ABSTRAK

Khairul Azmi: *Pengembangan E-Modul Berbasis Project Based Learning Pada Mata Pelajaran Pemograman Berorientasi Objek Kelas XI RPL SMK Negeri 14 Medan.* Skripsi. Fakultas Teknik Universitas Negeri Medan. 2023.

Tujuan penelitian ini adalah untuk mengetahui apakah E-Modul Berbasis *Project Based Learning* Pada Mata Pelajaran Pemograman Berorientasi Objek Kelas XI RPL SMK Negeri 14 Medan efektif dan diterima siswa. Selain itu, ini bertujuan untuk menentukan tingkat kelayakan. Metode penelitian ini adalah penelitian pengembangan (R&D) dengan menggunakan model pengembangan ADDIE (Analisis, Desain, Pengembangan, Implementasi, dan Evaluasi). Instrumen yang digunakan berupa angket/kuesioner. E-Modul yang dikembangkan divalidasi oleh dua ahli modul, dua ahli materi, dan dua ahli media. Kemudian dilakukan uji coba akseptabilitas siswa yang dilakukan kepada 24 siswa kelas XI RPL SMK Negeri 14 Medan. Selanjutnya dilakukan uji efektivitas terhadap siswa kelas eksperimen berjumlah 12 orang dan siswa kelas kontrol berjumlah 12 orang.

Berdasarkan hasil penelitian kelayakan E-Modul didapatkan dari 2 ahli modul sebesar 4,2 dengan persentase 84,5% di kriteria layak. Hasil penelitian kelayakan E-Modul didapatkan dari 2 ahli materi sebesar 4,6 dengan persentase 91,9% di kriteria sangat layak. Hasil penelitian kelayakan E-Modul didapatkan dari 2 ahli materi sebesar 4,3 dengan persentase 86,9% di kriteria sangat layak. Untuk uji akseptabilitas yang dilakukan didapatkan rata-rata 4,3 dengan persentase 86,1% di kriteria sangat layak. Hasil penelitian efektivitas menganalisis data menggunakan uji independent T test dan uji prasyarat yaitu uji normalitas dan uji homogenitas berbantuan SPSS statistics versi 20. Berdasarkan hasil penelitian ini menunjukan nilai signifikan 0,001 < 0,05 maka hipotesis H0 di tolak dan H1 diterima, artinya Artinya adanya pengaruh hasil belajar menggunakan E-Modul pemrograman berorientasi objek berbasis *project based learning* dengan tidak memakai E-Modul.

Kata Kunci : Pengembangan E-Modul Pembelajaran, *Project Based Learning,* dan ADDIE.

ABSTRACT

Khairul Azmi: Project Based Learning E-Module Development in Object-Oriented Programming Subjects Class XI RPL SMK Negeri 14 Medan. Thesis. Faculty of Engineering, Medan State University. 2023.

The purpose of this study was to find out whether the E-Module Based on Project Based Learning in Object Oriented Programming Subjects for Class XI RPL SMK Negeri 14 Medan is effective and accepted by students. In addition, it aims to determine the level of eligibility. This research method is development research (R&D) using the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). The instrument used is a questionnaire / questionnaire. The developed e-module was validated by two module experts, two material experts, and two media experts. Then a student acceptability trial was conducted on 24 students of class XI RPL SMK Negeri 14 Medan. Furthermore, the effectiveness test was carried out on 12 students in the experimental class and 12 students in the control class.

Based on the results of the feasibility study of the E-Module, it was obtained from 2 module experts of 4.2 with a percentage of 84.5% in the eligibility criteria. The results of the feasibility study of the E-Module were obtained from 2 material experts of 4.6 with a percentage of 91.9% in the very feasible criteria. The results of the feasibility study of the E-Module were obtained from 2 material experts at 4.3 with a percentage of 86.9% in the very feasible criteria. For the acceptability test carried out, it obtained an average of 4.3 with a percentage of 86.1% in very feasible criteria. The results of the research on the effectiveness of analyzing data using the independent T test and prerequisite tests, namely the normality test and homogeneity test assisted by SPSS statistics version 20. Based on the results of this study, it shows a significant value of 0.001 <0.05, so the H0 hypothesis is rejected and H1 is accepted, meaning that there is an influence on learning outcomes using the E-Module, object-oriented programming based on project-based learning without using the E-Module.

Keywords: Learning E-Module Development, Project Based Learning, and ADDIE