with their friends who do not understand the material so that students build their knowledge not only from the teacher but also from their friends. This learning strategy allows each student to review the material in the previous lesson, so that students have the opportunity to keep previous learning embedded in their minds (Syafrida, et al., 2011: 20).

The advantages of active learning strategies Giving Questions and Getting Answers include: a) activating student during learning process, b) giving student opportunity to ask in group or individually, c) checking student's material mastery in previous meeting, d) encouraging student make their own opinion (Fitriantoro, 2010: 12).

There are six main phases or steps in each learning, they are the teacher: 1) distributes learning tools to students, 2) gives instructions to the students about the strategies used, 3) instructs students to fill in their identities and instruct the students to write to the paper about things that are not yet understood, 4) divides students into groups, 5) gives a discussion session where each group is required to choose two cards, one card for questions and the second card to answer questions from other groups, 6) provide reinforcement by all study groups / all students (Fitriantoro, 2010: 13).

3. *Direct Instruction Learning Model*

Direct learning model is a learning model that emphasizes the mastery of concepts or behavioral change by prioritizing the deductive approach, with the following characteristics: 1) transformation and direct skills, 2) learning oriented towards specific goals, 3) structured learning material, 4) structured learning environment, and 5) structured by the teacher, the teacher acts as a conveyor of information, and in this case, the teacher should use a variety of appropriate media, such as films, pictures, demonstrations, and so on (Wulan, 2012: 37).

Direct learning (Direct Instruction) refers to a variety of expository learning techniques (transfer of knowledge from the teacher to students directly, for example through lectures, demonstrations, and question and answer) that involve the whole class. Direct learning is designed to improve the mastery of various skills (procedural knowledge) and factual knowledge that can be taught step by step (Arends, 2008: 295).

Direct learning model, designed to create a learning environment structure and oriented towards academic achievement. In direct learning, the teacher acts as the delivery of information. In doing their job, the teacher should use various media. Information that can be delivered through directive strategy. It can be in the form of procedural knowledge or declarative knowledge (La Iru and Arihi, 2012: 155).

There are six main phases or steps in each learning, namely 1) Delivering learning objectives and preparing students, 2) Demonstrating knowledge and skills, 3) Guiding training, 4) Checking to understand and providing feedback, 5) Providing opportunities for further training, 6) Summarizing the learning objectives (Trianto, 2007: 31).

4. *Giving Questions and Getting Answer (GQGA) in Direct Instruction Strategy*

Active learning strategies Giving Questions and Getting Answers on the Direct Instruction learning model provides opportunities for students to work together in building understanding and skills through interactions with the environment such as peers and other learning resources. Interaction with the environment allows a learner to improve his understanding and enrich his knowledge through questioning or discussion activities in his study group. Student's discussion result poured into paper, and the teacher acts as a guide, so that ultimately it can improve learning activities and outcomes.

There are several main stages or steps in active learning strategy Giving Questions and Getting Answers in the Direct Instruction learning model, they are the teacher: 1) delivering learning objectives and preparing students, 2) demonstrating knowledge and skills, 3) guiding training, 4) sharing learning tools with participants students, 5) giving instructions to the students about the strategies used, 6) instructing students to fill in their identities and instruct students to write into paper about things that are not yet understood, 7) dividing students into

groups, 8) giving a discussion session where each group is required to choose two cards, the first card for questions and the second card to answer questions from other groups, 9) giving reinforcement by all study groups / all students, 10) checking student's understanding and providing feedback, 11) summarizing the objectives of the lesson (Trianto, 2007: 31).

C. Methodology

1. Research Design

This research was conducted in the even semester of the academic year 2013/2014 at SMAN 5 Kendari. The subjects of this study were all students of class XI IPA 3 of SMAN 5 Kendari with 42 students, consisting of 11 male students and 31 female students. This research is a classroom action research (CAR) carried out in three cycles. Each cycle consists of planning, implementing actions, observing and reflecting.

2. Instruments

The instruments used in this study were divided into two types, namely relating implementation of learning instruments and measuring learning activities and outcomes instruments. The first type of instrument is lesson plan and student's worksheet of active Giving Questions and Getting Answers in the Direct Instruction. While the second instrument is an evaluation tool consisting of an assessment rubric of learning outcomes.

3. Data Analysis Technique

The data obtained in this study were analyzed using descriptive statistics to provide student's learning outcomes improvements who were taught using active strategies, Giving Questions and Getting Answers on the Direct Instruction model, while the score of student activeness and teacher activity on the results obtained by using the observation sheet during the learning process.

As steps in analyzing learning outcomes and learning activities of students are as follows:

- a. Data's tabulation of score for each point in the form in the appendix.
- b. Determine student learning outcomes. In determining the value of student learning outcomes ranking value used for the description test in this study is 0 to 100 with the formula:

$$X_i = \frac{Spi}{Sm} \times 100$$

Information :

X_i = Value obtained by the i -th student

Spi = Score obtained by the i -th student

Sm = Maximum score possible (ideal score)

(Usman and Setiawati, 1993: 139)

- c. Calculate the average value of students' learning activities and learning outcomes using the formula:

$$\bar{X} = \frac{\sum_{i=1}^n X_i}{n}$$

Information :

\bar{X} = average value obtained by students

n = number of students as a whole

X_i = value obtained by each student (Sudjana, 1996: 67)

- d. Classify the average activity scores of students as follows:

$1 \leq X_i < 2$: less

$2 \leq X_i < 3$: enough

$3 \leq X_i < 4$: good

$X_i = 4$: very good (Sudjana, 2008: 49).

