

ABSTRAK

MIA MARHAMAH NASUTION: Pengembangan E-modul Berbasis Model *Problem Based Learning* (PBL). Tesis. Pendidikan Fisika. Program Pascasarjana Universitas Negeri Medan, 2024.

Penelitian ini bertujuan untuk menghasilkan e-modul berbasis model PBL yang memenuhi kualitas ditinjau dari validitas, kepraktisan, dan efektivitas, serta mengetahui perbedaan kemampuan pemecahan masalah antara peserta didik yang mengikuti pembelajaran dengan menggunakan e-modul berbasis model PBL dan yang tidak menggunakan e-modul berbasis model PBL.

Jenis penelitian yang digunakan adalah *Research and Development* (R&D) dengan pendekatan ADDIE yaitu analisis, desain, pengembangan, implementasi, dan evaluasi. Populasi dalam penelitian ini adalah seluruh peserta didik kelas XI IPA SMAS Budisatrya Medan. Sampel penelitian diambil dengan teknik *random sampling* terdiri dari dua kelas yaitu kelas XI IPA 1 dijadikan kelas eksperimen dan kelas XI IPA 2 dijadikan kelas kontrol. Instrumen pengumpulan data berupa lembar validasi yang diisi oleh validator digunakan untuk menilai kevalidan e-modul yang dikembangkan, lembar respon guru dan lembar respon peserta didik digunakan untuk menilai kepraktisan e-modul yang dikembangkan, sedangkan tes kemampuan pemecahan masalah peserta didik digunakan untuk menilai keefektifan e-modul.

Hasil penelitian menunjukkan bahwa: (1) hasil uji kevalidan e-modul berbasis model PBL berdasarkan penilaian ahli media termasuk dalam kategori sangat valid dan ahli materi termasuk dalam kategori valid, (2) hasil uji kepraktisan e-modul berbasis model PBL berdasarkan lembar respon guru dan peserta didik keduanya termasuk dalam kategori sangat praktis, (3) hasil uji keefektifan e-modul berbasis model PBL berdasarkan tes kemampuan pemecahan masalah peserta didik memperoleh *N-gain* sebesar 0,65 dengan kriteria sedang, (4) ada perbedaan kemampuan pemecahan masalah antara peserta didik yang mengikuti pembelajaran dengan menggunakan e-modul berbasis model PBL dan yang tidak menggunakan e-modul berbasis model PBL.

Kata Kunci: E-modul, *Problem Based Learning*, Pemecahan masalah

ABSTRACT

MIA MARHAMAH NASUTION: Development of E-modules Based on *Problem Based Learning* (PBL) Model. Thesis. Physics Education. Postgraduate Program State University of Medan, 2024.

This study aims to produce e-modules based on PBL model that meet quality in terms of validity, practicality, and effectiveness, as well as knowing the differences in problem solving abilities between students who take part in learning using e-modules based on PBL model and those who do not use e-modules based on PBL model.

The type of research used is Research and Development (R&D) with the ADDIE approach, namely analysis, design, development, implementation and evaluation. The population in this study were all students in class XI IPA at SMAS Budisatrya Medan. The research sample was taken using a random sampling technique consisting of two classes, namely class XI IPA 1 as the experimental class and class XI IPA 2 as the control class. Data collection instruments in the form of validation sheets filled in by validator is used to assess the validity of the e-module being developed, the teacher response sheet and student response sheet are used to assess the practicality of the e-module being developed, while the student problem solving ability test is used to assess the effectiveness of the e-module.

The results of the research show that: (1) the results of the validity test of the e-module based on PBL model based on the assessment of media experts are included in the very valid category and the material experts are included in the valid category, (2) the results of the practicality test of the e-module based on PBL model based on the teacher response sheet and students are both included in the very practical category, (3) the results of the effectiveness test of the e-module based on PBL model based on the problem solving ability test of students obtained an N-gain of 0.65 with medium criteria, (4) there is a difference in problem solving ability between students who take part in learning using e-modules based on PBL model and those who do not use e-modules based on PBL model.

Keywords: *E-module, Problem Based Learning, Problem Solving*