

Application of the Take and Give Learning Method in Learning Physics to Improve Learning Outcomes and Student Activity

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ABSTRACT

Teaching and learning activities in the classroom will be effective if there is a reciprocal process between the teacher and students. Learning methods that run in one direction will make it difficult for teachers to measure the level of student understanding of a lesson, especially in exact subjects, Mathematics. In the learning process of physics lessons in class X IL3 SMK Negeri 1 Jatirejo, there is often a passive student condition in teaching and learning activities. Take and Give learning has several steps, starting with making cards that will be distributed to each student. The cards contain one subject matter to be taught. The student's task is to find other cards that contain material other than the material on their card. Then students are asked to study and teach the cards they have to other students.

The success indicator of this research is that there are 70% of students who pass the KKM. In the pre-cycle, 63.6% (21 students) completed the KKM. Then, in cycle I, 72.7% (24 students) completed the KKM. Then, in cycle II there were 87.9% (29 students) who completed KKM, while in the activeness of students in each cycle more and more students were included in the classification A (Very Good) and B (Good). On the other hand, the number of students in classification C (sufficient). Meanwhile, students in the classification of D (poor) and E (very poor) scores were not found at the end of the research cycle.

Keywords: *Take and Give, Learning Outcomes, Activeness.*

INTRODUCTION

The implementation of education in schools has a major contribution to human abilities and experience. There are several important elements in an education held in schools including curriculum, educators and students. Oemar explains that a school as a formal educational institution, systematically plans various environments, namely educational environments that provide various opportunities for students to carry out various learning activities (Oemar, 2005). With these various learning opportunities the growth and development of students is directed and encouraged to achieve the goals they aspire to. The environment is arranged and arranged in a curriculum, which in turn is carried out in the form of a learning process carried out by educators and students (Aftoni et al., 2021). Teachers as educators and students as students are the main elements in learning activities in schools (Putri et al., 2021). But the learning process carried out by many educators currently tends to achieve the target curriculum material. This can be seen from the learning activities in the classroom which are always dominated by the teacher and do not involve students directly (Hamsidar et al., 2020).

Teaching and learning activities in the classroom will be effective if there is a reciprocal process between the teacher and students. Learning methods that run in one direction will make it difficult for teachers to measure the level of understanding of students in a lesson, especially in exact lessons. In the learning process of physics lessons in class X IL 3 SMK Negeri 1 Jatirejo, passive students often occur in teaching and learning activities. When asked by the teacher regarding the material that has been given, students tend to be silent. This makes it difficult for the teacher to know whether students understand or not. The level of understanding of students can be known after the daily test scores are out and it turns out that most students do not understand (Julyanti et al., 2020). Things like that are often encountered by researchers who are also teachers of Physics.

Previously, to overcome the one-way learning process which made students tend to be passive, the teacher used the discussion method. However, in practice students tend to be silent and shy to express their ideas or answers (Setiawati & Irawati, 2019). This certainly makes it difficult for teachers to

increase the activity and learning outcomes of students in class.

Therefore, researchers consider it necessary to conduct a study that aims to increase student activity in class which is then able to improve student learning outcomes. The choice of a new teaching method is a way out that might be used (Anwar, 2021). Researchers chose to use the Take and Give method in this study. In simple terms the application of this method is to make cards that will be distributed to each student. The cards contain one subject matter to be taught. The student's task is to find other cards that contain material other than the material on their card. Then students are asked to study and teach the cards they have to other students. Based on the background of the problem, the formulation of the problem is proposed: Can the Take and Give method be able to increase the activity and learning outcomes of class XII 3 students of SMK Negeri 1 Jatirejo in the 2021/2022 academic year in Physics subject matter Quantum Theory, Atomic Theory, and Special Theory of Relativity?

METHOD

The research method used in this activity is using the Classroom Action Research method (Sugiyono, 2018). In the second step, the researcher determines 3 actions: 1) the first action is pre-cycle action, namely observing learning using various lecture methods with the help of colleagues, 2) the second action in cycle 1, namely in cycle 1 already using the Take and Give learning method, 3) the third action in cycle 2 is already using the Take and Give learning method. The third step is the action procedure in CAR, namely: 1) planning an action (planning), 2) taking action according to what is planned (acting), 3) making observations of the actions that have been taken (observing), 4) conducting a comparative descriptive analysis (reflecting).

