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To Improve the Learning result of students in the Gasoline Motor charging Systems Subject by the Think Pair Share Learning Methods

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Abstract. This study aims: 1) to find out the learning process of the current gasoline motor charging system in the classroom; 2) to determine the effect of student learning result after using the TPS (Think Pair Share) learning method on the gasoline motor charging system subject at the Cipta Karya Prembun Vocational School. This research is a Classroom Action Research (CAR) in the class XI TKR A of SMK Cipta Karya Prembun which amounted to 32 students. The instruments in this study are multiple-choice written test questions used at the end of each cycle. The data analysis technique used in this study is a descriptive analysis. Descriptive analysis results show that through the application of Think Pair Share (TPS) learning models can increase the percentage of completeness of student learning results. Based on the result of the written test showing an increase in student learning result, it was proven that in the pre-cycle the average score of 62.66 with completeness of 9.38% increased to an average of 68.13 with completeness of 31.25% in cycle I and increased again became an average of 79.38 with 87.5% completeness in cycle II. Thus it can be concluded that applying the learning method of TPS (Think Pair Share) can improve the learning result of class XI students of TKR A SMK Cipta Karya Prembun.

Keywords: Learning Method TPS (Think Pair Share), Learning Outcomes.

1 Introduction

Education is a process of activities carried out deliberately planned to change behavior, attitudes, and increase the potential within him so that he has the ability, knowledge, personality, and skills that are good and useful for themselves and the community. Therefore, clear and directed education is needed, namely education that educates the life of the nation and develops the generation of the nation as a whole, so that it can determine the educational process that gives birth to a quality generation in both science and morals. In the aim of national education, it has been explained that human beings who have a spirit and are devoted to God Almighty and virtuous character have physical and spiritual health skills, a steady and independent personality, and a sense of community and national responsibility.

Learning is the process of changing individual behavior as a result of his experience in interacting with the environment (Rusman, 2010:34). So learning is a result of the interaction between stimulus and response. Someone is considered to have learned something if he can show changes in behavior (Khuluqo, 2017:1). Every learning process will certainly get a learning outcome. Learning outcomes are learning objectives that can be actualized or achieved by students (Sajidan, 2017:121). Student learning outcomes are usually determined

by the limits of the value that has been set from the school. This value limit is often also referred to as KKM.

KKM or Minimum Mastery Criteria is the lowest criterion to declare students achieving completeness. Where the teacher will usually determine the KKM value of the subject by considering three aspects of the criteria, namely the criteria for the level of difficulty, the level of availability of supporting subjects, and also the level of the average ability of students in the school. One thing that has not yet been achieved by KKM in students is the level of availability of supporting learning in students which is still low which results in delays in the teaching and learning process of students.

Based on observations on September 9, 2018 directly at the Cipta Karya Prembun Vocational High School which was conducted during the internship, it can be seen that there are still many students of Cipta Karya Prembun Vocational School who still have low subject values, where ideally in a learning, 70% of students must be able to achieve results above the completeness limit with minimum completeness criteria (KKM) applied at school that is 75. However, based on the results of these observations obtained results of midterm exams which show that the subject of learning the gasoline motor charging system, most students get relatively low learning outcomes. This shows that the results of student grades are still below the specified KKM 75.

The low KKM scores of students are due to the lack of supporting learning support from students in the learning media, as well as in the tools used for practice. Because of the lack of support in learning inside and outside the classroom resulting in a lack of student creativity in the classroom and outside the classroom. From this, there are several problems including the following; (1) There is often a one-way learning between teachers and students in the class in delivering learning materials for filling up a gasoline motor system; (2) Teaching and learning activities in the classroom are focused on mastering material that has a practical nature and tends to be memorized related to the subject matter being taught; (3) Students tend to experience boredom in class when teaching and learning activities and can result in unfavorable learning outcomes. This is due to the lack of student activity in the classroom. Whereas in Vocational Schools, there needs to be good skills so that when they graduate they can face competition in the world of work, so it is very necessary that the ability of specifications by the majors at school.

One learning method that can improve student learning outcomes well, especially vocational students, is the Think Pair Share (TPS) learning method. TPS (Think Pair Share) grows from cooperative learning research (Fathurrohman, 2016:86). This approach is an effective way to change the pattern of discussion in the classroom. This strategy challenges that all resistance and discussion need to be done in groups. TPS (Think Pair Share) strategy or pairwise thinking sharing is a type of cooperative learning that is designed to influence student interaction patterns (Al-Tabany, 2015:129). TPS (Think Pair Share) is an effective way to vary the atmosphere of discussion patterns in the classroom. This TPS (Think Pair Share) model introduces the idea of thinking time or body time which is a strong factor in increasing students' ability to respond to questions. This model of cooperative learning is relatively simpler because it does not take up much time to arrange to seat or classify students. This learning trains students to dare to think and respect the opinions of friends (Soimin, 2017:208). The selection of learning methods is expected to be able to visualize abstract things that are concrete. The use of instructional media is very important to support success in a teaching and learning activity. The title of this research is: "Improving Student Learning Outcomes in the Study of Gasoline Motorcycle Filling Systems with Think Pair Share (TPS) Learning Methods.

