
Tahap Kompetensi Pelajar Semester Satu dalam Menggunakan Multimeter Analog di Makmal Kejuruteraan Elektrik Politeknik Ungku Omar

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Abstract

This study aims to evaluate the level of knowledge, skills, and safety precaution practices among first-semester students of the Department of Electrical Engineering at Politeknik Ungku Omar in the use of analog multimeters. A quantitative approach was employed, involving a sample of 77 students. Data were collected through a questionnaire with a reliability coefficient (Cronbach's Alpha) of 0.982. Findings indicate a high level of student knowledge, with an average mean score of 4.23, reflecting a deep understanding of the functions and use of multimeters. Similarly, skill levels were high (mean 4.18), demonstrating students' ability to handle the equipment accurately. Safety practices also scored an average mean of 4.30, indicating a strong awareness of safety measures. Despite these positive results, improvements are needed in theoretical guidance, practical skills, and the consistency of safety practices. These can be addressed through interactive teaching methods and regular training. This study highlights the significant implications for the effectiveness of TVET learning and the development of students' skills.

Keywords: *Analog multimeter, knowledge, skills, safety, electrical engineering, Politeknik Ungku Omar.*

Abstrak

Kajian ini bertujuan untuk menilai tahap pengetahuan, kemahiran, dan amalan pencegahan keselamatan pelajar semester 1 Jabatan Kejuruteraan Elektrik di Politeknik Ungku Omar dalam penggunaan multimeter analog. Kajian ini menggunakan pendekatan kuantitatif dengan sampel seramai 77 pelajar. Data diperoleh melalui soal selidik dengan nilai kebolehpercayaan Cronbach's Alpha 0.982. Dapatan menunjukkan tahap pengetahuan pelajar adalah tinggi dengan purata min 4.23, menandakan pemahaman mendalam terhadap fungsi dan penggunaan multimeter. Tahap kemahiran juga tinggi (min 4.18), menunjukkan keupayaan pelajar mengendalikan peralatan dengan tepat. Amalan keselamatan pelajar mencatatkan skor purata 4.30, menunjukkan kesedaran yang tinggi terhadap langkah-langkah keselamatan. Walaupun hasil kajian menunjukkan prestasi yang baik, penambahbaikan dalam bimbingan teori, kemahiran praktikal, dan konsistensi langkah keselamatan perlu diterapkan melalui pendekatan pengajaran interaktif dan latihan berkala. Kajian ini memberi implikasi penting terhadap keberkesanan pembelajaran TVET dan pembangunan kemahiran pelajar.

Kata Kunci: *Multimeter analog, pengetahuan, kemahiran, keselamatan, kejuruteraan elektrik, Politeknik Ungku Omar.*
