APPLICATION OF PARTICIPATORY METHODS IN MOTORCYCLE ELECTRICAL MAINTENANCE LEARNING MATERIALS FOR INDUSTRIAL WORK PRACTICES (PRAKERIN) CLASS XI SMK NEGERI 4 BANDA ACEH

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ABSTRACT

An internship is a specialized activity in which students participate directly in the delivery of training in the working world. Students are actively involved in the learning process when using participatory approaches. According to observations made by researchers at SMK Negeri 4 in Banda Aceh, the majority of students are still limited in their ability to learn due to material issues, especially when it comes to maintenance-related subjects like motorcycle electricity, which benefit from both classroom and real-world practice (DU/DI). The goal of this study is to determine whether it is feasible to use participatory methods to teach students at SMK Negeri 4 Banda Aceh class XI about motorcycle electrical maintenance in stages of planning, implementing, and evaluating learning. The three stages of the participatory method are planning, doing, and assessing learning. According to the study's findings, the participative approach is effective and has an impact on student learning at SMK Negeri 4 Banda Aceh.

Keywords: Application of Participatory Methods. Motorcycle Electrical. Industrial Work Practices

1. Background

Education is a program in which interaction between teachers and students serves as the educational process' primary source. In association (education), teaching, training, and guidance, learning activities and educational resources interact. This Industrial Work Practice (PRAKERIN) implementation program is carried out in the work field for Vocational High Schools, particularly Motorcycle Electrical Maintenance, with the goal that with this Prakerin, students can apply the knowledge gained in the classroom to be applied in the field in accordance with their field. In general, vocational high schools (SMK) want to produce graduates that fit their students' knowledge and talents, especially when it comes to their ability to learn co-skills that fit the current market demand. The ability to think critically, creatively, and be able to tackle any problem that arises are all expected outcomes of this exercise. In particular, SMK places a strong emphasis on preparing students for the workplace and the needs of the business and industrial worlds (DU/ DI). In the school learning process, theories are first given to the students.

Law No.20 of 2003 explains that SMK is a secondary education that has the following objectives: (1) preparing students to become productive resources, have the ability to work independently, can fill the needs of labor needs that exist in the field of work in order to become workers at the middle level in line with the abilities in the skills

program of interest; (2) preparing students' abilities to choose careers, tenacity, and persistence in competing, adapting to the work field, and increasing professional attitudes in their chosen fields; (3) equipping students with science, technology, and art, to have the ability to develop their potential in the future both individually and with a higher level of education; (4) equipping students with abilities that are in line with the skills program they choose.

Prakerin is a skill activity that involves students directly in conducting training in the world of work. Prakerin has the aim that students can have various skills in accordance with the wishes of the world of work and industry, this activity can add experience for students in the workplace. Prakerin is a compulsory learning activity carried out by students in the workplace, as a tangible manifestation of an education in SMK. The preparation of this Prakerin activity is carried out by the school and the industry so that students can fulfill all their needs, as well as students' contribution to the world of work in developing learning in SMK.

The purpose of this Prakerin activity is to establish a cooperative relationship between the school and the business world. This Prakerin activity's goal is to develop skills in line with the selected area of expertise so that students may comprehend what is required by business. Teachers play a crucial role in ensuring that students thoroughly comprehend the subject they are taught. The material must be modified to the appropriate approach in order to foster effective learning activity and generate five SMK graduates of the highest caliber. Realizing educational objectives in schools in order to provide efficient learning methods and tactics is the aim of educators.

Participatory learning is a learning model that involves active and fully compulsory students through three important stages: planning, implementation, and evaluation. With this learning method, students can carry out learning together to get and build a structured mindset for the formation of the intended learning objectives. Participatory learning is expected to improve students' abilities by involving them mentally in learning activities. In this activity, students are given freedom and flexibility to develop their potential more optimally.