RESULT AND DISCUSSION

Pre cycle

The learning given to students in the test class during the pre-cycle was the same as learning without using the Take and Give method, the Pretest results in the pre-cycle, there were 36.40% (12 students) of all students in the class who completed the KKM score. In addition, there were 63.60% (21 students) of all students who scored 77 and below, or below the KKM. The average student score on the Posttest in the pre-cycle was 68.09, which was still below the KKM score. The results of the pre-cycle student activity questionnaire are described as follows, there are 6.1% (2 students) of the total number of students in the class who fall into criterion E. In addition, there are 9.1% (3 students) of the total number of students in the class who enter in criterion D. in category C there are 51.5% (17 students) of the total number of students in the class. in category B there were 33.3% (11 students) of the total number of students in the class. However, there were no students who were included in category A.

Cycle I

The posttest results of the first cycle of students are the values obtained from tests or tests at the end of cycle I. The results of the posttest in cycle I, there were 72.7% (24 students) of all students in the class who completed the KKM score. In addition, there were 27.3% (9 students) of the total students scored 70, or below the KKM. The average score of the students on the posttest in the pre-cycle was 77.3. The results of the student activity questionnaire in cycle 1 are described as follows, there are 9% (3 students) of the total number of students in the class who are included in criterion A. In addition, there are 45.5% (15 students) of the total number of students in the class who are included in criterion B. in category C there are 45.5% (15 students) of the total number of students in the class. In cycle 1, there are no students who fit into criteria D and E. This means that this study has a positive value.

Cycle II

The value of the results of the second cycle of students' posttest is the value obtained from the test or test at the end of the second cycle. Posttest results in cycle II, there were 87.9% (29 students) of all students in the class who completed the KKM score. In addition, there were still 12.1% (4 students) of all students who scored 70 or below the KKM. The average score of students on the posttest in cycle II was 85.75. The results of the cycle 2 student activity questionnaire can be described as follows, there are 15.2% (5 students) of the total number of students in the class who fall into criterion A. In addition, there are 51.5% (17 students) of the total number of students in the class who fall into criterion B. in category C there are 33.3% (11 students) of the total number of students in the class. However, there were no students who fell into either D or E categories.

Analysis of Student Observation Results

Student behavior in each cycle continues to be observed by the observer to physically see the developments that occur. Overall results Observation data on students in cycle I and cycle II show the results of observations made by observers on student behavior in class when PTK is implemented. In the observation data table for students in cycle I and cycle II there are also several aspects of assessment which are divided into negative and positive aspects in verbal and non-verbal observations.

Some positive aspects in verbal and non-verbal observations are Students ask questions, Students can answer teacher questions, Students are enthusiastic about learning, Students are confident, Students listen to the teacher, Students are actively involved, and Students appreciate the work of friends. In accordance with observer observations, the aspect of students being able to answer teacher questions has increased from the previous cycle, namely in the previous cycle six to ten students were brave and able to answer questions from the teacher. However, in cycle II it increased to between 11 to 15 students who were brave and able to answer questions from the teacher. The increase in the positive observation aspect shows that this research was able to increase positive behavior in students.

In addition to the positive aspects, observers also observe negative behavioral aspects of students when learning is in progress. Some of the negative aspects observed by the observer were students chatting alone outside of the material, students joking, students responding carelessly, students were embarrassed, students played alone, students fell asleep, students were late for class. There were two negative aspects that experienced the greatest decrease, namely shy students and students who answered carelessly, shy students in the first cycle there were six to ten students, in the second cycle the shy students were reduced to less than six students. Likewise with the aspect of students answering carelessly, of the less than six students who answered carelessly in the learning process in cycle I, no one answered carelessly in cycle II. This proves that besides being able to increase positive behavior, it is also able to reduce student negative behavior.

