



THE APPLICATION OF ROTATED PRACTICE METHOD TO IMPROVE PRACTICE LEARNING ACHIEVEMENT IN VOCATIONAL SCHOOL

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ABSTRACT

This study aims to determine: (1) the application of rotated practice method in learning the practice of automotive electrical system learning. (2) improvement of student learning achievement after the application of the rotated practice method in learning practices of automotive electrical system learning subjects. The design of this study used a classroom action research design and stopped at cycle two (II). The subject of the study was class XI of light vehicle engineering students class B with a total of 30 students. While the object of research carried out at SMK YPT Purworejo. Data collection used test. The research instrument used practicum questions which consisted of 5 job sheets. The data analysis technique used in this research was descriptive analysis. The results of the study showed that: (1) the method of rotated practice in learning the practice of learning automotive electrical systems can be applied well by students. (2) Student learning achievements in the pre cycle conducted by researchers got the final result 74.14. In the first cycle there was an increase in learning achievement to 76.48 and in the second cycle student learning achievement increased to 84.14 with 100% completeness.

Keywords: rotated practithod, electrical system, practical learning achievement

INTRODUCTION

Practical learning in the 21st century as a curriculum combines students' interests, experiences, and talents to achieve learning objectives. The learning objectives of practice are based on the needs of globalized and high-tech communities [1] [2]. Other than that, a practical learning method is the implementation of plans that have been prepared in learning activities so that the objectives which have been prepared are optimally achieved [3]. The teacher as a learning facilitator is obliged to provide a creative learning environment for student learning activities in the classroom. One of the activities that must be done by the teacher is selecting and determining the method to be chosen to achieve the learning objectives [4].

Practice learning developed based on valid principles to provide opportunities for students to study smartly, critical, creative, innovative, and solve problems [5]. Practice learning is universally carried out maximally in the teaching and learning process, especially learning carried out by vocational schools [6]. The form of vocational practice learning achievement of vocational students is the attainment of competency in vocational practice by prioritizing the output, namely the completeness of students in possessing work skills [2].

The advantages of practical learning are: (1) forming students more quickly apply the theory provided by the teacher; (2) able to prove or trust theories that have been obtained after practice; (3) increase understanding of the theory obtained; (4) Students are directly confronted with real problems; and (5) student skills are improved or higher than what has been learnt from the theory conveyed by the teacher to practice [7].

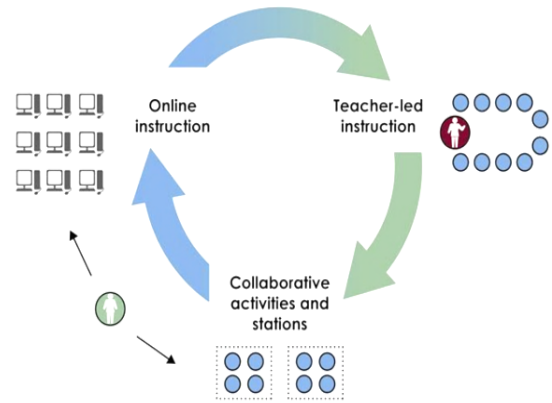
Vocational Schools are prepared as a forum to provide and develop knowledge and skills so that students are ready to work [8]. The delivery of vocational education aims to create individuals who are productive and able to work and ready to face work competition [9]. The presence of vocational education is increasingly desired by the community which is used as a solution to create resources which have qualifications as prospective workers who have certain vocational skills which are in accordance with their competencies and areas of expertise.

Vocational education is about the social development of labor, about nurturing, advancing and reproducing certain qualities of labor to improve the productive capacity of societies [8]. Vocational education is one of the solutions as a means of developing social employment, maintenance, acceleration and improvement of the quality of certain

workers in the context of increasing community productivity [10].

Based on the results of observations on the learning process of students in class XI TKR SMK YPT Purworejo is a topic related to practical learning achievement. Achievement of practical learning increases to the main problem because it is always a minimum average. So we need a learning method that is able to overcome these learning problems [11].

