

ABSTRAK

Muhammad Fadli, Nim.5211121009. Penerapan *Project Based Learning (PjBL)* dalam Meningkatkan Hasil Belajar pada Kompetensi Alat Ukur Mekanik Presisi Kelas X Dasar-Dasar Teknik Mesin di SMK Putra Anda Binjai. Skripsi. Program Studi Pendidikan Teknik Mesin, Fakultas Teknik, Universitas Negeri Medan.

Penelitian ini bertujuan untuk mendeskripsikan penerapan model *Project Based Learning (PjBL)* dan mengetahui peningkatan hasil belajar siswa pada kompetensi Alat Ukur Mekanik Presisi kelas X Dasar-Dasar Teknik Mesin. Penelitian ini merupakan Penelitian Tindakan Kelas (PTK) yang dilaksanakan dalam dua siklus, di mana setiap siklus meliputi tahap perencanaan, pelaksanaan tindakan, observasi, dan refleksi. Subjek penelitian adalah 20 siswa kelas X Dasar-Dasar Teknik Mesin. Teknik pengumpulan data dilakukan melalui observasi, tes hasil belajar, dan dokumentasi, sedangkan analisis data menggunakan analisis deskriptif kuantitatif dan kualitatif. Hasil penelitian menunjukkan bahwa penerapan model *Project Based Learning (PjBL)* mampu meningkatkan hasil belajar siswa. Hal tersebut ditunjukkan oleh peningkatan persentase ketuntasan belajar secara klasikal dari 35% pada pra siklus menjadi 65% pada siklus I dan meningkat menjadi 90% pada siklus II. Selain itu, aktivitas belajar siswa juga mengalami peningkatan sehingga proses pembelajaran menjadi lebih aktif, kolaboratif, dan berpusat pada siswa. Berdasarkan hasil penelitian dapat disimpulkan bahwa penerapan model *Project Based Learning (PjBL)* efektif dalam meningkatkan hasil belajar siswa pada kompetensi Alat Ukur Mekanik Presisi kelas X Dasar-Dasar Teknik Mesin.

Kata Kunci: *Project Based Learning (PjBL)*, hasil belajar, alat ukur mekanik presisi, penelitian tindakan kelas



ABSTRACT

Muhammad Fadli, NIM 5211121009. *The Implementation of Project Based Learning (PjBL) to Improve Learning Outcomes in Precision Mechanical Measuring Instruments Competency for Grade X Students of Basic Mechanical Engineering at SMK Putra Anda Binjai.* Thesis. Mechanical Engineering Education Study Program, Faculty of Engineering, Universitas Negeri Medan.

This study aimed to describe the implementation of the Project Based Learning (PjBL) model and to determine the improvement of students' learning outcomes in the Precision Mechanical Measuring Instruments competency for Grade X Basic Mechanical Engineering students. This research employed Classroom Action Research (CAR) consisting of two cycles, with each cycle including the stages of planning, action, observation, and reflection. The research subjects were 20 Grade X students of Basic Mechanical Engineering. Data were collected through observation, learning achievement tests, and documentation, while the data were analyzed using descriptive quantitative and qualitative methods. The results showed that the implementation of the Project Based Learning (PjBL) model improved students' learning outcomes. This improvement was indicated by the increase in classical learning mastery from 35% in the pre-cycle to 65% in Cycle I and further increased to 90% in Cycle II. In addition, students' learning activities also improved, making the learning process more active, collaborative, and student-centered. Therefore, it can be concluded that the implementation of the Project Based Learning (PjBL) model is effective in improving students' learning outcomes in the Precision Mechanical Measuring Instruments competency for Grade X Basic Mechanical Engineering students.

Keywords: *Project Based Learning (PjBL), learning outcomes, precision mechanical measuring instruments, classroom action research*

