

ABSTRAK

PENGARUH MODEL *PROBLEM-BASED LEARNING* (PBL) TERINTEGRASI STEM TERHADAP KEMAMPUAN BERPIKIR KRITIS PESERTA DIDIK PADA MATERI PERUBAHAN IKLIM

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Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran *Problem-Based Learning* terintegrasi STEM terhadap kemampuan berpikir kritis peserta didik di SMAN 1 Negeri Katon pada materi perubahan iklim kelas X semester genap tahun ajaran 2024/2025. Populasi penelitian ini yaitu seluruh peserta didik kelas X di SMAN 1 Negeri Katon. Sampel yang diambil menggunakan teknik *random sampling* dengan kelas X.1 (36 peserta didik) sebagai kelas eksperimen dan kelas X.2 (37 peserta didik) sebagai kelas kontrol. Desain penelitian yang digunakan yaitu *quasi experiment* dengan bentuk desain *Pretest Posttest Non-Equivalent Control Grup Design*. Jenis data dalam penelitian berupa data kuantitatif dan kualitatif. Data kuantitatif berupa data rata-rata nilai *pretest*, *posttest*, dan *N-gain* sebagai hasil peningkatan keterampilan berpikir kritis kemudian dianalisis dengan uji *independent sample t-test* didapatkan nilai Sig. (2-tailed) $0,000 < 0,05$ artinya hasil penelitian menunjukkan bahwa terdapat pengaruh signifikan dari penerapan model pembelajaran PBL terintegrasi STEM terhadap kemampuan berpikir kritis peserta didik pada materi perubahan iklim. Data kualitatif berupa angket tanggapan peserta didik terhadap penerapan model pembelajaran PBL terintegrasi STEM yang memiliki persentase 74,1% dengan kategori baik. Hal tersebut menunjukkan bahwa penerapan model PBL terintegrasi STEM mendapatkan respon positif dari peserta didik.

Kata kunci: Berpikir Kritis, Pendekatan STEM, Perubahan Iklim, *Problem-Based Learning*

ABSTRACT

THE EFFECT OF THE STEM-INTEGRATED PROBLEM-BASED LEARNING (PBL) MODEL ON STUDENTS' CRITICAL THINKING ABILITIES ON CLIMATE CHANGE

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This research aims to determine the effect of the STEM-integrated Problem-Based Learning learning model on the critical thinking skills of students at SMAN 1 Negeri Katon on climate change material for grade X in the even semester of the 2024/2025 academic year. The population of this study was all grade X students at SMAN 1 Negeri Katon. The sample was taken using a random sampling technique with class X.1 (36 students) as the experimental class and class X.2 (37 students) as the control class. The research design used was a quasi-experiment with a Pretest Posttest Non-Equivalent Control Group Design. The types of data in the study were quantitative and qualitative data. Quantitative data in the form of average pretest, posttest, and N-gain scores as a result of improving critical thinking skills were then analyzed using an independent sample t-test, obtained a Sig. (2-tailed) value of $0.000 < 0.05$, meaning that the results of the study showed that there was a significant effect of the application of the STEM-integrated PBL learning model on students' critical thinking skills on climate change material. Qualitative data in the form of a questionnaire of student responses to the implementation of the STEM-integrated PBL learning model had a percentage of 74.1%, categorized as good. This indicates that the implementation of the STEM-integrated PBL model received a positive response from students.

Keywords: *Critical Thinking, STEM Approach, Climate Change, Problem-Based Learning*