

ABSTRAK

Maryam Ghurfatus Salimah : “Pengaruh Model Pembelajaran PjBL-STEAM Berbasis Lingkungan terhadap Ekoliterasi Siswa pada Materi Pencemaran Lingkungan”

Ekoliterasi penting dikembangkan dalam pembelajaran biologi agar siswa memiliki pengetahuan, kepedulian, dan keterampilan dalam menghadapi permasalahan lingkungan. Penelitian ini bertujuan untuk mengetahui keterlaksanaan model pembelajaran PjBL-STEAM berbasis lingkungan, profil ekoliterasi siswa pada aspek *head*, *heart*, dan *hands*, pengaruh model terhadap ekoliterasi, serta respons siswa. Penelitian menggunakan metode *quasi experimental* dengan desain *Nonequivalent Control Group Design* yang melibatkan 68 siswa kelas X pada salah satu SMA di Kota Bandung. Kelas eksperimen menggunakan model PjBL-STEAM berbasis lingkungan, sedangkan kelas kontrol menggunakan model PjBL. Hasil penelitian menunjukkan bahwa capaian ekoliterasi kelas eksperimen lebih tinggi dibandingkan kelas kontrol pada aspek *head* (70,04 dan 67,95), *heart* (83,12 dan 81,76), serta *hands* (86,49 dan 84,44). Model PjBL-STEAM berbasis lingkungan berpengaruh signifikan terhadap aspek *head* dengan nilai signifikansi $< 0,001$ dan *effect size* 1,04 (besar), tetapi tidak berpengaruh signifikan terhadap aspek *heart* dengan nilai signifikansi 0,171 dan *effect size* 0,17 (kecil). Aspek *hands* menunjukkan capaian keterampilan siswa melalui penilaian kinerja dan produk. Respons siswa terhadap penerapan model berada pada kategori baik. Dengan demikian, model PjBL-STEAM berbasis lingkungan dapat mendukung pengembangan ekoliterasi siswa, terutama pada aspek pengetahuan ekologis dan keterampilan melalui kegiatan proyek.

Kata kunci: Ekoliterasi, PjBL-STEAM, pembelajaran berbasis lingkungan, pencemaran lingkungan.

ABSTRACT

Maryam Ghurfatus Salimah : ‘ ‘ The Effect of an Environment-Based PjBL-STEAM Learning Model on Students’ Ecoliteracy in Environmental Pollution ’ ’

Ecoliteracy is important to develop in biology learning to help students acquire knowledge, awareness, and skills in addressing environmental problems. This study aimed to determine the implementation of the environment-based PjBL-STEAM learning model, students’ ecoliteracy profile in the aspects of head, heart, and hands, the effect of the model on ecoliteracy, and students’ responses to its implementation. This study employed a quasi-experimental method with a Nonequivalent Control Group Design involving 68 tenth-grade students at a senior high school in Bandung. The experimental class used the environment-based PjBL-STEAM model, while the control class used the PjBL model. The results showed that the ecoliteracy achievement of the experimental class was higher than that of the control class in the head aspect (70.04 and 67.95), heart aspect (83.12 and 81.76), and hands aspect (86.49 and 84.44). The environment-based PjBL-STEAM model had a significant effect on the head aspect, with a significance value of < 0.001 and an effect size of 1.04 (large), but had no significant effect on the heart aspect, with a significance value of 0.171 and an effect size of 0.17 (small). The hands aspect reflected students’ skills through performance and product assessments. Students’ responses to the implementation of the model were categorized as good. Therefore, the environment-based PjBL-STEAM model can support the development of students’ ecoliteracy, particularly ecological knowledge and skills through project-based activities.

Keywords: *ecoliteracy, PjBL-STEAM, environment-based learning, environmental pollution.*

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