ABSTRAK

Dinna Widya Noerafifah (1212070031), 2025. "Perbandingan Implementasi Model Pembelajaran POE2WE dan Model Pembelajaran POEW Berbantuan *oPhysics* untuk Meningkatkan Keterampilan Berpikir Kritis Peserta Didik pada Materi Gelombang Cahaya".

Pendidikan abad 21 menekankan pentingnya keterampilan berpikir kritis sebagai bekal menghadapi tantangan global dan era *society* 5.0. Akan tetapi, keterampilan berpikir kritis peserta didik di lapangan masih tergolong rendah. Salah satu upaya untuk meningkatkan keterampilan tersebut yaitu dengan menerapkan model pembelajaran POE2WE dan POEW berbantuan *oPhysics.* Penelitian ini bertujuan menganalisis keterlaksanaan pembelajaran serta membandingkan peningkatan keterampilan berpikir kritis peserta didik setelah menggunakan model pembelajaran POE2WE dan POEW berbantuan *oPhysics*. Penelitian menggunakan metode kuasi eksperimen dengan desain *nonequivalent control group.* Sampel penelitian adalah peserta didik kelas XI-G dan XI-D SMA Negeri 1 Batujajar, masing-masing berjumlah 38 orang. Instrumen yang digunakan meliputi tes keterampilan berpikir kritis berbentuk uraian dan lembar observasi keterlaksanaan pembelajaran. Data dianalisis menggunakan *N-Gain*, uji prasyarat, dan uji *independent sample t-test*. Hasil penelitian menunjukkan bahwa keterlaksanaan pembelajaran menggunakan model pembelajaran POE2WE dan POEW berbantuan *oPhysics* terlaksana dengan sangat baik, dengan persentase aktivitas guru dan peserta didik masing-masing 90,36% dan 88,35% pada model pembelajaran POE2WE serta 90,35% dan 87,45% pada model pembelajaran POEW. Peningkatan keterampilan berpikir kritis berdasarkan skor *N-Gain* setelah menerapkan model pembelajaran POE2WE adalah 0,72 dalam kategori tinggi, sedangkan setelah menerapkan model pembelajaran POEW adalah 0,63 dalam kategori sedang. Hasil uji *t* menunjukkan nilai signifikansi 0,003 < 0,05, sehingga terdapat perbedaan signifikan peningkatan keterampilan berpikir kritis antara kedua kelas tersebut. Dengan demikian, model pembelajaran POE2WE berbantuan *oPhysics* terbukti lebih efektif dalam meningkatkan keterampilan berpikir kritis peserta didik dibandingkan model pembelajaran POEW berbantuan *oPhysics.*

Kata kunci: Gelombang cahaya, keterampilan berpikir kritis, model pembelajaran POE2WE, model pembelajaran POEW, *oPhysics*

ABSTRACT

Dinna Widya Noerafifah (1212070031), 2025. "*Comparison of the Implementation of the POE2WE Learning Model and the POEW Learning Model Assisted by oPhysics to Improve Students' Critical Thinking Skills on the Material of Light Waves"*

21st-century education emphasizes the importance of critical thinking skills as a provision to face global challenges and the era of society 5.0. However, students' critical thinking skills in the field are still relatively low. One effort to improve these skills is by implementing the POE2WE and POEW learning models assisted by oPhysics. This study aims to analyze the implementation of learning and compare the improvement of students' critical thinking skills after using the POE2WE and POEW learning models assisted by oPhysics. The study used a quasi-experimental method with a nonequivalent control group design. The research sample was 38 students of grades XI-G and XI-D of SMA Negeri 1 Batujajar. The instruments used included a critical thinking skills test in the form of descriptions and an observation sheet for the implementation of learning. Data were analyzed using N-Gain, prerequisite tests, and independent sample t-tests. The results of the study showed that the implementation of learning using the POE2WE and POEW learning models assisted by oPhysics was carried out very well, with the percentage of teacher and student activity of 90.36% and 88.35% respectively in the POE2WE learning model and 90.35% and 87.45% in the POEW learning model. The increase in critical thinking skills based on the N-Gain score after implementing the POE2WE learning model was 0.72 in the high category, while after implementing the POEW learning model was 0.63 in the medium category. The t-test results showed a significance value of 0.003 <0.05, so there was a significant difference in the increase in critical thinking skills between the two classes. Thus, the POE2WE learning model assisted by oPhysics was proven to be more effective in improving students' critical thinking skills than the POEW learning model assisted by oPhysics.

Keywords: *critical thinking skills, light waves, oPhysics, POEW learning model, POE2WE learning model*