D. Findings and Discussion

1. Finding

Data on student learning outcomes are obtained using learning outcomes tests. Based on the descriptive analysis of student biology learning outcomes shown in the form of a cycle test consisting of the first cycle test, second cycle test, and third cycle test can be seen in the graph below

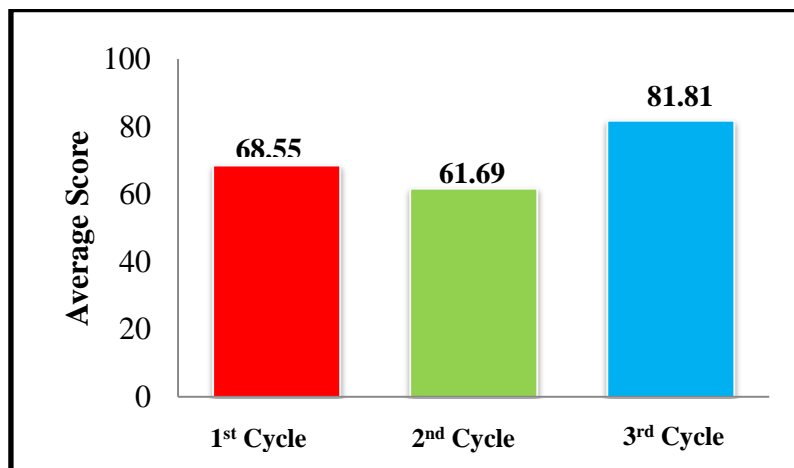


Figure 1. Increase in student's learning outcomes in cycle I, II, and III

Based on the picture in the second cycle, the value of students has decreased from the first cycle, while in the second cycle the value of students is 61.69 and in the first cycle that is 68.55. The decrease in average student learning outcomes in the second cycle is 6.86. This is because students tend to be difficult informing their understanding related to the material mechanism of chest breathing and abdominal breathing, as well as the process of gas exchange from alveoli to blood capillaries or vice versa. The weakness of students in this material is the explanation of the two materials has a higher level than other sub-topics related to the respiratory system or these two materials were more difficult than other sub-topics in respiratory system.

Furthermore, in the third cycle, improvements were made to both the teacher's and the students activities. Although there are still students who got low grades, in percentage terms, it was good enough for student learning outcomes, where in the third cycle the average score is 81.81. It means that there is an enhancement from the second cycle, which amounted to 20.12. This is because the teacher has been able to implement the learning scenario better than the first and the second cycle. The teacher is able to carry out monitoring and guidance of students in groups so that there was no group was being ignored, and to apply active learning strategies Giving Questions and Getting Answers to the Direct Instruction learning model in accordance with the implementation criteria.

2. Discussion

Overall the application of active learning strategies Giving Question and Getting Answers on the Direct Instruction learning model can improve the activities and learning outcomes of students step by step from the first to the third cycle. This is consistent with Jannah's research (2011), saying that active learning strategies Giving Question and Getting Answers can improve student's learning outcomes and scientific attitudes due to student's involvement in learning process. The knowledge possessed by someone always starts from questioning (asking) in contextually based which is the main strategy. Asking questions in learning is seen as an activity to encourage, guide, and assess students' abilities. The questioning activity is an important part in carry out learning. The questioning activity can dig up information, such as what is already known, and someone's unknown aspects in learning context.

In the learning process, students wrote on the paper things that they have not been understood in the form of questions that will be asked during the discussion and also wrote material that they have understood on paper. However, students learnt in different ways. There are students who learn by writing unclear concepts on the paper or memorizing materials. Moreover, teacher as a guide, helps student to think through all of the questions given by their friends and suggests students to interact with their classmates. The two different learning styles mentioned above and discussion with classmates and friends in a group gives positive impacts to student's outcomes including responsibility, tolerance, and self confidence. In this case, students will remember the materials last longer due to repetition and searching activity.

This is in line with the opinion of Zaini (2010: 8) which explains that learning active strategy Giving Question and Getting Answer is a pattern of cooperation. Giving Questions is a very important part of learning. If a student asks, then he has figured out problems that is being learned in his study. The appearance of a problem indicates that the student has begun to think, and if the problem is formulated into a question it means that the student wishes to find an answer of the problem, and wishes to develop their thoughts further. In asking questions there

are a number of things obtained including digging up student information and stimulating students to think. Students can check their understanding, focus on teacher's class setting, furthermore, students have the desire improving their asking and answering skills and of course also improving their learning outcomes.

Furthermore, Fatkhan (2012: 17) explains that Getting Answers is something that is useful in the teaching and learning process. When students express their opinions, it means students have curiosity or desire to investigate about new things. Students can focus on the discussion subject, work in groups, develop active learning, respect other's opinions, restate important facts, build conducive learning environment.

Student's involvement in learning process will eliminate boredom in learning. Participating in problem-solving process will build more meaningful learning and learning outcomes will increase as well. Furthermore, Zaini (2011: 4) explains that in learning, students can repeat the subject matter, play a role and be actively involved in the learning process, and state what they are unclear concept in form of question and also clear concept for them, so that this process later can improve student learning outcomes.

E. Conclusion

Based on the results of the research conducted, it can be concluded that the implementation of an active Giving Questions and Getting Answer strategy in the Direct Instruction learning model can increase the activities and learning outcomes of students in the respiratory system material Class XI IPA3 SMA Negeri 5 Kendari, 2013/2014 school year.

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