ABSTRAK

Pratama, Gery. 2026. *Pengaruh Implementasi Pembelajaran Kimia Hijau Berbasis Indikator Alami dari Mangrove terhadap Literasi Kimia Peserta Didik SMA dalam Konteks Maritim Kepulauan Riau*. Skripsi. Program Studi Pendidikan Kimia, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Maritim Raja Ali Haji. Pembimbing I: Nina Adriani, B.Sc(Hons)., M.Sc., Ph.D. Pembimbing II: Dr. Fitriah Khoirunnisa, S.Pd., M.Ed.

Kata Kunci: kimia hijau, indikator alami, mangrove, literasi kimia, konteks maritim

Penelitian ini bertujuan mengukur perubahan literasi kimia, menguji pengaruh, serta mengetahui respons peserta didik SMA terhadap pembelajaran kimia hijau berbasis indikator alami mangrove pada materi asam-basa. Penelitian menggunakan pendekatan kuantitatif dengan desain *quasi-experimental* tipe *nonequivalent control group design*, melibatkan kelas XI.7 sebagai kelompok eksperimen (25 peserta didik) dan XI.6 sebagai kelompok kontrol (35 peserta didik) di SMA Negeri 1 Tanjungpinang, yang dipilih melalui teknik *purposive sampling*. Data dianalisis menggunakan pemodelan Rasch, uji *Mann-Whitney*, dan *effect size*. Hasil menunjukkan rata-rata *logit change* kelompok eksperimen sebesar 1,6252 (kategori sedang), lebih tinggi dibandingkan kelompok kontrol sebesar 0,1829. Uji *Mann-Whitney* pada data *posttest* memperoleh Z = -0,883 dengan p = 0,377 (p > 0,05), yang berarti tidak terdapat perbedaan literasi kimia yang signifikan antarkelompok, dengan *effect size* tergolong kecil (r = 0,114). Kondisi ini disebabkan oleh *baseline imbalance*, yaitu kemampuan awal kelompok kontrol yang signifikan lebih tinggi akibat tidak adanya pengacakan subjek. Meskipun demikian, kelompok eksperimen berhasil memperkecil kesenjangan tersebut hingga mencapai capaian akhir yang setara, bahkan melampaui rata-rata *logit* kelompok kontrol secara deskriptif. Peserta didik juga memberikan respons positif, terutama pada aspek persepsi terhadap pembelajaran kontekstual dan cara belajar, meskipun aspek motivasi cenderung netral. Dapat disimpulkan bahwa pembelajaran ini mampu mendorong perubahan literasi kimia peserta didik meski belum signifikan secara statistik dibandingkan kelompok kontrol, serta mendapat respons yang positif.

ABSTRACT

Pratama, Gery. 2026. *The Effect of Implementing Green Chemistry Learning Based on Natural Indicators from Mangroves on the Chemical Literacy of High School Students in the Maritime Context of Riau Islands*. Undergraduate Thesis. Chemistry Education Study Program, Faculty of Teacher Training and Education, Universitas Maritim Raja Ali Haji. Supervisor I: Nina Adriani, B.Sc(Hons)., M.Sc., Ph.D. Supervisor II: Dr. Fitriah Khoirunnisa, S.Pd., M.Ed.

Keywords: green chemistry, natural indicators, mangrove, chemical literacy, maritime context

This study aimed to measure changes in chemical literacy, examine the effect of, and identify students' responses to green chemistry learning based on natural mangrove indicators on acid-base material. This research employed a quantitative approach with a quasi-experimental design using a nonequivalent control group design, involving class XI.7 as the experimental group (25 students) and class XI.6 as the control group (35 students) at SMA Negeri 1 Tanjungpinang, selected through purposive sampling. Data were analyzed using the Rasch model, the Mann-Whitney test, and effect size. The results showed that the experimental group's average logit change was 1.6252 (moderate category), higher than the control group's 0.1829. The Mann-Whitney test on posttest data yielded $Z = -0.883$ with $p = 0.377$ ($p > 0.05$), indicating no significant difference in chemical literacy between the groups, with a small effect size ($r = 0.114$). This condition was attributed to baseline imbalance, in which the control group's initial ability was significantly higher due to the absence of subject randomization. However, the experimental group succeeded in narrowing this gap, ultimately reaching a final achievement equivalent to, and descriptively even surpassing, the control group's average logit score. Students also gave positive responses, particularly regarding their perception of contextual learning and their learning approach, although the motivation aspect tended to be neutral. It can be concluded that this learning approach was able to drive changes in students' chemical literacy, although not yet statistically significant compared to the control group, and received a positive overall response.