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2 Research Methods

This class action research was conducted in class XI TKR A SMK Cipta Karya Prembun Academic Year 2018/2019. The time is carried out in October 2018 until August 2019, with a total of 32 students. In this class action research, the subjects of this study were students of class XI TKR A SMK Cipta Karya Prembun in the 2018/2019 school year semester 2, amounting to 32 students consisting of 2 female students and 30 male students. The type of research used is quantitative research. The stages in this study were carried out by jumping directly into the object of research, to obtain field data the researchers used data collection techniques as follows:

Documentation

An active attempt by the researcher to obtain school data and a list of cognitive learning outcomes in the form of students' daily test scores on subjects charging a gasoline motor system. And document the implementation of research activities in the form of photographs. This documentation is carried out to support data retrieval in the form of images or photographs.

Test

The method of collecting data with a test can be interpreted as many questions that must be given a response to measure a person's ability level or reveal certain aspects of the test.

The data to be analyzed in this study is an increase in student learning outcomes in gasoline motor charging system learning by applying the Think Pair Share (TPS) method. Where in this case using the standard of completeness that is completely individual learning completeness if the level of completeness reaches a minimum of 75 from a maximum score of 100.

Data analysis of student learning outcomes can be obtained using the following formula:

a. Data analysis of students who obtained learning outcomes ≥ 75, according to (Aqib, Zainal, Siti Jalyaroh, Eko Diniati, 2014:41) to calculate the percentage of students who obtained learning outcomes ≥ 75 (complete), then the formula was used

$$P = \frac{\sum X}{\sum N} \text{X } 100\ \%$$

Information:
X = students who have finished learning
N = number of students
P = percentage of students who scored ≥ 75

b. Analysis of the average value of student learning outcomes
According to (Aqib, Zainal, Siti Jalyaroh, Eko Diniati, 2014:40) the average value of student learning outcomes is obtained using the formula:

$$X = \frac{\sum x}{\sum N}$$

Information:
X = average value
∑ x = the sum of all student grades
∑ N = number of students

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Besides, the data analysis used in this study includes data analysis to test the instrument. Analysis techniques for testing instruments include different power tests and difficulty tests.

1. Discriminating power

   Distinguishing power is the ability of the test in separating students who are smart and less smart students (Suharsimi, 2010:177). Different power indexes range from +1.0 to -1.0. Different power means that all members of the upper group answer correctly to the item, while the lower group answers incorrectly to the item, on the other hand, a difference of -1.0 means that all members of the upper group answer the item incorrectly, while the lower group all answers correctly to the item.

2. Difficulty level (difficulty index)

   The level of difficulty of the item is the proportion of test participants who answered correctly to an item. The level of difficulty of the test is the ability of the test to capture test subjects who can do it correctly (Suharsimi, 2010:176). If many students can answer correctly the level of difficulty of the test is high. Conversely, if only a few of the students can answer correctly, the level of success is low. If the item is not too difficult and is not too easy in other words, moderate or sufficient.

3 Discussion

Based on the research results obtained, several things need to be discussed about this research, namely:

Learning Planning of Gasoline Motorcycle Filling System using Think Pair Share (TPS) learning method

In planning the first cycle and second cycle in learning the Petrol Motorcycle Filling System in class XI TKR A SMK Cipta Karya Prembun students, planning needs to be made where each teacher prepares a complete lesson plan so that learning takes place well (Suharsimi, 2013:137).

Before carrying out the action the researcher is required to make a learning plan, namely: compile a research instrument in the form of a syllabus, compile lesson plans based on the stages contained in the Think Pair Share (TPS) learning method. Prepare observation sheets and material, and prepare tools for observation then explain the activities that must be carried out observations by the plans that have been made.

The important components in the learning plan are identity, standard competencies (SK), basic competencies (KD), indicators, learning objectives, subject matter, learning models with Think Pair Share (TPS) learning methods, learning steps, learning resources, and assessment. The learning competency standard is to understand the filling system of a gasoline motor and its components as well as how to care for a component of a gasoline motor charging system.

The learning process of the Gasoline Motor Filling System using Think Pair Share (TPS) learning method

Based on the results of the implementation in the first cycle, learning is still classified as very low, because many students are still unclear and understand the material and are not accustomed to learning in groups, where students are still much focused on less innovative learning that makes students bored in following the lessons.

In cycle II it has been going well, where students have been able to capture the material available and have also begun to be interested in Think Pair Share (TPS) learning methods so that students more easily understand the material and start asking questions about the material they have not mastered. The reason why the Think Pair Share (TPS) method is very good is that one of them is Enabling students to work alone and cooperate with others (Huda,

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2013:206). Based on the results of the implementation in the first and second cycles, it can be said that learning Gasoline Motor Filling System with Think Pair Share (TPS) method can improve student learning outcomes3. Improved Learning Outcomes of Gasoline Motorcycle Filling Systems with Think Pair Share (TPS) learning methods.

