ABSTRACT

FEBRIANI HASTINI NST (Reg. Number: 8136175006) The Effect of Scientific Inquiry Learning Model Based on Conceptual Change on Physics Cognitive Competence and Science Process Skill (SPS) of Students at Senior High School.

The purpose of this study was to analyze is physics cognitive competence and science process skill of students using scientific inquiry learning model based on conceptual change better than using conventional learning. The research type was quasi experiment and two group pretest-posttest designs were used in this study. The population was Class XI MS_1 and XI MS_2 with the totaling of sixty two students. The sample was the entire population. The instruments in this research were essay test for physics cognitive competence of students and observation sheet for science process skill of students. The essay instrument has been validated and fulfilled the requirements of validity and reliability of test. Based on the data tabulation obtained the mean of physics cognitive competence of students in experimental class was 72.97 and 54.97 in control class, the mean of science process skill of students in experimental class was 79.66 and 63.97 in control class. Based on the hypothesis testing can be concluded that physics cognitive competence and science process skill of students using scientific inquiry learning model based on conceptual change was better than using conventional learning.

Keywords: Scientific inquiry learning model based on conceptual change, cognitive competence, science process skill.

ABSTRAK

FEBRIANI HASTINI NST (NIM: 8136175006) Efek Model Pembelajaran *Scientific Inquiry* Berbasis *Conceptual Change* Terhadap Kemampuan Kognitif Fisika dan Keterampilan Proses Sains Siswa SMA.

Penelitian ini bertujuan untuk menganalisis apakah kemampuan kognitif dan keterampilan proses sains siswa menggunakan model pembelajaran *scientific inquiry* berbasis *conceptual change* lebih baik daripada pembelajaran konvensional. Jenis penelitian ini adalah quasi eksperimen dengan desain *two group pre-test and post-test*. Populasi dalam penelitian ini adalah kelas XI MS_1 dan XI MS_2 yang berjumlah 62 orang. Sampel dalam penelitian adalah seluruh populasi. Instrumen dalam penelitian ini adalah berupa tes essay untuk kemampuan kognitif fisika siswa dan lembar observasi untuk keterampilan proses sains siswa. Instrument essay telah memenuhi syarat validitas dan reliabilitas tes. Melalui pengolahan data diperoleh nilai rata-rata kemampuan kognitif fisika siswa pada kelas eksperimen adalah 72.97 sedangkan pada kelas kontrol adalah 54.97, nilai rata-rata keterampilan proses sains siswa pada kelas eksperimen adalah 79.66 sedangkan pada kelas kontrol adalah 63.97. Melalui pengujian hipotesis dapat disimpulkan bahwa kemampuan kognitif fisika dan keterampilan proses sains siswa menggunakan model pembelajaran *scientific inquiry* berbasis *conceptual change* lebih baik daripada pembelajaran konvensional.

Kata Kunci: Model Pembelajaran *Scientific Inquiry* Berbasis *Conceptual Change* kemampuan kognitif, keterampilan proses sains.