

ABSTRAK

Gibran Purnama. 2025. **PENGARUH PENDEKATAN *SCIENCE WRITING HEURISTIC* (SWH) BERBASIS *SUSTAINABLE DEVELOPMENT GOALS* TERHADAP KEMAMPUAN LITERASI SAINS PESERTA DIDIK PADA MATERI ELASTISITAS BAHAN**

Berdasarkan hasil studi pendahuluan, wawancara dengan guru fisika, observasi kelas, dan tes soal kemampuan literasi sains, diketahui bahwa kemampuan literasi sains peserta didik di SMAS Pasundan Cikalongkulon berada pada kategori cukup. Tujuan penelitian ini adalah untuk mengetahui pengaruh pendekatan *Science Writing Heuristic* (SWH) berbasis *Sustainable Development Goals* terhadap kemampuan literasi sains peserta didik pada materi elastisitas bahan. Penelitian ini menggunakan metode kuasi eksperimen dengan desain *Posttest-Only Control Group Design*. Populasi penelitian meliputi seluruh kelas XI SMAS Pasundan Cikalongkulon tahun ajaran 2024/2025 yang berjumlah 4 kelas dengan total 120 peserta didik. Sampel penelitian dipilih melalui teknik *cluster random sampling*, yaitu kelas XI F1 sebagai kelas eksperimen dan kelas XI F2 sebagai kelas kontrol. Teknik pengumpulan data dilakukan melalui tes (*posttest*) berupa 32 butir soal pilihan ganda yang mencakup tiga kompetensi literasi sains. Berdasarkan uji hipotesis dengan uji t pada taraf signifikansi ($\alpha = 0,05$), diperoleh hasil t_{hitung} (5,008) > t_{tabel} (2,048) sehingga H_a diterima. Maka dapat disimpulkan, pada signifikansi 0,05, pendekatan *Science Writing Heuristic* (SWH) berbasis *Sustainable Development Goals* (SDGs) berpengaruh terhadap kemampuan literasi sains peserta didik pada materi elastisitas bahan di kelas XI SMAS Pasundan Cikalongkulon tahun ajaran 2024/2025. Pengaruh ini terjadi karena pendekatan SWH berbasis SDGs memperkuat makna pembelajaran, menumbuhkan kesadaran saintifik terhadap isu global, dan menjadikan konsep fisika lebih aplikatif dan relevan.

Kata kunci: Literasi sains, *Science Writing Heuristic* (SWH), *Sustainable Development Goals*.

ABSTRACT

Gibran Purnama. 2025. **THE INFLUENCE OF THE SCIENCE WRITING HEURISTIC (SWH) APPROACH BASED ON SUSTAINABLE DEVELOPMENT GOALS ON STUDENTS' SCIENTIFIC LITERACY ABILITIES ON THE MATERIAL ELASTICITY**

Based on preliminary studies through interviews with physics teachers, classroom observations, and a scientific literacy test, it was found that the scientific literacy skills of students at SMAS Pasundan Cikalongkulon were in the “adequate” category. The objective of this study was to examine the effect of applying the Science Writing Heuristic (SWH) approach based on the Sustainable Development Goals on students’ scientific literacy skills in the topic of material elasticity. This research employed a quasi-experimental method using a posttest-only control group design. The study population consisted of all Grade XI students at SMAS Pasundan Cikalongkulon in the 2024/2025 academic year, totaling four classes with 120 students. The research sample was selected using a cluster random sampling technique, in which class XI F1 was assigned as the experimental group and class XI F2 as the control group. Data were collected through a posttest consisting of 32 multiple-choice questions covering three indicators of scientific literacy competence. Based on hypothesis testing using an independent samples t-test at a significance level of $\alpha = 0.05$, the results showed that the calculated t-value (5.008) was greater than the critical t-value (2.048), leading to the acceptance of the alternative hypothesis (H_a). Therefore, it can be concluded with 95% confidence that the implementation of the Science Writing Heuristic (SWH) approach based on the Sustainable Development Goals (SDGs) significantly affects students’ scientific literacy skills in the topic of material elasticity in Grade XI at SMAS Pasundan Cikalongkulon for the 2024/2025 academic year. This effect occurs because the SWH approach integrated with SDGs enhances the meaningfulness of learning, fosters scientific awareness of global issues, and makes physics concepts more applicable and relevant to real-world contexts.

Keywords: Scientific literacy, Science Writing Heuristic (SWH), Sustainable Development Goals