

ABSTRAK

Anju Petrus Parsaoran Butarbutar: Peningkatan Keterampilan Siswa Dalam Mengoperasikan Mesin Bubut Melalui Pembelajaran Berbasis Proyek Untuk Kelas XII Di SMK Putra Anda Binjai. Skripsi, Fakultas Teknik, Universitas Negeri Medan 2026

Penelitian ini bertujuan untuk meningkatkan keterampilan siswa dalam mengoperasikan mesin bubut melalui penerapan model Project Based Learning (PjBL) pada siswa kelas XII Teknik Pemesinan SMK Putra Anda Binjai Tahun Ajaran 2025/2026. Latar belakang penelitian ini adalah rendahnya keterampilan siswa dalam mengoperasikan mesin bubut yang ditunjukkan oleh rendahnya hasil belajar praktik, kurangnya keaktifan siswa dalam pembelajaran, serta belum optimalnya penggunaan model pembelajaran yang melibatkan siswa secara aktif dalam kegiatan praktik. Penelitian ini merupakan Penelitian Tindakan Kelas (PTK) yang dilaksanakan dalam dua siklus. Setiap siklus terdiri atas tahap perencanaan, pelaksanaan tindakan, observasi, dan refleksi. Subjek penelitian adalah 21 siswa kelas XII Teknik Pemesinan SMK Putra Anda Binjai. Teknik pengumpulan data dilakukan melalui observasi dan penilaian hasil praktik siswa. Data dianalisis menggunakan teknik analisis deskriptif kuantitatif dengan menghitung nilai rata-rata dan persentase ketuntasan belajar siswa. Hasil penelitian menunjukkan bahwa penerapan model Project Based Learning (PjBL) dapat meningkatkan keterampilan siswa dalam mengoperasikan mesin bubut. Hal ini terlihat dari peningkatan nilai rata-rata siswa dari 60 pada pra siklus menjadi 72 pada Siklus I dan meningkat menjadi 82 pada Siklus II. Persentase ketuntasan belajar juga mengalami peningkatan dari 40% pada pra siklus menjadi 65% pada Siklus I dan mencapai 85,71% pada Siklus II. Selain itu, aktivitas guru dan siswa selama proses pembelajaran juga mengalami peningkatan pada setiap siklus. Berdasarkan hasil penelitian dapat disimpulkan bahwa penerapan model Project Based Learning (PjBL) efektif dalam meningkatkan keterampilan siswa dalam mengoperasikan mesin bubut pada siswa kelas XII Teknik Pemesinan SMK Putra Anda Binjai.

Kata Kunci: Project Based Learning, Keterampilan Mengoperasikan Mesin Bubut, Hasil Belajar, Penelitian Tindakan Kelas, Teknik Pemesinan.

ABSTRACT

Anju Petrus Parsaoran Butarbutar: Improving Student Skills in Operating Lathes Through Project-Based Learning for Grade XII at SMK Putra Anda Binjai. , Essay, Faculty of Engineering, State University of Medan 2026

This research aims to improve student skills in operating lathes through the application of the Project-Based Learning (PjBL) model to grade XII students of the Machining Engineering program at SMK Putra Anda Binjai in the 2025/2026 academic year. The background of this research is the low level of student skills in operating lathes, as indicated by low learning outcomes, lack of student engagement in learning, and the suboptimal use of learning models that actively involve students in practical activities. This research is a Classroom Action Research (CAR) conducted in two cycles. Each cycle consists of planning, implementation, observation, and reflection. The subjects were 21 grade XII students of the Machining Engineering program at SMK Putra Anda Binjai. Data collection techniques were conducted through observation and assessment of student practical results. The data were analyzed using quantitative descriptive analysis techniques by calculating the average score and percentage of student learning completion. The results showed that the implementation of the Project-Based Learning (PjBL) model improved students' skills in operating lathes. This was evident in the increase in students' average score from 60 in the pre-cycle to 72 in Cycle I and 82 in Cycle II. The learning completion percentage also increased from 40% in the pre-cycle to 65% in Cycle I and reached 85,71% in Cycle II. Furthermore, teacher and student activity during the learning process also increased with each cycle. Based on the results of the study, it can be concluded that the implementation of the Project-Based Learning (PjBL) model was effective in improving students' skills in operating lathes for 12th-grade students majoring in Machining Engineering at SMK Putra Anda Binjai.

Keywords: Project-Based Learning, Lathe Operating Skills, Learning Outcomes, Classroom Action Research, Machining Engineering.

