

ABSTRAK

PENGEMBANGAN PROTOTIPE CONVEYOR SELECTOR OTOMATIS BERBASIS ESP32-S3 SEBAGAI MEDIA PEMBELAJARAN DI KOMPETENSI KEAHLIAN TEKNIK ELEKTRONIKA INDUSTRI SMKS BUDHI DARMA INDRAPURA

Oleh: Ihsan Kamal NIM. 5213131001

Penelitian ini bertujuan untuk mengembangkan media pembelajaran berupa prototipe *conveyor selector* otomatis berbasis ESP32-S3 guna mengatasi minimnya ketersediaan alat praktik sistem kendali dan IoT di SMKS Budhi Darma Indrapura. Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model pengembangan ADDIE (*Analysis, Design, Development, Implementation, Evaluation*). Produk diuji cobakan kepada 15 siswa kelas XII Teknik Elektronika Industri. Hasil penelitian menunjukkan bahwa media dinyatakan sangat valid oleh ahli media dengan persentase 87,6% dan ahli materi sebesar 89,8%. Selain itu, media mendapatkan respons kategori sangat layak dari siswa dengan persentase 91,2%. Efektivitas media terbukti sangat tinggi dengan pencapaian ketuntasan klasikal sebesar 100%, di mana seluruh siswa (15 orang) berhasil mencapai Kriteria Ketercapaian Tujuan Pembelajaran (KKTP). Berdasarkan data tersebut, disimpulkan bahwa media ini sangat layak dan efektif untuk meningkatkan kompetensi psikomotorik siswa.

Kata Kunci: Media Pembelajaran, Conveyor Selector, ESP32-S3, ADDIE, Efektivitas



ABSTRACT

DEVELOPMENT OF AUTOMATIC CONVEYOR SELECTOR PROTOTYPE BASED ON ESP32-S3 AS LEARNING MEDIA IN INDUSTRIAL ELECTRONICS ENGINEERING EXPERTISE COMPETENCY AT SMKS BUDHI DARMA INDRAPURA

By: Ihsan Kamal NIM. 5213131001

This study aims to develop a learning media in the form of an automatic conveyor selector prototype based on ESP32-S3 to address the lack of control system and IoT practice tools at SMKS Budhi Darma Indrapura. This study uses the Research and Development (R&D) method with the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation). The product was tested on 15 students of class XII Industrial Electronics Engineering. The results showed that the media was declared very valid by media experts with a percentage of 87.6% and material experts at 89.8%. In addition, the media received a very feasible response category from students with a percentage of 91.2%. The effectiveness of the media proved to be very high with a classical completeness achievement of 100%, where all students (15 people) successfully achieved the Criteria for Achievement of Learning Objectives (KKTP). Based on these data, it is concluded that this media is very feasible and effective for improving students' psychomotor competencies.

Keywords: Learning Media, Conveyor Selector, ESP32-S3, ADDIE, Effectiveness.

THE
Character Building
UNIVERSITY