ABSTRAK

Herawati Banjarnahor, NIM 4192421007 (2023). Pembuatan E-modul Berbasis Problem Based Learning Materi Suhu dan Kalor Kelas XI SMA Negeri 1 Siempat Nempu Hulu.

Penelitian ini bertujuan untuk menghasilkan e-modul fisika berbasis *problem based learning* dan mengetahui tingkat kevalidan, kepraktisan dan keefektivan dalam pembelajaran secara mandiri. Metode yang digunakan dalam penelitian pengembangan ini adalah model 4-D yang dibatasi sampai tahap 3-D yaitu *define, design* dan *development*. Teknik pengumpulan data menggunakan wawancara, lembar validasi ahli, angket, tes hasil belajar serta dokumentasi. Subjek penelitian meliputi validator ahli materi-media, guru dan peserta didik kelas XI PMIA II SMA N 1 Siempat Nempu Hulu.

Hasil Penelitian menunjukkan bahwa: (1) dihasilkan sebuah e-modul berbasis *problem based learning* pada materi suhu dan kalor, (2) kevalidan e-modul menurut ahli materi-media mendapatkan skor momen kappa 0,68 dengan kategori valid, (3) kepraktisan e-modul menurut guru dan peserta didik mendapatkan persentase sebesar 89,6% dan 97,1% dengan katogori sangat praktis, (3) berdasarkan hasil ketuntasan klasikal diperoleh 76,67% dengan kategori efektif. Berdasarkan hasil penelitian tersebut dapat disimpulkan bahwa e-modul berbasis problem based learning pada materi suhu dan kalor layak untuk digunakan dalam proses pembelajaran.

Kata Kunci: E-modul, Problem Based Learning, 4D, Suhu dan Kalor

ABSTRACT

Herawati Banjarnahor, NIM 4192421007 (2023). Development of E-Module Based on Problem Based Learning Materials on Temperature and Heat For Class XI SMA Negeri 1 Siempat Nempu Hulu.

The purpose of this study is to develop a problem-based learning-based physics e-module and determine its level of validity, practicality, and effectiveness in independent learning.. The method used in this development research is the 4-D model, limited to the define, design, and development stages. Technique data collection using interviews, documentation, questionnaires, as well as test result. The research subjects consisted of material-media expert validators, teachers, and students of class XI PMIA II at SMA N 1 Siempat Nempu Hulu.

The research results showed that: (1) a problem-based learning e-module on temperature and heat was developed, (2) the validity of the e-module, according to material-media experts, obtained an kappa moment score of 0.68, indicating a valid category, (3) the practicality of the e-module, according to teachers and students, obtained percentages of 89.6% and 97.1%, respectively, indicating a highly practical category, (4) based on the classical completeness results, an effectiveness category of 76.67% was obtained. Based on these research findings, it can be concluded that the problem-based learning e-module on temperature and heat is suitable for use in the learning process.

Keywords: E-module, Problem Based Learning, 4D, Temperature and Heat