ABSTRAK

ANALISIS KETERAMPILAN BERPIKIR KRITIS SISWA SEKOLAH MENENGAH ATAS PADA MATA PELAJARAN FISIKA BERDASARKAN MODEL SIKLUS BELAJAR DAN PENALARAN FORMAL

Oleh

I NENGAH SURATA

Tujuan penelitian, untuk mengetahui:(1) keterampilan berpikir kritis siswa yang diberi model siklus belajar hipotesis-deduktif lebih tinggi daripada model siklus belajar empiris-induktif, (2) keterampilan berpikir kritis siswa yang diberi model siklus belajar hipotesis-deduktif lebih tinggi daripada model siklus belajar empiris-induktif pada penalaran formal tinggi. (3) keterampilan berpikir kritis siswa yang diberi model siklus belajar hipotesis-deduktif lebih rendah daripada model siklus belajar empiris-induktif pada penalaran formal rendah. (4) ada interaksi antara model siklus belajar dengan penalaran formal terhadap keterampilan berpikir kritis siswa.

Metode penelitian, kuasi eksperimen desain faktorial 2 x 2. Populasi penelitian, seluruh kelas X SMA Negeri 1 Way Jepara tahun pelajaran 2011/2012 224 siswa. Pengambilan sampel menggunakan teknik *cluster random sampling* memperoleh kelas eksperimen 32 siswa dan kelas kontrol 32 siswa.

Kesimpulan: (1) keterampilan berpikir kritis siswa yang diberi model siklus belajar hipotetis-deduktif lebih tinggi daripada model siklus belajar empiris-induktif (F_{hitung}= 4.18 > F_{tabel} = 4.11),α = 0,05, db = 36. (2) keterampilan berpikir kritis siswa yang diberi model siklus belajar hipotesis-deduktif lebih tinggi daripada model siklus belajar empiris-induktif pada penalaran formal tinggi. (t_{hitung} = 2.91 > t_{tabel} = 2.10), α = 0,05, df = 18. (3) keterampilan berpikir kritis siswa yang diberi model siklus belajar hipotesis-deduktif lebih rendah daripada model siklus belajar empiris-induktif pada penalaran formal rendah (t_{hitung} = – 0.56 < t_{tabel} = 2.10), α = 0,05, df = 18. (4) ada interaksi secara signifikan antara model siklus belajar dengan penalaran formal terhadap keterampilan berpikir kritis siswa (F_{hitung}= 7.24 > F_{tabel}= 4.11), α = 0,05, db = 3.

Kata kunci: berpikir kritis, siklus belajar, penalaran

ABSTRACT

ANALYSIS OF CRITICAL THINKING SKILLS SENIOR HIGH SCHOOL STUDENT IN THE SUBJECTS OF PHYSICS BY LEARNING CYCLE MODEL AND FORMAL REASONING

By

I Nengah Surata

The purpose of study, to determine: (1) the critical thinking skills of students who were given a model of the learning cycle hypothesis-deductive is higher than a model of the learning cycle empirical-inductive, (2) critical thinking skills of students who were given a model of the learning cycle hypothesis-deductive is higher than a model of the learning cycle empirical-inductive on high formal reasoning. (3) the critical thinking skills of students who were given a model of the learning cycle hypothesis-deductive is lower than a model of the learning cycle empirical-inductive on low formal reasoning. (4) there is interaction between the learning cycle model with a formal reasoning against critical thinking skills of students.

The research method used was quasi-experimental with factorial design 2 x 2 . The study population was all class X SMA Negeri 1 Way Jepara school year 2011/2012 as many as 224 students. Sampling using random cluster sampling to obtain samples 32 pupils in the experimental class and in the control class as many as 32 students.

The conclusion: (1) critical thinking skills of students who were given the model of the hypothetical-deductive learning cycle is higher than a model of the learning cycle empirical-inductive, (F-count = 4.18> F table = 4.11) at $\alpha = 0.05$ and db = 36. (2) critical thinking skills of students who were given the model of the hypothesis-deductive learning cycle is higher than a model of the learning cycle empirical-inductive on high formal reasoning. (t-count = 2.91> t-table = 2.10) at $\alpha = 0.05$, df = 18 (3) critical thinking skills of students who were given the model of the hypothesis-deductive learning cycle is lower than a model of the learning cycle empirical-inductive on low formal reasoning (t-count = - 12:56 <t-table = 2.10) at $\alpha = 0.05$, df = 18 (4) there is interaction between the learning cycle model with a formal reasoning against critical thinking skills of students. (F-count = 7.24> F-table = 4.11) on $\alpha = 0.05$ and db = 3

Keywords: critical thinking, learning cycles, reasoning