

ABSTRAK

Eni Sumanti Nasution. NIM. 8146176003. Efek Model Pembelajaran *inquiry training* dan Penalaran Formal Terhadap Keterampilan Proses Sains Siswa. Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, 2016.

Penelitian ini bertujuan untuk menganalisis : (1) keterampilan proses sains siswa dengan menggunakan pembelajaran *inquiry training* lebih baik dibandingkan dengan pembelajaran ekspositori, (2) keterampilan proses sains siswa pada kelompok siswa yang mempunyai penalaran formal diatas rata-rata lebih baik dibandingkan kelompok siswa yang mempunyai penalaran formal dibawah rata-rata, dan (3) interaksi antara model pembelajaran *inquiry training* dan pembelajaran ekspositori dengan penalaran formal dalam meningkatkan keterampilan proses sains siswa.

Penelitian merupakan penelitian eksperimen dengan *quasi eksperimen* dengan desain *two group pretes-postest design*. Populasi Penelitian ini adalah siswa kelas X SMA IT Al-Fityan School Medan. Pemilihan sampel dilakukan secara *cluster random sampling*. Sampel dibagi dalam dua kelas, kelas eksperimen yang diajarkan dengan model pembelajaran *inquiry training* dan kelas kontrol diajarkan dengan pembelajaran ekspositori. Instrumen penelitian ini menggunakan tes keterampilan proses sains dalam bentuk observasi dan tes penalaran formal dalam bentuk uraian serta telah dinyatakan valid dan reliabel. Data dalam penelitian ini dianalisis dengan ANAVA dua jalur.

Hasil penelitian melalui analisis uji hipotesis bahwa ada perbedaan nilai signifikan yang positif antara efek model pembelajaran, penalaran formal terhadap keterampilan proses sains dan efek model pembelajaran dengan penalaran formal terhadap keterampilan proses sains siswa. Kesimpulan menunjukkan bahwan: (1) model pembelajaran *inquiry training* lebih baik dibandingkan dengan pembelajaran ekspositori, (2) keterampilan proses sains siswa pada kelompok siswa dengan penalaran diatas rata-rata lebih baik dibandingkan dengan kelompok siswa dengan penalaran formal dibawah rata-rata, dan (3) terdapat interaksi antara model pembelajaran *inquiry training* dan penalaran formal dalam meningkatkan keterampilan proses sains siswa.

Kata Kunci : *inquiry training*, ekspositori, Penalaran formal, Keterampilan Proses Sains.

ABSTRACT

Eni Sumanti Nasution. Roll No. 8146176003. The Effects of *Inquiry Training Learning Model* and Formal Reasoning on Students' Science Process Skills.

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This research aimed to analyze : (1) the students' science process skills by using *inquiry training* learning model were better than using expository learning, (2) students' science process skills in the group of students who had formal reasoning above average were better than those students who had formal reasoning below average, and (3) interaction *inquiry training* learning model and expository learning model with formal reasoning of the students' science process skills.

This research carried out by a quasi-experimental and design was two group pretest-posttest design. The population of this study was class X SMA IT Al-Fityan School Medan. Sample selection was done by cluster random sampling. Sample divided two class, eksperimen class by using *inquiry training* learning model and control class by using expository. The instruments of this study used science process skills test in the form of a observations and formal reasoning test in the form of a description which were valid and reliable. The formal reasoning test was in narrative form. The data were analyzed by ANOVA two -ways.

The results by analyzed hypothesis tes that there were different significant value positive between effect learning model, formal reasoning to students's science process skill and effect learning with formal reasoning to students's science process skill. The Conclusion showed that : (1) The student s' physics science process skills by *using inquiry training* learning model were better than learning outcomes of using expository learning model, (2) students' science process skills in the group of students who had formal reasoning above average were better than the group of students had formal reasoning below average and (3) there were interactions between the *inquiry training* learning model and expository learning model with formal reasoning in improving students' science process skills.

Keywords: Inquiry Training, Expository, Formal Reasoning, Science Process Skills.