The Influence of the Make A Match Learning Model on Student Learning Outcomes in Basic Automotive Engineering at SMKN 3 Bulukumba

Pengaruh Model Pembelajaran Make A Match terhadap Hasil Belajar Siswa Mata Pelajaran Pekerjaan Dasar Teknik Otomotif di SMKN 3 Bulukumba

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Abstract

This study aims to examine the effect of the Make A Match learning model on student learning outcomes in the subject of Basic Automotive Engineering (PDTO) at SMKN 3 Bulukumba. This research uses a quantitative approach with a quasi-experimental design. The population consisted of two classes of X TKR totaling 49 students. Class X TKR II was used as the experimental class and was taught using the Make A Match model, while class X TKR I served as the control class without treatment. The instrument used was a learning outcome test consisting of pretest and posttest. The results showed that the average pretest score of the experimental class was 50.74 and the posttest score was 81.79, while the control class had an average pretest score of 50.68 and posttest 75.22. The t-test results obtained tcount = 3.813 > ttable = 1.676551, indicating a significant difference between the two classes. Thus, it can be concluded that the Make A Match

Keyword: Make A Match, Learning Outcomes, Pretest, Posttest

Abstrak (Indonesia)

Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran Make A Match terhadap hasil belajar siswa pada mata pelajaran Pekerjaan Dasar Teknik Otomotif (PDTO) di SMKN 3 Bulukumba. Jenis penelitian ini adalah penelitian kuantitatif dengan pendekatan eksperimen semu. Populasi penelitian terdiri atas dua kelas X TKR dengan jumlah 49 siswa. Kelas X TKR II ditetapkan sebagai kelas eksperimen yang diberi perlakuan dengan model Make A Match, sedangkan kelas X TKR I sebagai kelas kontrol tanpa perlakuan. Instrumen penelitian berupa tes hasil belajar yang terdiri atas pretest dan posttest. Hasil penelitian menunjukkan bahwa nilai rata-rata pretest siswa kelas eksperimen adalah 50,74 dan posttest sebesar 81,79, sedangkan kelas kontrol memiliki rata-rata pretest 50,68 dan posttest 75,22. Berdasarkan hasil uji-t, diperoleh thitung = 3,813 > ttabel = 1,676551, yang menunjukkan adanya perbedaan signifikan antara hasil belajar siswa kelas eksperimen dan kelas kontrol. Dengan demikian dapat disimpulkan bahwa penerapan model pembelajaran Make A Match berpengaruh signifikan terhadap peningkatan hasil belajar siswa pada mata pelajaran PDTO di SMKN 3 Bulukumba..

Kata Kunci: Make A Match, Hasil Belajar, Pretest, Posttest

INTRODUCTION

The quality of education in Indonesia remains a serious concern. One of the primary factors contributing to low student learning outcomes is the use of conventional teaching methods, which tend to make students passive. In the Basic Automotive Engineering (PDTO) subject at SMKN 3 Bulukumba, teachers still predominantly use the lecture method, resulting in low student engagement and poor learning results. The Make A Match learning model is a cooperative learning approach involving a question-and-

answer card game designed to keep students active and engaged in the learning process. Through this game-based approach, students can improve their learning motivation and conceptual understanding because the learning process is conducted in an enjoyable manner. Therefore, this study was conducted to determine the influence of the Make A Match learning model on the learning outcomes of students at SMKN 3 Bulukumba.

RESEARCH METHOD

This study utilized a quantitative research method with a quasi-experimental design. The research population consisted of all 49 students in Grade X TKR at SMKN 3 Bulukumba. The sample was divided into two groups: Class X TKR II served as the experimental group (24 students) treated with the Make A Match model, and Class X TKR I served as the control group (25 students) taught using conventional methods. The research instrument consisted of learning outcome tests, specifically a pretest and a posttest. Data analysis was conducted using a t-test to determine the significant influence of the Make A Match model on student learning outcomes.

RESULTS

The results showed that the average pretest score for the experimental class was 50.74, increasing to 81.79 in the posttest. Meanwhile, the control class had an average pretest score of 50.68 and a posttest score of 75.22. Based on the t-test results, the was 3.813, which is greater than the of 1.676551. Furthermore, the N-Gain (g) value was found to be 0.630; since , it indicates that the Make A Match model is moderately effective in improving learning outcomes. Consequently, there is a significant difference between the learning outcomes of the experimental and control classes. In conclusion, the implementation of the Make A Match learning model effectively improves student learning outcomes.

