

ABSTRAK

EFEKTIVITAS MODEL PEMBELAJARAN INKUIRI TERBIMBING BERBASIS *GREEN CHEMISTRY* UNTUK MENINGKATKAN PENGUASAAN KOMPETENSI PEMBELAJARAN TERMOKIMIA DAN KETERAMPILAN PROSES SAINS SISWA SMA

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Penelitian ini bertujuan untuk mendeskripsikan efektivitas model pembelajaran inkuiri terbimbing berbasis *green chemistry* dalam meningkatkan penguasaan kompetensi pembelajaran termokimia dan keterampilan proses sains siswa SMA. Populasi dalam penelitian ini adalah seluruh siswa kelas XI SMA Negeri 15 Bandarlampung Tahun Ajaran 2024/2025. Sampel pada penelitian ini yaitu siswa kelas XI-1 dan kelas XI-2. Pengambilan sampel penelitian dilakukan dengan teknik *purposive sampling* untuk memilih dua kelas penelitian, kemudian kedua kelas tersebut diundi secara acak untuk menentukan kelas eksperimen dan kelas kontrol. Dari hasil undian, diperoleh kelas XI-2 sebagai kelas eksperimen dan kelas XI-1 sebagai kelas kontrol. Penelitian ini merupakan *quasi-experimental* dengan desain penelitian *pretest-posttest control group design*. Instrumen yang digunakan adalah soal tes penguasaan kompetensi pembelajaran berupa 5 butir soal berbentuk *essay*, soal tes keterampilan proses sains berupa 3 butir soal berbentuk *essay*, angket respon siswa dan lembar keterlaksanaan pembelajaran. Analisis data dalam penelitian ini meliputi analisis data utama, analisis data pendukung dan pengujian hipotesis. Pengujian hipotesis dalam penelitian ini adalah uji perbedaan dua rata-rata. Hasil penelitian menunjukkan bahwa rata-rata *n-gain* penguasaan kompetensi pembelajaran dan keterampilan proses sains siswa di kelas eksperimen berbeda secara signifikan dengan rata-rata *n-gain* siswa di kelas kontrol. Hasil penelitian juga menunjukkan bahwa rata-rata *n-gain* di kelas eksperimen berkategori sedang. Dapat disimpulkan bahwa model pembelajaran inkuiri terbimbing berbasis *green chemistry* efektif dalam meningkatkan penguasaan kompetensi pembelajaran termokimia dan keterampilan proses sains.

Kata kunci: inkuiri terbimbing, penguasaan kompetensi pembelajaran, termokimia, keterampilan proses sains, *green chemistry*

ABSTRACT

THE EFFECTIVENESS OF A GUIDED INQUIRY LEARNING MODEL BASED ON *GREEN CHEMISTRY* IN ENHANCING HIGH SCHOOL STUDENTS' THERMOCHEMISTRY COMPETENCY MASTERY AND SCIENCE PROCESS SKILLS

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This study aims to describe the effectiveness of guided inquiry learning model based on green chemistry in improving the mastery of thermochemistry learning competencies and science process skills of high school students. The population in this study were all students of class XI SMAN 15 Bandarlampung in the 2024/2025 Academic Year. The sample in this research were students in grade XI-1 and grade XI-2. The research sample was taken using purposive sampling technique to select two research classes, then the two classes were drawn randomly to determine the experimental class and the control class. From the results of the draw, class XI-2 was obtained as the experimental class and class XI-1 as the control class. This study is a quasi-experimental study with a pretest- posttest control group design. The instruments used were learning competency mastery test questions in the form of 5 essay questions, science process skills test questions in the form of 3 essay questions, student response questionnaires and learning implementation sheets. Data analysis in this study includes primary data analysis, supporting data analysis and hypothesis testing. Hypothesis testing in this study is the test of differences between two means. The results of the study showed that the average n-gain of students' mastery of learning competencies and science process skills in the experimental class was significantly different from the average n-gain of students in the control class. The results also showed that the average n-gain in the experimental class was in the moderate category. It can be concluded that the guided inquiry learning model based on green chemistry is effective in improving the mastery of thermochemistry learning competencies and science process skills.

Keywords: guided inquiry, competency mastery, thermochemistry, science process skills, green chemistry