ABSTRAK

Samuel Sagala NIM 5183131034, Pengaruh Model Pembelajaran Problem Based Learning (PBL) Terhadap Hasil Belajar Siswa Pada Mata Pelajaran Instalasi Motor Listrik Siswa Kelas XI TITL SMK Negeri 13. Skripsi. Fakultas Teknik Universitas Negeri Medan.2025

Penelitian ini mengevaluasi pengaruh model Problem Based Learning (PBL) terhadap hasil belajar siswa pada mata pelajaran Instalasi Motor Listrik untuk siswa kelas XI TITL SMK Negeri 13 Medan, dengan fokus pada data dari Bab IV. Penelitian menggunakan desain kuasi-eksperimental dengan pendekatan *posttest only control design*, melibatkan kelas eksperimen (PBL) dan kelas kontrol (model ekspositori), masing-masing dengan 30 siswa. Data dikumpulkan menggunakan tes pilihan ganda 40 soal untuk menilai ranah kognitif, dengan analisis validitas, reliabilitas, dan daya pembeda.Hasil dari Bab IV menunjukkan bahwa kelas eksperimen mencapai rata-rata skor 84,25, lebih tinggi dibandingkan kelas kontrol 61,95. Uji validitas menunjukkan semua 30 soal signifikan ($r_{hitung} > r_{tabel} = 0{,}381$ pada $\alpha = 0{,}05$), dan reliabilitas tinggi ($r_{11} = 0{,}9$). Data berdistribusi normal ($L_{hitung} < L_{tabel}$) dan homogen ($F_{hitung} < F_{tabel} = 1{,}92$) serta uji-t menunjukkan perbedaan signifikan ($t_{hitung} > t_{tabel} = 5{,}068 > 2{,}016$) yang artinya Ha diterima. Penelitian ini menyoroti efektivitas PBL dalam meningkatkan keterampilan kognitif, berkontribusi pada strategi pendidikan vokasi. Guru disarankan menerapkan PBL dengan aktivitas kelompok terstruktur.

Kata Kunci: *Problem Based Learning*, Instalasi Motor Listrik, Hasil Belajar.

ABSTRACT

Samuel Sagala, NIM 5183131034, The Influence of Problem Based Learning (PBL) Model on Student Learning Outcomes in Electrical Motor Installation Subject for Grade XI TITL Students at SMK Negeri 13. Thesis. Faculty of Engineering, State University of Medan. 2025.

This study evaluates the impact of the Problem Based Learning (PBL) model on student learning outcomes in the Electrical Motor Installation subject for grade XI TITL students at SMK Negeri 13 Medan, focusing on data from Chapter IV. The research utilized a quasi-experimental design with a posttest only control design, involving an experimental class (PBL) and a control class (expository model), each with 30 students. Data were gathered using a 40-item multiple-choice test assessing cognitive domains, with results analyzed for validity, reliability, and differentiation. Findings from Chapter IV reveal that the experimental class achieved an average score of 84,25, higher than the control class's 61,95. Validity tests confirmed all 30 items were significant ($r_{value} > r_{table} = 0.381$ at $\alpha = 0.05$), and reliability was high ($r_{11} = 0.9$). The data were normally distributed ($L_{value} < L_{table}$) and homogeneous ($F_{value} < F_{table} = 1.92$), and a t-test revealed a significant difference (tvalue > ttable = 5.068 > 2.016), meaning Ha is accepted.This research highlights the effectiveness of PBL in enhancing cognitive skills, contributing to vocational education strategies. Teachers are recommended to implement PBL with structured group activities.

***Keywords**: Problem Based Learning, Electrical Motor Installation, Learning Outcomes.*