Rom the observations that researchers have made at SMK Negeri 4 Banda Aceh, it is found that many students are still constrained in the learning material, especially in the subject of motorcycle electrical maintenance, both when practicing in the school workshop and when practicing in the business world / industrial world (DU / DI). Another problem is also seen in the teaching and learning process of teachers who prioritize the use of the same method without varying, this has made students bored, bored, and less interested in receiving material delivery. Furthermore, researchers also found problems at school when learning in the workshop there are still students who do not understand and master the procedures for using motorcycle electrical equipment and maintenance in accordance with the existing SOP (Standard Operating Procedure). Therefore, researchers want to apply participatory methods to learning materials in order to solve the problems that arise so that they are more effective in conducting Prakerin later.

The objectives to be achieved in this study, namely to determine the test results and feasibility of applying participatory methods with stages (planning, implementation, and evaluation of learning) on motorcycle electrical maintenance material at SMK Negeri 4 Banda Aceh class XI.

2. Discussion of Research Results

This study was carried out at the formal educational facility SMK Negeri 4 Banda Aceh, which also has vocational characteristics. The education division of Banda Aceh City is responsible for SMK Negeri 4. This institution offers the TKRO (automotive light vehicle engineering), TBSM (motorcycle engineering and business), and NKPI (fishing boat nautics) specialization programs.

Based on the results of research at SMK Negeri 4 Banda Aceh, the results of the average pretest and posttest scores, the results of the acquisition of data seen in tables 1 and 2, to determine the completeness of student scores refer to the KKM (Minimum Completeness Criteria) value of 75. Based on table 1, the lowest value of student learning outcomes for the pretest is 40 and the highest value is 110. The number of students who reached the KKM limit and were declared complete was 13 people. As for the posttest results based on table 2 above that the lowest student score is 90 and the highest is 130.

TABLE 1. FREQUENCY DISTRIBUTION OF *PRETEST* DATA

No	Nilai	Frekuensi	Tb	Tt	Ta	Frekuensi Relatif
1	40 – 44	3	39,5	42	44,5	15 %
2	45 – 49	0	44,5	47	50,5	0 %
3	50 – 54	4	59,5	52	54,5	20 %
4	55 – 59	0	55,5	57	59,5	0 %
5	60 –64	4	59,5	62	64,5	20 %
6	65 – 69	0	64,5	67	69,5	0 %
7	70 – 74	5	69,5	72	74,5	25 %
8	75 – 79	0	74,5	77	79,5	0 %
9	80 – 84	2	79,5	82	84,5	10 %
10	85 – 89	2	84,5	87	89,5	10 %

TABLE 2. FREQUENCY DISTRIBUTION OF *POSTTEST* DATA

No	Nilai	Frekuensi	Tb	Tt	Ta	Frekuensi Relatif
1	70 – 74	1	69,5	72	74,5	5 %
2	75 – 79	0	74,5	77	79,5	0 %
3	80 – 84	8	79,5	82	84,5	40 %
4	85 – 89	0	84,5	87	89,5	0 %
5	90 – 94	7	89,5	92	95,5	35 %
6	95 – 99	0	94,5	97	99,5	0 %
7	100 – 104	2	99,5	102	104,5	10 %
8	105 – 109	0	104,5	107	109,5	0 %
9	110 – 114	1	109,5	112	114,5	5 %
10	115 – 119	1	114,5	117	119,5	5 %

