ABSTRAK

Siregar, Putri Andriani Mf. NIM 4203121052 (2020). Pengembangan *E-Modul* Interaktif Berbasis Proyek Untuk Meningkatkan Kreativitas Siswa Kelas XI MIA SMAN 13 Medan Pada Materi Termodinamika

Penelitian bertujuan untuk mengembangkan *e-modul* interaktif berbasis proyek pada materi termodinamika dan menganalisis peningkatan kreativitas *e-modul* interaktif ditinjau dari tingkat kelayakan, kepraktisan dan keefektifan *e-modul*. Jenis penelitian yang digunakan yaitu *Research and Development* (R&D) dan menggunakan model ADDIE. Teknik pengumpulan data berupa angket validitas, praktikalitas, serta efektivitas peningkatan kreativitas berupa *pre-test* dan *post-test* yang disesuaikan dengan indikator kreativitas. Penelitian dilakukan melalui tahapan analisis, desain, pengembangan, implementasi, dan evaluasi. Subjek penelitian meliputi dua dosen fisika dan guru fisika sebagai validator, serta siswa kelas XI MIA 2 SMA Negeri 13 Medan. Hasil penelitian tingkat kelayakan diperoleh persentasi rata-rata ahli materi 71 %, ahli media 75 %, dan guru bidang studi fisika 84,21 % dengan kategori layak. tingkat kepraktisan *e-modul* memperoleh persentasi rata-rata 80,55 % pada uji coba skala kecil dan 92,91% pada uji coba skala besar dengan kategori sangat praktis. Tingkat keefektifan *e-modul* diperoleh N-gain sebesar 0,77 menunjukkan peningkatan pada kreativitas siswa yang disesuaikan dengan indikator hasil *pre-test* dan *post-test*. Tingkat keefektifan *e-modul* interaktif berbasis proyek pada materi termodinamika dinyatakan layak, praktis dan efektif.

.**Kata Kunci**: *E-Modul* Interaktif Berbasis Proyek, Kreativitas,Termodinamika.

ABSTRACT

Siregar, Putri Andriani Mf. NIM 4203121052 (2020). ***Development of a project-based interactive e-module to increase the creativity of class XI MIA 2 SMAN 13 Medan students on thermodynamics material.***

The research aims to develop a project-based interactive e-module on thermodynamics material and analyze the increase in creativity of the interactive e-module in terms of the level of feasibility, practicality and effectiveness of the e-module. The type of research used is Research and Development (R&D) and uses the ADDIE model. Data collection techniques include validity, practicality questionnaires, as well as learning outcomes tests in the form of pre-tests and post-tests which are adjusted to creativity indicators. Research was carried out through the stages of analysis, design, development, implementation and evaluation. The research subjects included two physics lecturers and a physics teacher as validators, as well as class XI MIA 2 students at SMA Negeri 13 Medan. The results of the feasibility level research showed that the average percentage of material experts was 71 %, media experts 75 %, and physics teachers 84,21% in the very feasible category. The practicality level of the e-module obtained an average percentage of 80,55 % in small-scale trials and 92.91% in large-scale trials in the very practical category. The level of effectiveness of the e-module obtained by N-gain was 0.77, indicating an increase in student creativity which was adjusted to the pre-test and post-test results indicators. The level of effectiveness of project-based interactive e-modules on thermodynamics material is stated to be feasible, practical and effective.

Keywords : *Project Based Interactive E-Modules, Creativity, Thermodynamics.*