

ABSTRAK

Purnama Barus: *Pengaruh Keterampilan penggunaan Mesin Frais Dan Lingkungan Kerja Praktik Terhadap Hasil Belajar Praktik Pemmesinan Elemen Teknik Pemmesinan Frais Konsentrasi Keahlian Teknik Pemmesinan Kelas XI Di SMK Negeri 1 Percut Sei Tuan Medan*. Skripsi. Falkutas Teknik Universitas Negeri Medan. 2025.

Pendidikan kejuruan menekankan keterampilan praktik untuk mempersiapkan lulusan yang kompeten sesuai kebutuhan industri. Salah satu mata pelajaran penting adalah Teknik Pemmesinan Frais, di mana keterampilan penggunaan mesin serta kondisi lingkungan kerja praktik sangat memengaruhi hasil belajar siswa. Penelitian ini bertujuan untuk menganalisis pengaruh keterampilan penggunaan mesin frais dan lingkungan kerja praktik terhadap hasil belajar praktik siswa pada mata pelajaran konsentrasi keahlian teknik pemmesinan elemen teknik pemmesinan frais kelas XI di SMK Negeri 1 Percut Sei Tuan Medan. Penelitian ini menggunakan pendekatan kuantitatif dengan metode *ex post facto* dan melibatkan 56 siswa sebagai sampel. Data dikumpulkan melalui uji keterampilan, kuesioner lingkungan kerja praktik, dan penilaian hasil belajar praktik. Analisis data dilakukan dengan regresi linier berganda setelah melalui uji validitas, reliabilitas, serta uji prasyarat analisis seperti normalitas, linearitas, multikolinearitas, dan heteroskedastisitas. Hasil penelitian menunjukkan bahwa keterampilan penggunaan mesin frais berpengaruh positif dan signifikan terhadap hasil belajar praktik dengan koefisien regresi 0,740 (sig. 0,000). Lingkungan kerja praktik juga berpengaruh positif dan signifikan dengan koefisien regresi 0,421 (sig. 0,002). Secara simultan, kedua variabel memberikan kontribusi besar terhadap hasil belajar praktik dengan nilai koefisien determinasi (R^2) sebesar 0,985. Dengan demikian, peningkatan keterampilan penggunaan mesin frais dan pengelolaan lingkungan kerja praktik yang kondusif terbukti mampu meningkatkan hasil belajar praktik siswa. Penelitian ini merekomendasikan sekolah dan guru untuk meningkatkan pembelajaran praktik melalui pelatihan intensif keterampilan serta perbaikan fasilitas dan lingkungan kerja praktik yang mendukung.

Kata kunci: Keterampilan Penggunaan Mesin Frais, Lingkungan Kerja Praktik, Hasil Belajar Praktik.

ABSTRACT

Purnama Barus: *The Influence of Milling Machine Operation Skills and Practice Work Environment on Machining Practice Learning Outcomes in the Milling Machining Element of the Mechanical Engineering Expertise Concentration, Grade XI Students at SMK Negeri 1 Percut Sei Tuan Medan.* Thesis. Faculty of Engineering, State University of Medan. 2025.

Vocational education emphasizes practical skills to prepare graduates who are competent in meeting industrial demands. One of the essential subjects is Milling Machining, in which students' ability to operate milling machines and the condition of the practice work environment significantly affect their learning outcomes. This study aims to analyze the influence of milling machine operation skills and the practice work environment on students' practice learning outcomes in the machining practice subject, specifically the milling machining element, among grade XI students of the Mechanical Engineering expertise concentration at SMK Negeri 1 Percut Sei Tuan, Medan. The study employed a quantitative approach with an ex post facto method involving 56 students as the sample. Data were collected through performance tests, a work environment questionnaire, and assessments of practice learning outcomes. The data were analyzed using multiple linear regression after conducting validity and reliability testing, along with prerequisite tests such as normality, linearity, multicollinearity, and heteroscedasticity. The results showed that milling machine operation skills had a positive and significant effect on practice learning outcomes with a regression coefficient of 0.740 (sig. 0.000). The practice work environment also had a positive and significant effect with a regression coefficient of 0.421 (sig. 0.002). Simultaneously, both variables contributed substantially to practice learning outcomes with a coefficient of determination (R^2) of 0.985. Thus, improving milling machine operation skills and managing a conducive practice work environment have been proven to enhance students' practice learning outcomes. This study recommends that schools and teachers improve practical learning through intensive skills training and better management of practice facilities and environments.

Keywords: Milling Machine Operation Skills, Practice Work Environment, Practice Learning Outcomes.