

ABSTRAK

Fadilla Cahya Nirmala : 1212070035 (2021) “Pengembangan Modul Elektronik Menggunakan *Unity* Berbasis Model Pembelajaran *Problem Based Learning* untuk Meningkatkan Keterampilan Berpikir Kritis Peserta Didik pada Materi Suhu dan Kalor.”

Penelitian ini bertujuan untuk mengetahui 1) kelayakan modul elektronik berbantuan *Unity*, 2) keterlaksanaan pembelajaran menggunakan modul elektronik berbantuan *Unity* dan 3) peningkatan keterampilan berpikir kritis peserta didik di SMA Bina Negara 1 Baleendah. Penelitian menggunakan pendekatan *Research and Development* (R&D) dengan metode pengembangan ADDIE (*Analysis, Design, Development, Implementation and Evaluation*). Populasi penelitian yakni seluruh peserta didik kelas XI.A dengan jumlah sampel sebanyak 34 orang. Instrumen penelitian mencakup lembar validasi materi, lembar validasi media, lembar observasi keterlaksanaan pembelajaran, dan tes keterampilan berpikir kritis. Teknik analisis meliputi uji Gregory, analisis keterlaksanaan pembelajaran, perhitungan *N-gain*, dan uji hipotesis *paired sample t-test*. Hasil penelitian menunjukkan modul elektronik yang dikembangkan sangat layak dengan indeks Gregory sebesar 1,00 dengan kategori sangat layak. Keterlaksanaan pembelajaran mencapai 85,56% termasuk kategori baik untuk aktivitas guru dan untuk aktivitas peserta didik 82,30% termasuk kategori baik. Peningkatan keterampilan berpikir kritis peserta didik ditunjukkan oleh nilai *N-Gain* sebesar 0,63 dengan kategori sedang, yang berarti adanya peningkatan keterampilan berpikir kritis peserta didik. Hasil uji t menunjukkan nilai signifikansi (*2-tailed*) sebesar 0,000 ($p < 0,05$), yang berarti terdapat perbedaan signifikan antara rata-rata keterampilan berpikir kritis sebelum dan sesudah menggunakan modul elektronik *Unity*. Kesimpulan yang didapatkan bahwa modul elektronik berbantuan *Unity* dapat meningkatkan keterampilan berpikir kritis peserta didik pada materi suhu dan kalor dan dapat diimplementasikan sebagai alternatif media pembelajaran interaktif di sekolah.

Kata kunci: keterampilan berpikir kritis, modul elektronik, suhu dan kalor, *Unity*

ABSTRACT

Fadilla Cahya Nirmala : 1212070035 (2021) *“Development of Electronic Modules Using Unity Based on Problem Based Learning Model to Improve Students' Critical Thinking Skills on Temperature and Heat Material.”*

This study aims to determine 1) the feasibility of the electronic module assisted by Unity , 2) the implementation of learning using the electronic module assisted by Unity and 3) improving critical thinking skills of students at SMA Bina Negara 1 Baleendah. The study used a Research and Development (R&D) approach with the ADDIE (Analysis, Design, Development, Implementation and Evaluation) development method. The study population was all students of class XI.A with a sample of 34 people. The research instruments included material validation sheets, media validation sheets, observation sheets for learning implementation, and critical thinking skills tests. Analysis techniques included the Gregory test, learning implementation analysis, N-Gain calculations, and paired sample t-test hypothesis testing. The results showed that the developed electronic module was very feasible with a Gregory index of 1.00 in the very feasible category. The implementation of learning reached 85.56%, including the good category for teacher activities and 82.30% for student activities, including the good category. The improvement of students' critical thinking skills is indicated by the N-Gain value of 0.64 with a moderate category, which means there is an improvement in students' critical thinking skills. The results of the t-test show a significance value (2-tailed) of 0.000 ($p < 0.05$), which means there is a significant difference between the average critical thinking skills before and after using the Unity electronic module. The conclusion obtained is that the Unity -assisted electronic module can improve students' critical thinking skills on temperature and heat materials and can be implemented as an alternative interactive learning media in schools.

Keywords: *critical thinking skills, electronic module, heat and themperature, Unity*