PENGEMBANGAN INSTRUMEN PENGUKUR KEMAMPUAN DASAR INSTALASI LISTRIK DI SMK NEGERI 3 SINGARAJA

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ABSTRAK

Penelitian ini bertujuan untuk mengembangkan instrumen penilaian berbasis *Higher Order Thinking Skills (HOTS)* yang valid dan reliabel untuk mengukur kemampuan teoritis siswa pada mata pelajaran dasar instalasi listrik di Sekolah Menengah Kejuruan (SMK). Metode yang digunakan adalah *Research and Development (R&D)* dengan model *ADDIE* yang meliputi tahap analisis, desain, pengembangan, implementasi, dan evaluasi. Instrumen dikembangkan dalam bentuk soal pilihan ganda berbasis konteks dunia kerja. Uji validitas isi dilakukan menggunakan indeks Aiken's V melalui penilaian ahli, sedangkan reliabilitas diuji menggunakan rumus *Kuder-Richardson* (KR-20). Uji coba instrumen dilakukan pada 24 siswa kelas XI Program Keahlian Teknik Instalasi Tenaga Listrik (TITL) di SMK Negeri 3 Singaraja. Hasil penelitian menunjukkan bahwa instrumen memiliki tingkat validitas yang sangat tinggi dengan nilai rata-rata Aiken's V sebesar 0,92 dan reliabilitas sebesar 0,92 yang termasuk dalam kategori sangat baik. Selain itu, hasil analisis butir soal menunjukkan bahwa tingkat kesukaran terdistribusi secara proporsional, daya pembeda berada pada kategori baik hingga sangat baik, serta seluruh pengecoh berfungsi secara efektif. Dengan demikian, instrumen yang dikembangkan dinyatakan layak digunakan sebagai alat ukur kemampuan teoritis dan keterampilan berpikir tingkat tinggi siswa pada pembelajaran instalasi listrik di SMK.

Kata kunci: *HOTS*, instrumen penilaian, instalasi listrik, SMK, validitas, reliabilitas.

DEVELOPMENT OF AN INSTRUMENT TO MEASURE BASIC ELECTRICAL INSTALLATION ABILITY AT STATE VOCATIONAL HIGH SCHOOL 3 SINGARAJA

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ABSTRACT

This research aims to develop a valid and reliable Higher Order Thinking Skills (HOTS)-based assessment instrument to measure students' theoretical abilities in the basic electrical installation subject at Vocational High Schools (SMK). The method used is Research and Development (R&D) with the ADDIE model, which includes the stages of analysis, design, development, implementation, and evaluation. The instrument was developed in the form of multiple-choice questions based on the workplace context. Content validity was tested using the Aiken's V index through expert assessment, while reliability was tested using the Kuder-Richardson (KR-20) formula. The instrument was piloted on 24 11th-grade students of the Electrical Power Installation Engineering Expertise Program (TITL) at State Vocational High School 3 Singaraja. The results of the study indicate that the instrument has a very high level of validity, with an average Aiken's V of 0.92 and a reliability of 0.92, which is in the very good category. Furthermore, the results of the item analysis indicate that the level of difficulty is proportionally distributed, the discriminating power is in the good to very good category, and all distractors function effectively. Thus, the developed instrument is deemed suitable for use as a measurement tool for students' theoretical abilities and higher-order thinking skills in electrical installation learning at vocational high schools.

Keywords*: HOTS, assessment instrument, electrical installation, vocational high schools, validity, reliability*