Results and Analysis of Student Active Questionnaire Data

In the classification grade A, it can be seen that at the pre-cycle stage, no students fall into that category. In cycle I there were 9% (3 students) in classification A. Then, in cycle II the number of students who got category A increased to 15.2% (5 people). Thus, this study was able to increase student activity in the classification of grades A (Very Good). In grade B classification, there are 33.3% (11 students) in pre-cycle; in the first cycle increased to 45.5% (15 people); and in the second cycle increased to 51.5% (17 people). The number of students in classification B in each cycle in this study always increases. This shows that this research was able to increase the active learning of students in the classification of grades B (Good).

In the classification value C there is a change in each research cycle. In the pre-cycle stage, there were 51.5% (17 people) of students who were in the C grade category. In the first cycle, the number of students who were in the C category decreased to 45.5% (15 people). In cycle II there was a decrease, namely there were 33.34% (11 people) of students who were in category C. The decrease in the number of students occurred because of a shift in the level of active learning of students to classification grades A or to classification B.

In the classification of D values there are 9.1% (3 people) in pre-cycle. Then in cycle I and cycle II it is no longer there. Students in the E grade classification, from Pre-cycle to cycle 2, no students fall into this value category. It can be concluded that this research was able to reduce the level of student activity in qualifications C, D, and E. There was a very significant change in student activity after the research was carried out. Thus it can be said that the Take and Give learning method is able to increase the learning activity of class X IL 3 SMK Negeri 1 Jatirejo in physics lessons in the material of Quantum Theory, Atomic Theory, and Special Theory of Relativity.

Results and analysis of daily repeat data (posttest)

This analysis will find out whether there is an increase in students' abilities in each cycle, by comparing it with the students' KKM scores. The KKM score in physics in class X IL 3 at SMK Negeri 1 Jatirejo is 75. The following is the result of the analysis of daily test data.

Table 1. KKM students each cycle and the percentage

	Pre-cycle	Cycle I	Cycle II
Number of students passing KKM	21	24	29
% of students passed the KKM	63,6	72,7	87,9
Average student scores	73,6	77,3	85,75

The table above shows the increase in the number of students who achieve minimum mastery in each cycle. The success indicator of this research is that there are 70% of students who pass the KKM. Based on the data in the table above, it can be seen that in the pre-cycle, 63.6% (21 students) completed the KKM. Then, in cycle I, 72.7% (24 students) completed the KKM. Then, in cycle II, 87.9% (29 students) completed the KKM. The data shows an increase from pre-cycle to cycle II. And the success of the research according to the indicators of success was obtained during cycle I and cycle II, namely 72.7% and 87.9% of students completed the KKM or more than 70% of students completed the KKM.

The average value of student performance in each cycle has increased. In pre-cycle the average student score is only 73.6 or still below the KKM. In cycle I, the average student score was 77.3 or was already above the KKM. In cycle II the average value of students increased to 85.75 or was above the KKM. Also based on the data in the table above, it can be concluded that the use of the Take and Give learning method is able to increase the value of student learning outcomes in Physics lessons in the material of Quantum Theory, Atomic Theory, and Special Theory of Relativity in class X IL 3 students of SMK Negeri 1 Jatirejo in lesson 2021/2022.

CONCLUSIONS

Based on the results of this study, it can be seen that the Take and Give learning method is able to increase the learning activity of class X IL 3 SMK Negeri 1 Jatirejo in Physics lessons in the material of Quantum Theory, Atomic Theory, and Special Theory of Relativity. This is indicated by the value of the questionnaire filled out by students. In each cycle more and more students fall into the A (Very Good) and B (Good) classifications. On the other hand, the number of students in classification C (sufficient). Meanwhile, students in the classification of D (poor) and E (very poor) scores were not found at the end of the research cycle. Therefore, this research was declared successful in increasing student learning activity. It can be concluded that the use of the Take and Give learning method is able to increase the value of student learning outcomes in Physics lessons in the material of Quantum Theory, Atomic Theory, and Special Theory of Relativity in class X IL 3 students of SMK Negeri 1 Jatirejo in the 2021/2022 academic year.

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