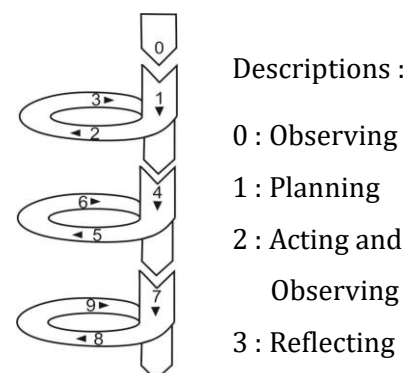
Rotated practice learning method design a system so students can engage in learning. How students can provide input into class settings [10]. Rotational practice learning method has a way of learning by doing job sheet rotation or movement periodically, with a certain time duration [12]. In each turn around, students will learn about time constraints, responsibilities, and evaluations. Rotated practice learning method regulates students receiving guidance from class teachers and can also arrange their own learning steps. This method allows students the opportunity to learn according to their abilities, while staying connected directly with a teacher and other students regularly [13].



Picture 1. Rotated Practice Learning

RESEARCH METHODS

The subjects of this study were 30 students of class XI TKR SMK YPT Purworejo in the academic year 2018/2019. This research was conducted using the classroom action research design which adopted a model developed by Kurt Lewin developed by Kemmis and Mc Taggart consisting of 4 components, namely: (1) planning, (2) acting, (3) observing, and reflecting the four components relationship are seen as one cycle. The following is spiral rotation design according to Kemmis and Mc Taggart:



Picture 2. Action Research

The followings are the steps for implementing the action:

1. Pre Observation

- a. Teacher activities during learning process
- b. Students activities during learning
- c. Interactions which occur during the learning process, both the interaction between teacher and students as well as student and student

2. Planning

- a. The teacher explains the theory of subjects
- b. Students are grouped by the number of each group 5 heterogeneously

3. Actions and Observations

- a. Each group is given a job sheet
- b. Member has different job with group members
- c. Each group member rotates job with his group mates regularly
- d. Teachers observe the course of practicum and provide assistance for those who need it

4. Reflection

- a. Evaluations are assessed individually between students and teachers.

Data collection method used in this study was a test method. The practical learning achievement test is used to obtain data about students' practical learning achievement after using the rotated practice learning method.

Table 1. Evaluation / Practice Test Grid

Kinds of Evaluation Practice	Items of Assesment				
	P	PK	HK	SK	E
Battery care					
Check and maintenance of altenator					
Regulatory checks					
Charging system circuit					
Read the results of the charging system					

Table descriptions:

P: Persiapan (Preparation), **PK :** Proses Kerja (Work Process), **HK:** Hasil Kerja (Outcome), **SK:** Sikap Kerja (Work Attitude) dan **E:** Evaluasi (Evaluation)

Each assessment item has 4 assessment scores (scores 4, 3, 2 and 1), then the final grades are processed according to the following conditions:

Table. 2 Assessment Criteria

Descriptions	Grade of Assesment Components					Practice Score(Σ NK)
	P	Pr	H	S	W	
Grade	10	50	25	10	5	

Table descriptions:

P: Preparation, **Pr:** Process, **H:** Results, **S:** Work Attitude, **W:** Time

Grade of percentage is determined proportionally according to the characteristics of the competencies **NK:** Component value is the multiplication of grade with component scores.

NP: Sum of the calculated component values.

RESULTS AND DISCUSSION

The results of using the rotated practice learning method based on team learning. Its application is in the subject of maintenance of electrical light vehicles with the subject of 30 students in one class. The study was conducted at SMK YPT Purworejo. One class is divided into 6 groups with the number of members per group of 5 students. In the early stage, each team member worked on the existing sub competencies alternately and in sequence. In the next stage they rotated each other in sequence according to the group. Thus for the next stage of practice, that was if all team members have worked on sub competencies at a certain stage, followed by rotating each other. This was done until each team member worked on all sub competencies on the given job sheet.

