

ABSTRAK

**PENINGKATAN PEMAHAMAN, KREATIVITAS, DAN KEMAMPUAN
KOLABORASI SISWA SMA STELLA DUCE 2 MELALUI PROJECT-
ECOPRINT DALAM PEMBELAJARAN LAJU REAKSI**

Laurentia Intestina Kristi Ardhana
Universitas Sanata Dharma
2026

Laju reaksi merupakan salah satu materi kimia di SMA yang sering dianggap sulit oleh siswa, terlebih karena pendekatan pembelajaran yang diterapkan di kelas masih sering berpusat pada guru dan masih berfokus pada penguasaan pengetahuan. Penelitian ini bertujuan untuk menganalisis penerapan dan efektivitas model pembelajaran *Project Based Learning* (PjBL) berbasis *ecoprint* dalam meningkatkan kreativitas, kemampuan kolaborasi, dan pemahaman konsep siswa. Metode penelitian menggunakan *mixed method* dengan desain *repeated measure* pada 19 siswa ekstrakurikuler sains di SMA Stella Duce 2 Yogyakarta, yang dipilih melalui teknik *purposive sampling*. Data penelitian dikumpulkan melalui tes pemahaman, observasi kolaborasi, dan angket terbuka. Hasil penelitian menunjukkan bahwa kreativitas siswa berkembang, yang ditandai dengan munculnya indikator kreativitas, baik dari aspek kognitif maupun afektif, pada berbagai tahapan proyek yang selaras dengan sintaks PjBL. Kemampuan kolaborasi juga meningkat, yang ditunjukkan melalui kemampuan siswa dalam pembagian tugas, rasa tanggung jawab, dan partisipasi aktif dalam kelompok berdasarkan indikator kolaborasi yang diamati. Selain itu, model ini efektif meningkatkan pemahaman konsep siswa yang dibuktikan dengan kenaikan nilai rata-rata dari 40,50 pada *pretest* menjadi 88,85 pada *posttest* dengan perolehan nilai N-gain sebesar 0,81 (kategori tinggi). Berdasarkan hasil tersebut, dapat disimpulkan bahwa model PjBL berbasis *ecoprint* efektif digunakan untuk mengembangkan kreativitas, kolaborasi, dan pemahaman konsep siswa pada materi laju reaksi.

Kata kunci: laju reaksi, *Project Based Learning*, kreativitas, kolaborasi, pemahaman

ABSTRACT**ENHANCING UNDERSTANDING, CREATIVITY, AND
COLLABORATION SKILLS AMONG STUDENT AT STELLA DUCE 2
HIGH SCHOOL THROUGH AN ECOPRINT-PROJECT IN REACTION
RATE**

Laurentia Intestina Kristi Ardhana
Universitas Sanata Dharma
2026

Reaction rate is one of the chemistry topics in senior high school that is often considered difficult by students, particularly because classroom instruction tends to be teacher-centered, and focused on knowledge acquisition. This study aimed to analyze the implementation and effectiveness of an ecoprint-Project Based Learning (PjBL) model in enhancing students' creativity, collaboration skills, and conceptual understanding. A mixed-methods approach with a repeated-measures design was employed involving 19 students from the science extracurricular program at SMA Stella Duce 2 Yogyakarta, selected through purposive sampling. Data were collected through conceptual understanding tests, collaboration observations, open-ended questionnaires, and answers from LKPD. The results showed that students' creativity developed, as indicated by the emergence of creativity indicators in both cognitive and affective aspects across various project stages aligned with the PjBL syntax. Collaboration skills also improved significantly, as reflected in task distribution, responsibility, and active participation within groups based on the observed collaboration indicators. Furthermore, the model effectively enhanced students' conceptual understanding, as demonstrated by an increase in the average score from 40.50 on the pretest to 88.85 on the posttest, with an N-gain score of 0.81 (high category). These findings indicate that the ecoprint-based PjBL model is effective in developing students' creativity, collaboration skills, and conceptual understanding of reaction rate concepts.

Keywords: reaction rate, Project Based Learning, creativity, collaboration, understanding