

ABSTRAK

PENGARUH MODEL *ARGUMENT-DRIVEN INQUIRY* (ADI) BERBANTUAN PHET *SIMULATION* TERHADAP KEMAMPUAN *COMPUTATIONAL THINKING* PESERTA DIDIK KELAS VII PADA MATERI PERUBAHAN IKLIM

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Penelitian ini bertujuan untuk mengetahui pengaruh model *Argument-Driven Inquiry* (ADI) berbantuan PhET *Simulation* terhadap kemampuan *computational thinking* peserta didik pada materi pokok Perubahan Iklim dan tanggapan peserta didik mengenai model ADI berbantuan PhET *simulation*. Populasi dalam penelitian ini yaitu peserta didik kelas VII SMPN 28 Bandar Lampung semester genap tahun ajaran 2024/2025. Sampel dalam penelitian ini adalah peserta didik kelas VII C sebagai kelas kontrol dan kelas VII A sebagai kelas eksperimen dengan masing-masing berjumlah 32 peserta didik yang dipilih dengan teknik *cluster random sampling*. Data kuantitatif diperoleh melalui tes dan dianalisis menggunakan *Independent sample t-test*, sedangkan data kualitatif diperoleh dari angket tanggapan dan dianalisis secara deskriptif. Hasil penelitian menunjukkan adanya perbedaan signifikan pada nilai *N-Gain* ($P > 0,05$) antara kelas yang menggunakan model ADI berbantuan PhET *Simulation* dengan model *Discovery Learning* terhadap kemampuan *computational thinking* peserta didik. Indikator tertinggi di kedua kelas adalah abstraksi, dengan *N-Gain* 0,68 (eksperimen) dan 0,66 (kontrol); indikator terendah adalah algoritma dengan *N-Gain* 0,31 (eksperimen) dan 0,16 (kontrol). Berdasarkan hasil angket tanggapan peserta didik, didapatkan rata-rata persentase 87,22% yang menunjukkan bahwa model ADI berbantuan PhET *Simulation* baik digunakan untuk meningkatkan kemampuan *computational thinking* peserta didik.

Kata kunci: *Argument-Driven Inquiry* (ADI) Berbantuan PhET *Simulation*, Kemampuan *Computational Thinking*, Perubahan Iklim

ABSTRACT

THE EFFECT OF THE ARGUMENT-DRIVEN INQUIRY (ADI) MODEL ASSISTED BY PHET SIMULATION ON COMPUTATIONAL THINKING SKILLS OF SEVENTH GRADE STUDENTS IN CLIMATE CHANGE MATERIAL

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This study aims to determine the effect of the Argument-Driven Inquiry (ADI) model assisted by PhET Simulation on students' computational thinking skills in the subject matter of Climate Change and students' responses to the ADI model assisted by PhET simulation. The population in this study were seventh-grade students at SMPN 28 Bandar Lampung in the second semester of the 2024/2025 academic year. The sample in this study consists of seventh-grade students in class VII C as the control group and class VII A as the experimental group, each comprising 32 students selected using cluster random sampling. Quantitative data were obtained through tests and analyzed using an independent sample t-test, while qualitative data were obtained from response questionnaires and analyzed descriptively. The results of the study indicate a significant difference in N-Gain scores ($P > 0.05$) between the class using the ADI model assisted by PhET Simulation and the Discovery Learning model in terms of students' computational thinking skills. The highest indicator in both classes was abstraction, with N-Gain of 0.68 (experimental) and 0.66 (control); the lowest indicator was algorithm with N-Gain of 0.31 (experimental) and 0.16 (control). Based on the results of the student feedback questionnaire, an average percentage of 87.22% was obtained, indicating that the ADI model assisted by PhET Simulation is effective in enhancing students' computational thinking skills.

Keywords: *Argument-Driven Inquiry (ADI) Assisted by PhET Simulation, Climate Change, Computational Thinking Skills*