Students' achievement data for light electric vehicle maintenance subject is in cycle I and cycle II. Acquiring student grades class XI experienced a significant increase with an average increase of 73.17 in the pre-cycle then increased to 76.48 in the first cycle and increased again at 84.13 in the second cycle. If it is presented for students who passed the pre-cycle stage of 30% it fell into the category of lack, because the indicators of success have not reached 100%.

In the first cycle, it increased if it was presented at 76.67%, which means that the

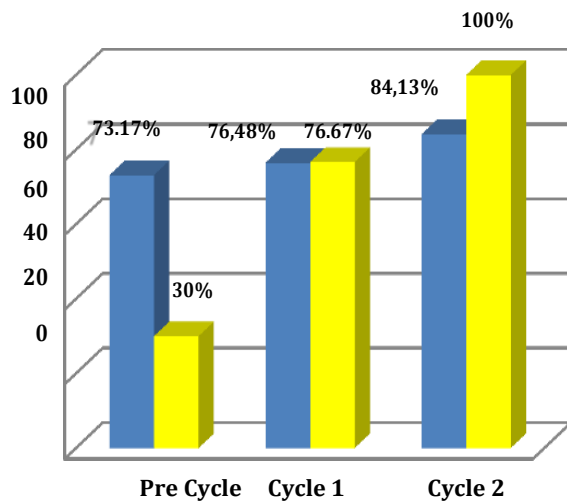
success and achievement in the first cycle was still lacking. Then, in the second cycle also increased and if it was presented that is 100% and in this second cycle the achievement of students has been more than 85% and has exceeded the indicators of success. Improving students' achievement in class XI in subjects can be described through table 3 and the following diagram:

Table 3. Learning Achievement Scores

Descriptions	Pre Cycle	Cycle I	Cycle II
Total	2195	2294	2524
Average	73.17	76.48	84.13
Maximum score	80	81.2	90.8
Minimum score	68.6	74.4	80
Total score under passing grade	27	7	0
Percentage of score under passing grade	90%	23.33%	0%
Total score above passing grade	3	23	30
Percentage of students who completed	10%	76.67%	100%

Picture 3 shows a significant increase in students' learning achievement which is indicated by an increase in graduation rates which is shown in each of each cycle. The improvement in learning achievement indicates that there was an influence when using a learning method based on team learning. This is evidenced by the achievement of completeness of overall

competency standards of students in class XI. After taking action the results of the average student if presented are 100% achieved by the level of students who passed the passing grade > 7.5.



Picture 3. Comparison of Learning Achievement Scores

Picture descriptions:

- Average score
- Passing grade percentage (%)

Improving students' achievement through the learning model of learning based on team learning in the classroom action research process especially in class XI got good results and the benefits can be immediately felt for students.

Learners felt happier when applying a learning model of rotated practice based on team learning. This is evidenced by the students who were initially given material about the electrical system paid less attention; after it is applied the learner

became more enthusiastic about the material being taught.

Students seemed to be more active asking questions when studying and practicing. This is evidenced by the questions given by teachers and students actively answering. Learners became more active in doing work when practicum and active in discussions with groups.

CONCLUSION

With the implementation of the learning method, the rotating practice has an impact on changes in the learning process and better learning outcomes. The learning process with a rotating practice learning method looks more organized with teacher advocates. So it has an impact on the achievement of students' practical learning achievement

The rotated practice learning method can be applied to 30 students in electrical vehicle maintenance subject succeeded in improving practical learning achievement and stopping at two action cycles.

The application of rotated practice learning method can improve students' learning achievement in the pre cycle conducted by researchers to get the final result 74.14. In the first cycle there was an increase in learning achievement to 76.48 and in the second cycle student learning achievement was increasing to be 84.14 with 100% completeness.

Furthermore, the successfulness of the application of the rotated practice learning method can provide motivation for teachers to apply the rotated practice learning method to other subjects.

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