

ABSTRAK

Karina Puspa R, 1222080039, 2026 : Penerapan Lembar Kerja Berbasis Inkuiri Terbimbing pada Pembuatan Pupuk Organik Cair Limbah Pohon Pisang dengan Penambahan Urin Kelinci Untuk Meningkatkan Keterampilan Berpikir Kritis Siswa

Keterampilan berpikir kritis merupakan salah satu kompetensi penting abad ke-21 yang perlu dikembangkan dalam pembelajaran kimia. Namun, kemampuan berpikir kritis peserta didik di Indonesia masih tergolong rendah sehingga diperlukan inovasi pembelajaran yang kontekstual dan bermakna. Penelitian ini bertujuan mendeskripsikan aktivitas siswa, menganalisis kemampuan siswa dalam menyelesaikan lembar kerja, menganalisis peningkatan keterampilan berpikir kritis dan karakteristik pupuk organik cair dari limbah pohon pisang dan urin kelinci. Penelitian ini menggunakan metode *pre-eksperimental* dengan desain *One-Group Pretest–Posttest*. Subjek penelitian terdiri atas 33 peserta didik kelas X SMA Terpadu Baiturrahman. Instrumen penelitian meliputi lembar observasi aktivitas peserta didik, lembar penilaian LKPD, serta tes esai keterampilan berpikir kritis yang mencakup indikator menganalisis, menginterpretasi, menginferensi, dan mengevaluasi. Hasil penelitian menunjukkan bahwa aktivitas peserta didik memperoleh rata-rata skor 88 (sangat baik) dan penyelesaian LKPD memperoleh rata-rata skor 89 (sangat baik). Nilai *N-Gain* keseluruhan 0,678 (sedang). Berdasarkan kelompok capaian belajar, nilai *N-Gain* kelompok tinggi 0,823 (tinggi), kelompok sedang 0,650 (sedang), dan kelompok rendah 0,562 (sedang). Hasil uji t sampel berpasangan menunjukkan adanya perbedaan yang signifikan antara skor *Pretest* dan *Posttest* (Sig. 2-tailed = 0,000 < 0,05). Hasil Karakterisasi pupuk menunjukkan semua sampel sesuai standar SNI, baik secara organoleptik (warna kuning kecoklatan, tekstur cair, bau normal, pH 4-9, suhu 25-30°C) maupun kandungan unsur hara N, P, dan K pada semua sampel masih berada di bawah 2%. Pupuk ini dinyatakan layak digunakan karena memiliki kandungan unsur hara yang seimbang.

Kata Kunci : Lembar Kerja Berbasis Inkuiri Terbimbing, Pupuk Organik Cair, Limbah Pohon Pisang, Urin Kelinci, Keterampilan Berpikir Kritis.

ABSTRACT

Karina Puspa R, 1222080039, 2026 : *Implementation of a Guided Inquiry-Based Worksheet in the Production of Liquid Organic Fertilizer from Banana Tree Waste and Rabbit Urin to Enhance Students' Critical Thinking Skills*

Critical thinking skills are among the essential 21st-century competencies that must be developed in chemistry education. However, students' critical thinking skills in Indonesia remain relatively low, necessitating contextual and meaningful learning innovations. This study aims to describe student activities, analyze their ability to complete worksheets, and examine both the improvement in critical thinking skills and the characteristics of the liquid organic fertilizer produced from banana tree waste and rabbit Urin. The research employed a pre-experimental method with a One-Group Pretest-Posttest design. The subjects consisted of 33 tenth-grade students at SMA Terpadu Baiturrahman. The research instruments included student activity observation sheets, student worksheet assessment rubrics, and an essay test on critical thinking skills encompassing the indicators of analyzing, interpreting, inferring, and evaluating. The results indicated that student activities achieved an average score of 88 (very good category), and worksheet completion achieved an average score of 89 (very good category). The overall N-Gain score was 0.678 (moderate). Based on learning achievement categories, the N-Gain score for the high-achieving group was 0.823 (high), the moderate group was 0.650 (moderate), and the low-achieving group was 0.562 (moderate). Paired sample t-test results revealed a significant difference between the Pretest and Posttest scores (Sig. 2-tailed = 0.000 < 0.05). Furthermore, the fertilizer characterization results demonstrated that all samples met the Indonesian National Standard (SNI), both organoleptically (brownish-yellow color, liquid texture, normal odor, pH 4–9, temperature 25–30°C) and chemically, as the N, P, and K nutrient contents in all samples were below 2%. The fertilizer was deemed suitable for use due to its balanced nutrient composition.

Keywords: *Guided Inquiry-Based Worksheet, Liquid Organic Fertilizer, Banana Tree Waste, Rabbit Urin, Critical Thinking Skills.*