From the results of activities during the research, it turns out that the application of Think Pair Share (TPS) learning methods is very appropriate to be applied in class XI TKR A SMK Cipta Karya Prembun 2018/2019 Academic Year. In this activity, students gain experience in the form of cooperation between members and also the enthusiasm of learning in students.

The results of the analysis of the percentage of student learning activities in the pre-cycle to cycle II are presented as follows

Table 1. Percentage of Student Written Test Results Pre-cycle, Cycle I, Cycle II

Information	Pra Siklus	Siklus I	Siklus II
Total	2005	2180	2540
average	62,66	68,13	79,38
Maximum Value	75	75	85
Minimum value	50	60	70
the total value below the KKM	29	22	4
Percentage value below the KKM	90,62%	68,75%	12,5%
the total value above the KKM	3	10	28
Percentage value above the KKM	9,38%	31,25%	87,5%

From Figure 1 it can be seen that the percentage of student learning in pre-cycle to cycle II has increased, which is explained by the number of students in pre-cycle as much as 2005, and increased in cycle I as much as 2180, up to 2540 in cycle II. Besides, it can also be seen in the picture that the average student in the pre-cycle is still at 62.66 then increased in the first cycle by 68.13 and increased again in the second cycle by 79.38. This can be further explained by the maximum value obtained by students in pre-cycle and cycle I reaching 75 and 85 in cycle II. While the minimum value obtained by students in the pre-cycle of 50, and increased to 60 in the first cycle, and reached a value of 70 in the second cycle. With the number of students who scored below the KKM reaching 29 students in the pre-cycle with a percentage of 90.62%, then decreased to 22 students in the first cycle with a percentage of 68.75%, and only 4 students in the second cycle with a percentage of 12.5 %. And then shows the percentage of students completeness increased from 9.38% in pre-cycle where the number of students only 3 people, increased to 31.25% in the first cycle with a total of 10 students, and to 87.5% in the second cycle with a total of 28 students.

Besides that, it can be explained the percentage of students who are under KKM and also the value of students who are above KKM with the following diagram

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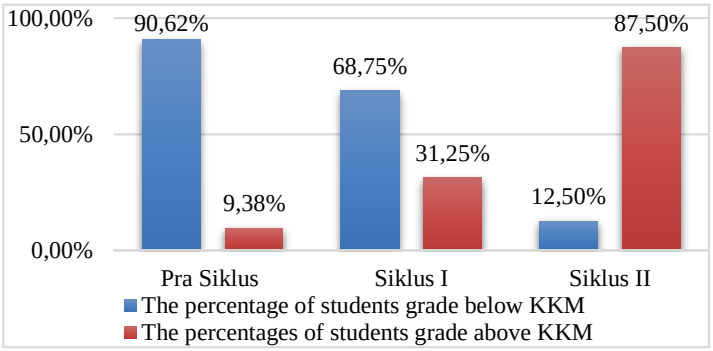

Figure 2. Percentage Diagram of Pre-Cycle Learning Outcomes, Cycle I, and Cycle II

Figure 2 explains the comparison of the percentage of students who are under the KKM and also above the KKM during the pre-cycle to cycle II. In the pre-cycle it can be seen that the percentage of student grades below the KKM reaches 90.62% and the presentation of student grades above the KKM is only 9.38% which means that almost all students have not yet achieved the KKM value, whereas in the first cycle there has been an increase where students which are still under KKM has decreased by 68.75% and students who are above KKM has reached 31.25% which means that most students have achieved KKM scores, and in the second cycle students who achieved KKM scores had reached 87.50% and those who have not yet reached the KKM of 12.50% which means that almost all students have experienced an increase in their average scores after the use of Think Pair Share (TPS) learning methods in class XI TKR A students at SMK Cipta Karya Prembun.

4 Conclusions

Based on the results of research and discussion on the initial conditions pre-cycle, cycle I, cycle II which is carried out on subjects charging the gasoline motor system in class XI TKR A SMK Cipta Karya Prembun, it can be concluded that Learning by using TPS (Think Pair Share) learning methods gasoline motor charging system can improve student learning outcomes from an average value of 62.66 with completeness of 9.38% in pre-cycle, to an average of 68.13 with completeness of 31.25% in cycle I, and increase again in cycle II to an average of 79.38 with a percentage of 87.5% of the total 32 students.

Based on research conducted by researchers, there are several suggestions, where teachers are expected to make learning innovations in the learning process to be able to improve student learning outcomes while vocational schools are expected to be able to complete the facilities and infrastructures in learning with TPS (Think Pair Share) learning methods for subject matter another productive, so as to improve the quality and success of learning that can be felt by all parties of the school.

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