Table 1. Descriptive Statistics of Pre-Test Results

Variable	Experimental Class	Control Class
Number of Samples	24	25
Mean	50.74	50.68
Maximum Score	65	65
Minimum Score	40	40
Standard Deviation	6.401	6.720
Mode	50	45

Table 2 Frequency Distribution of Pre-Test Results in the Experimental Class

No	Qualification	Score Range	Frequency	Percentage (%)
1	Very Good	80 – 100	0	0.00
2	Good	66 – 79	0	0.00
3	Fair	56 – 65	4	16.67
4	Poor	41 – 55	6	25.00
5	Very Poor	0 – 40	14	58.33
	Total		**24**	**100**

Table 3 Frequency Distribution of Pre-Test Results in the Control Class

No	Qualification	Score Range	Frequency	Percentage (%)
1	Very Good	80 – 100	0	0.00
2	Good	66 – 79	0	0.00
3	Fair	56 – 65	6	24.00
4	Poor	41 – 55	15	69.00
5	Very Poor	0 – 40	4	16.00
	Total		**25**	**100**

Table 4. Descriptive Statistics of Post-Test Results

Variable	Experimental Class	Control Class
Number of Samples	24	25
Mean	81.79	75.22
Maximum Score	95	85
Minimum Score	65	65
Standard Deviation	8.075	6.303
Mode	80	75

Table 5 Frequency Distribution of Post-Test Results in the Experimental Class

No	Qualification	Score Range	Frequency	Percentage (%)
1	Very Good	80 – 100	18	75.00
2	Good	66 – 79	4	16.70
3	Fair	56 – 65	2	8.30
4	Poor	41 – 55	0	0.00
5	Very Poor	0 – 40	0	0.00
	Total		**24**	**100**

Table 6 Frequency Distribution of Post-Test Results in the Control Class

No	Qualification	Score Range	Frequency	Percentage (%)
1	Very Good	80 – 100	11	44.00
2	Good	66 – 79	11	44.70
3	Fair	56 – 65	3	12.00
4	Poor	41 – 55	0	0.00
5	Very Poor	0 – 40	0	0.00
	Total		**25**	**100**

Table 7. Independent Sample T-Test Results (Pre-Test)

Data	t	df	Probability	Description
Pre-Test Experimental and Control Classes	0.031	48	0.976	0.976 > 0.05 = no significant difference

Table 8. Independent Sample T-Test Results of Pre-Test

Data	t	df	Probability	Description
Post-Test Experimental and Control Classes	3.813	48	0.003	0.003 < 0.05 = significant difference

Tabel 9. Learning Outcomes Summary

Test	Mean Score	Description
Pre-Test	Xpre 50.74	= Students' initial ability before the Make A Match learning model was implemented
Post-Test	Xpost 81.79	= Students' learning outcomes after the Make A Match learning model was implemented
Ideal Maximum Score	Xmax 100	=

Table 10. Learning Outcome Data of the Experimental Class (Make A Match)

Condition	Relevant Value	Explanation
N-Gain Value Before Treatment	Not available	N-Gain is an improvement index calculated after treatment. The only available value before treatment is the Pre-Test mean score of 50.74.
N-Gain Value After Treatment	0.630	The increase in learning outcomes from Pre-Test to Post-Test due to the implementation of the Make A Match model.

DISCUSSION

The results of the study indicate that the use of the *Make A Match* learning model has a positive effect on students' learning outcomes. This is because the *Make A Match* model actively involves students in the learning process through a game-based activity of matching question cards with answer cards. This process encourages students to be more focused, active, and socially interactive with their peers.

These findings are consistent with previous studies conducted by Malahayati et al. (2020) and Rita Ningsih (2018), which showed that the *Make A Match* learning model can improve students' learning outcomes and learning activeness. In addition, Triyadi (2018) stated that the implementation of the *Make A Match* learning model increased the learning activeness of students in class XI TKR B at SMK Muhammadiyah Prambanan in the competency of understanding gasoline fuel systems.

Therefore, this learning model is considered appropriate to be applied in practice-based learning, such as in the *Basic Automotive Engineering Work* (PDTO) subject at SMKN 3 Bulukumba.

CONCLUSION

Based on the results of the study on the implementation of the *Make A Match* learning model on students' learning outcomes in the *Basic Automotive Engineering Work*

(PDTO) subject at SMKN 3 Bulukumba, several important conclusions can be drawn as follows:

a. The average pre-test score of the experimental class (X TKR I) was 50.74, with the highest score of 65 and the lowest score of 40. This indicates that students' initial understanding of the PDTO material was still relatively low. Meanwhile, the average pre-test score of the control class (X TKR II) was 50.68, with the highest score of 65 and the lowest score of 40. The students' initial abilities in this class were almost equivalent to those of the experimental class, and the majority of students had not yet reached the Minimum Completeness Criteria (KKM).

b. The average post-test score of the experimental class (X TKR I) increased to 81.79, with the highest score of 95 and the lowest score of 65. Meanwhile, the average post-test score of the control class (X TKR II) increased to 75.22, with the highest score of 85 and the lowest score of 65. Although there was an improvement in the control class, the increase was not as significant as that in the experimental class. Some students still did not reach the KKM, and the learning process tended to be more passive.

c. Based on the statistical data analysis, the results of the t-test on post-test scores showed a significance value of 0.003 < 0.05. Therefore, it can be concluded that the implementation of the *Make A Match* learning model is effective in improving students' learning outcomes in the *Basic Automotive Engineering Work* (PDTO) subject for Grade X TKR students at SMKN 3 Bulukumba. The *Make A Match* learning model has a significant effect on improving learning outcomes because it is able to create an active, collaborative, and enjoyable learning environment, thereby encouraging students' motivation and participation optimally in the learning process.

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