ABSTRACT

Sulaiman Siddik Siregar NIM 5193122021 (2025) Implementation of the Problem-Based Learning (PBL) Model to Improve Student Activeness and Learning Outcomes on the Gasoline Fuel System Topic in Grade XI TBSM at SMK Dwiwarna Medan

Problem Based Learning (PBL) is a student-centered learning model that presents real-world problems relevant to students' lives, making it suitable for vocational high schools (SMK) to develop critical thinking and problem-solving skills. The subjects of this study were 36 students of grade XI in the 2024/2025 academic year at SMK Dwiwarna Medan. The object of the study was the implementation of the PBL model on the gasoline fuel system material for XI TBSM students at SMK Dwiwarna Medan. This study aimed to determine the improvement in student activity and learning outcomes after applying PBL. The method used was Classroom Action Research (CAR) conducted in two cycles, each including planning, action, observation, and reflection stages. Data were collected through documentation, observation of student activity, and learning outcome tests. The results showed an increase in student activity and learning outcomes from cycle I to cycle II. In cycle I, 55.17% of students achieved mastery with an average score of 67.59% and positive activity at 58%. After improving the learning strategies, cycle II showed significant improvement, with 86.21% of students achieving mastery, an average score of 81.21%, and positive activity rising to 70%. Although positive activity did not reach the 75% target, PBL proved effective in enhancing students' critical thinking and learning outcomes. The implication of this study recommends PBL as an alternative teaching strategy to improve student participation and academic achievement in vocational schools and other subjects.

Keywords: *Problem Based Learning, Student Activity, Learning Outcomes, Classroom Action Research, Vocational High School.*

ABSTRAK

Sulaiman Siddik Siregar NIM 5193122021 (2025) Penerapan Model Pembelajaran Problem Based Learning (PBL) Untuk meningkatkan Keaktifan Dan Hasil Belajar Siswa Sistem Bahan Bakar Bensin XI TBSM SMK Dwiwarna Medan

Pembelajaran Berbasis Masalah (Problem Based Learning/PBL) merupakan model pembelajaran yang berpusat pada peserta didik dengan menghadapkan mereka pada masalah nyata, sehingga tepat diterapkan di SMK untuk mengembangkan kemampuan berpikir kritis dan keterampilan pemecahan masalah. Subjek penelitian ini adalah siswa kelas XI T.A 2024/2025 SMK Dwiwarna Medan sebanyak 36 orang. Objek penelitian adalah penerapan model pembelajaran PBL pada materi sistem bahan bakar bensin untuk siswa kelas XI TBSM SMK Dwiwarna Medan. Penelitian ini bertujuan mengetahui peningkatan keaktifan dan hasil belajar siswa setelah penerapan PBL. Metode yang digunakan adalah Penelitian Tindakan Kelas (PTK) dengan dua siklus yang terdiri dari perencanaan, pelaksanaan, observasi, dan refleksi. Data dikumpulkan melalui dokumentasi, observasi aktivitas belajar, dan tes hasil belajar. Hasil penelitian menunjukkan peningkatan keaktifan dan hasil belajar siswa dari siklus I ke siklus II. Pada siklus I, 55,17% siswa tuntas dengan nilai rata-rata 67,59% dan aktivitas positif siswa sebesar 58%. Setelah perbaikan strategi pembelajaran, siklus II menunjukkan peningkatan signifikan, dengan 86,21% siswa tuntas, nilai rata-rata 81,21%, serta aktivitas positif meningkat menjadi 70%. Meskipun aktivitas positif belum mencapai target 75%, PBL terbukti efektif meningkatkan kemampuan berpikir kritis dan hasil belajar siswa. Implikasi penelitian ini merekomendasikan penerapan model PBL sebagai alternatif strategi pembelajaran yang dapat meningkatkan partisipasi dan prestasi belajar siswa di SMK maupun pada mata pelajaran lain.

Kata kunci: *Problem Based Learning, Keaktifan Siswa, Hasil Belajar, Penelitian Tindakan Kelas, Sekolah Menengah Kejuruan.*