

ABSTRAK

Agung Ary Aryanto (1222060002) “Pengaruh Pembelajaran *Quantum Teaching* Tipe TANDUR Berbantuan *Liveworksheets* Terhadap Keterampilan Berpikir Kritis Pada Materi Perubahan Lingkungan Di SMA”

Keterampilan berpikir kritis merupakan kompetensi esensial abad ke-21 yang krusial bagi siswa dalam menghadapi tantangan Era Society 5.0. Meskipun tergolong sebagai salah satu *Higher Order Thinking Skills (HOTS)* yang mendasari tujuan pendidikan, kondisi riil memperlihatkan bahwa kemampuan berpikir kritis siswa Indonesia masih tergolong lemah. Hal ini teridentifikasi dari penurunan skor PISA serta hasil observasi lapangan yang menunjukkan kesulitan siswa dalam menganalisis materi, menyampaikan argumen, dan menarik kesimpulan akibat strategi pengajaran yang monoton. Sebagai upaya solutif, penelitian ini bertujuan untuk menganalisis pengaruh penerapan model *Quantum Teaching* tipe TANDUR berbantuan media interaktif *Liveworksheets* terhadap keterampilan berpikir kritis siswa SMA pada materi perubahan lingkungan. Penelitian ini menggunakan pendekatan kuantitatif dengan metode *Quasi-Experimental* tipe *Non-equivalent Control Group Design* dan teknik *Cluster Random Sampling*. Hasil penelitian mencatatkan keterlaksanaan pembelajaran oleh guru sebesar 91,8% dan aktivitas siswa sebesar 92,2% (kategori sangat baik). Peningkatan keterampilan berpikir kritis pada kelas eksperimen berada pada kategori tinggi dengan rata-rata N-Gain 0,74. Berdasarkan uji hipotesis, diperoleh nilai Sig. (2-tailed) sebesar $0,000 < 0,05$ (H_0 ditolak dan H_a diterima) serta nilai *Effect Size* sebesar 6,29 (sangat besar). Selain itu, rerata persentase respons siswa mencapai 83,27% (kategori sangat baik). Hasil ini membuktikan bahwa integrasi model *Quantum Teaching* tipe TANDUR berbantuan *Liveworksheets* berpengaruh positif dan signifikan terhadap keterampilan berpikir kritis siswa pada materi perubahan lingkungan.

Kata Kunci: Berpikir Kritis, Perubahan Lingkungan, *Quantum Teaching*

ABSTRACT

Agung Ary Aryanto (1222060002) *“The Effect of Liveworksheets-Assisted Quantum Teaching TANDUR Model on Critical Thinking Skills Regarding Environmental Change Topics in High School”*

Critical thinking skills are an essential 21st-century competency crucial for students to face the challenges of the Society 5.0 Era. Although categorized as a Higher-Order Thinking Skill (HOTS) that underpins educational objectives, real-world conditions indicate that Indonesian students' critical thinking abilities remain low. This issue is evidenced by the decline in PISA scores and field observation findings showing students' difficulties in analyzing material, presenting arguments, and drawing conclusions due to monotonous teaching strategies. As a solution, this study aims to analyze the effect of applying the TANDUR-type Quantum Teaching learning model assisted by Liveworksheets interactive media on high school students' critical thinking skills on the topic of environmental change. This research used a quantitative approach with a Quasi-Experimental method using a Non-equivalent Control Group Design and Cluster Random Sampling technique. The results showed that teacher implementation reached 91.8% and student activity reached 92.2% (both in the "very good" category). The improvement in students' critical thinking skills in the experimental class fell into the high category with an average N-Gain score of 0.74. Based on the hypothesis testing, a Sig. (2-tailed) value of $0.000 < 0.05$ was obtained (H_0 rejected and H_a accepted) along with an Effect Size value of 6.29 (very large category). Additionally, the average percentage of student responses reached 83.27% ("very good" category). These results demonstrate that integrating the TANDUR-type Quantum Teaching model assisted by Liveworksheets has a positive and significant effect on high school students' critical thinking skills on environmental change material.

Keywords: *Critical Thinking, Environmental Change, Quantum Teaching*