The normality test is used to determine whether the sample under study is normally distributed or not, by fulfilling the condition that the data is normally distributed if it meets the criteria for a significant value (a)> 0.05. For the data normality test in this study, see table 3 below.
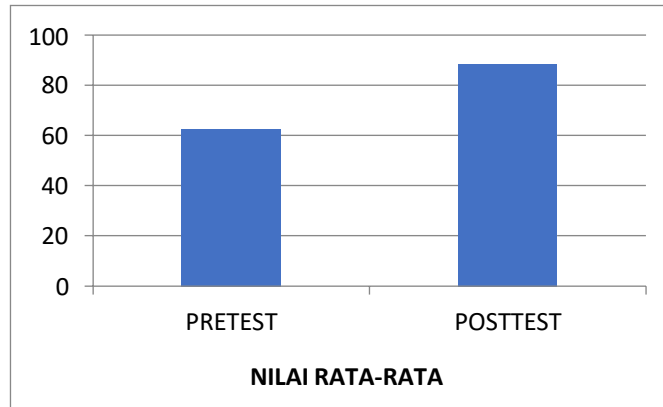
Figure 1 Comparison Chart of *Pretest* and *Posttest*

TABLE 3. NORMALITY TEST RESULTS
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		20
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	6.68189231
Most Extreme Differences	Absolute	.088
	Positive	.088
	Negative	-.077
Test Statistic		.088
Asymp. Sig. (2-tailed)		.200[c,d]

Based on table 3 above shows that the significant value of pretest data is: 0,200. The significant data in this pretest data shows greater than 0.05. So it can be concluded that the data distribution on the pretest is normally distributed. Whereas in the posttest, the significant value is 0.200 and greater than 0.05, so it can be concluded that the distribution of posttest data results is normally distributed. The results of homogeneity testing in this study can be seen below:

TABLE 4. DATA HOMOGENEITY RESULTS
Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.299	2	14	.746

Based on the results of the homogeneity test in Table 4, the sig value is 0.746> 0.05, it can be concluded that the two variants are homogeneous. After carrying out the normality test and homogeneity test, it can be concluded that both samples are normally distributed and homogeneous. Next, the stage to ascertain whether or not there is an effect of the application of learning methods that have been applied, this hypothesis test is to compare the pretest and posttest scores of students. The test in this hypothesis is Ha: there is an effect of the application of participatory methods on motorcycle electrical material for PRAKERIN. To make a decision whether Ha is accepted or rejected, it uses a

significant level, namely if significant <0.05 then Ha is accepted and Ho is rejected. The results of hypothesis testing in this study can be seen in table 5 below.

TABLE 5. MEAN VALUE
Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETEST	62.50	20	15.517	3.470
	POSTTEST	88.50	20	11.821	2.643

Based on table 5 , i t can be seen that the average value of the prestest score is 79.5 while the average at the time of the posttest is 102.5. In table 6, it can be seen that the posttest average is greater than the pretest average value.

Table 6 T-Test
Paired Samples Test

		Paired Differences					T	Df	Sig. (2- tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRETEST - POSTTEST	-26.000	8.826	1.974	-30.131	-21.869	-13.175	19	.000

Based on table 6 for hypothesis testing with paired sample tests, Sig. (2-tailed) is 0.00. So from the results it can be concluded from the output that Ha is accepted because 0.00 <0.05, meaning that the results of the pretest value are different from the posttest, thus it can be concluded that the participatory method has an influence in learning activities.

3. Conclusion

Based on the research that has been done. The application of participatory methods is generally classified as good, because it has a positive influence on learning at SMK Negeri 4 Banda Aceh class XI. The implementation is in accordance with the steps, namely: planning, implementation, and assessment. In planning, it is more precise to compile and prepare all the needs at the beginning of learning, in the implementation of all the needs from planning are applied correctly, and in the assessment of the results are in accordance with planning and implementation. This evidence is also seen in the results of the pretest score of 62.5, the results of the posttest score of 88.5, the teacher questionnaire score of 83.62, and the observer questionnaire of 86.18. The assessment of the test results that have been carried out well is evidenced by the results of the normality test showing normal distribution with a value of 0.200> 0.05 on the pretest and posttest, 86.87 while the results of the homogeneity test show a significant value of 0.0382> 0.05, so the value is homogeneous and the results of the hypothesis test show a significant value of 0.00 <0.05, meaning that there is an effect of the treatment given between the pretest and posttest.

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