ABSTRAK

Penelitian ini bertujuan untuk mengetahui kemampuan *scientific reasoning* siswa SMA pada materi termokimia setelah dilaksanakan pembelajaran menggunakan model *levels of inquiry*. Metode yang digunakan pada penelitian ini adalah metode pra eksperimen dengan bentuk *one group pretest-postest design.* Uji coba terbatas dilakukan pada 24 orang siswa SMA kelas XI IPA di salah satu SMA swasta Kota Bandung. Dari lima tahapan dalam model pembelajaran *levels of inquiry*, tahapan *discovery learning* dan *interactive demonstration* diterapkan pada pertemuan pertama. Tahapan *inquiry lesson* dan *inquiry lab* diterapkan pada pertemuan kedua. Sedangkan tahapan terakhir, *hypothetical inquiry,* diterapkan pada pertemuan ketiga. Kemampuan *scientific reasoning* siswa diukur dengan tes objektif *scientific reasoning* dengan beberapa modifikasi. Tes ini berisi 8 butir soal dengan beberapa jumlah pilihan jawaban setiap soal. Pengujian dilakukan sebelum dan sesudah pembelajaran dilakukan. Data hasil tes awal dan tes akhir diolah menggunakan perhitungan N–*Gain*. Berdasarkan data tes awal dan tes akhir, diperoleh peningkatan kemampuan *scientific reasoning* siswa secara keseluruhan dengan nilai N–*Gain* sebesar 0,30. Hal tersebut menunjukkan bahwa model pembelajaran *levels of inquiry* mampu meningkatkan kemampuan *scientific reasoning* siswa SMA pada materi termokimia dengan kategori sedang.

Kata kunci: *Scientific Reasoning, Levels of Inquiry,* Termokimia

ABSTRACT

This research was aimed to know the scientific reasoning skills of senior high school students on thermochemistry matter after held the teaching and learning activity with levels of inquiry model. This research used pre-experiment research model with one group pretest-postest design. The subjects of this research were 24 students of eleventh grade in a one of Bandung City senior high school. From five levels of levels of inquiry model, discovery learning and interactive demonstration level were implemented in the first meeting. Inquiry lesson and inquiry lab level were implemented in the second meeting. The last level, hypothetical inquiry level, was implemented in the third meeting. Students' scientific reasoning skills were measured by modificated scientific reasoning objective test. This test involved 8 questions with any optional answers. This test was given before and after teaching and learning by using levels of inquiry model activities. The results of the pretest and the postest were calculated by using N-Gain formula. The gain index (*g*) of this calculation was 0,30. This result showed that levels of inquiry model can improve students' scientific reasoning skills on thermochemistry matter with average category.

Keywords: Scientific Reasoning, Levels of Inquiry, Thermochemistry