

ABSTRAK

PENGARUH MODEL *ARGUMENT- DRIVEN INQUIRY* (ADI) BERBASIS STEM TERHADAP KEMAMPUAN KOMUNIKASI ILMIAH PESERTA DIDIK PADA MATERI INTERAKSI ANTAR MAKHLUK HIDUP DENGAN LINGKUNGANNYA

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Penelitian ini bertujuan untuk mengetahui pengaruh model *Argument- Driven Inquiry* (ADI) terhadap kemampuan komunikasi ilmiah peserta didik pada materi pokok interaksi antar makhluk hidup dengan lingkungannya dan tanggapan peserta didik mengenai model ADI berbasis STEM. Populasi dalam penelitian ini yaitu peserta didik kelas VII SMPN 20 Bandar Lampung semester genap tahun ajaran 2024/2025. Sampel dalam penelitian ini adalah peserta didik kelas VII C sebagai kelas kontrol berjumlah 32 peserta didik dan kelas VII D sebagai kelas eksperimen berjumlah 32 peserta didik yang dipilih dengan teknik *cluster random sampling*. Data penelitian ini berupa data kuantitatif yang diperoleh melalui tes yang dianalisis menggunakan uji *Independent sample t-test*. Sementara itu, data kualitatif diperoleh melalui tanggapan peserta didik terhadap model *Argument- Driven Inquiry* berbasis STEM dikumpulkan melalui angket dan dianalisis secara deskriptif. Hasil penelitian menunjukkan adanya perbedaan signifikan pada nilai *N-Gain* ($P > 0,05$) antara kelas yang menggunakan model *Argument-Driven Inquiry* berbasis STEM dengan model *discovery learning* terhadap kemampuan komunikasi ilmiah peserta didik. Pada kelas eksperimen dan kelas kontrol indikator kemampuan komunikasi ilmiah yang paling tinggi adalah *representation information* sedangkan indikator kemampuan ilmiah yang paling rendah adalah *observing*. Berdasarkan hasil angket tanggapan peserta didik, didapatkan rata-rata persentase 86,36% yang menunjukkan bahwa model *Argument- Driven Inquiry* (ADI) berbasis STEM sangat baik digunakan untuk meningkatkan kemampuan komunikasi ilmiah peserta didik.

Kata Kunci: Interaksi Antar Makhluk Hidup dengan Lingkungannya; Kemampuan Komunikasi Ilmiah; Model *Argument- Driven Inquiry* berbasis STEM.

ABSTRACT

THE EFFECT OF STEM-BASED ARGUMENT-DRIVEN INQUIRY (ADI) MODEL ON STUDENTS' SCIENTIFIC COMMUNICATION ABILITY ON INTERACTION BETWEEN LIVING THINGS AND THEIR ENVIRONMENT

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This study aims to determine the effect of the Argument-Driven Inquiry (ADI) model on students' scientific communication skills on the main material of interactions between living things and their environment and students' responses to the STEM-based ADI model. The population in this study were students of class VII of SMPN 20 Bandar Lampung in the even semester of the 2024/2025 academic year. The sample in this study was students of class VII C as the control class totaling 32 students and class VII D as the experimental class totaling 32 students selected using the cluster random sampling technique. The data of this study were quantitative data obtained through tests analyzed using the Independent sample t-test. Meanwhile, qualitative data obtained through students' responses to the STEM-based Argument-Driven Inquiry model were collected through questionnaires and analyzed descriptively. The results showed a significant difference in the N-Gain value ($P > 0.05$) between classes using the STEM-based Argument-Driven Inquiry model and the discovery learning model on students' scientific communication skills. In the experimental and control classes, the highest indicator of scientific communication skills was representation information, while the lowest indicator of scientific skills was observing. Based on the results of the student response questionnaire, an average percentage of 86.36% was obtained, indicating that the STEM-based Argument-Driven Inquiry (ADI) model is very good for improving students' scientific communication skills.

Keywords: *Interaction between Living Things and Their Environment; Scientific Communication Skills; STEM-based Argument-Driven Inquiry Model.*