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ABSTRAK

Penelitian ini bertujuan untuk membuat modul ajar arduino serta mengkaji kesesuaian modul ajar arduino dengan KI KD pada materi dasar-dasar mikrokontroler di SMK Darul Istiqomah. Penelitian ini menggunakan metode R&D dengan model pengembangan ADDIE yang tersusun dari 5 tahap yaitu *Analysis*, *Design*, *Development*, *Implementation*, dan *Evaluation*. Tahap *analysis* dilakukan dengan menganalisis kurikulum, analisis peserta didik dan analisis kebutuhan perangkat lunak maupun perangkat keras. Tahap *design* dilakukan dengan merancang kebutuhan perangkat Arduino kit dan perancangan modul ajar arduino. Tahap *development* dilakukan dengan membuat modul ajar arduino dan pengemasan Arduino kit. Tahap *implementation* meliputi uji coba ahli media, ahli materi, uji coba kelompok kecil, dan uji coba kelompok besar. Tahap *evaluation* meliputi penilaian dari subjek uji coba, hasil yang diperoleh yaitu: (1) ahli media diperoleh nilai sebesar 95.5%, menunjukkan modul ajar sangat valid , dan layak digunakan; (2) ahli materi diperoleh nilai sebesar 97.5%, menunjukkan materi modul ajar sangat valid dan layak digunakan; (3) uji coba kelompok kecil memperoleh nilai sebesar 96.6% menunjukkan modul ajar layak digunakan; (4) uji coba kelompok besar nilai sebesar 96.5% menunjukkan modul ajar Arduino layak digunakan. Berdasarkan hasil tersebut, maka dapat disimpulkan bahwa modul ajar Arduino pada materi dasar dasar mikrokontroler sangat valid dan layak digunakan.

Kata Kunci : Modul Ajar, ADDIE, Arduino,Sistem Komputer, Dasar Dasar Mikrokontroler

ABSTRACT

This study aims to create an arduino teaching module and examine the suitability of the arduino teaching module with KI KD on the basic material of microcontrollers at Darul Istiqomah Vocational School. This study uses the R&D method with the ADDIE development model consisting of 5 stages, namely Analysis, Design, Development, Implementation, and Evaluation. The analysis phase is carried out by analyzing the curriculum, analyzing students and analyzing software and hardware needs. The design stage is done by designing the Arduino kit and designing Arduino teaching modules. The development stage is done by making Arduino teaching modules and packaging Arduino kits. The implementation phase includes trials of media experts, material experts, small group trials, and large group trials. The evaluation stage includes an assessment of the test subject, the results obtained are: (1) media experts obtained a score of 95.5%, indicating the teaching module is very valid, and feasible to use; (2) the material expert obtained a score of 97.5%, indicating that the teaching module material is very valid and feasible to use; (3) the small group trial obtained a score of 96.6% indicating the teaching module was feasible to use; (4) the large group trial with a value of 96.5% indicates the Arduino teaching module is feasible to use. Based on these results, it can be concluded that the Arduino teaching module on the basic basic material of a microcontroller is very valid and feasible to use.

Keywords: *Teaching Module, ADDIE, Arduino, Computer System, Microcontroller Basics*