

**PENERAPAN MODEL PEMBELAJARAN *REVISED ARGUMENT-DRIVEN INQUIRY* (rADI) UNTUK MENINGKATKAN KETERAMPILAN ARGUMENTASI DAN PENGUASAAN KONSEP PENCEMARAN LINGKUNGAN SISWA SMA MELALUI STRATEGI *ONLINE LEARNING***

**SKRIPSI**

*diajukan untuk memenuhi sebagian dari syarat untuk memperoleh gelar Sarjana  
Pendidikan Program Studi Pendidikan Biologi*



oleh:

Adella Febrina

NIM. 1702846

**PROGRAM STUDI PENDIDIKAN BIOLOGI**  
**DEPARTEMEN PENDIDIKAN BIOLOGI**  
**FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN**  
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Adella Febrina, 2021

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Oleh:

Adella Febrina

Skripsi ini diajukan untuk memenuhi salah satu syarat memperoleh gelar Sarjana Pendidikan pada Program Studi Pendidikan Biologi Departemen Pendidikan Biologi Fakultas Matematika dan Ilmu Pengetahuan Alam

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## LEMBAR PENGESAHAN

ADELLA FEBRINA

PENERAPAN MODEL PEMBELAJARAN *REVISED ARGUMENT-DRIVEN INQUIRY* (rADI) UNTUK MENINGKATKAN KETERAMPILAN ARGUMENTASI DAN PENGUASAAN KONSEP PENCEMARAN LINGKUNGAN SISWA SMA MELALUI STRATEGI *ONLINE LEARNING*

disetujui dan disahkan oleh pembimbing:

Pembimbing I



Drs. Suhara, M.Pd.  
NIP. 196512271991031003

Pembimbing II



Dr. Amprasto, M.Si.  
NIP. 196607161991011001

Mengetahui,  
Ketua Program Studi Pendidikan Biologi



Dr. Amprasto, M.Si.  
NIP. 196607161991011001

Adella Febrina, 2021

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## ABSTRAK

Penelitian ini bertujuan untuk menganalisis penerapan model pembelajaran *revised Argument Driven Inquiry* (rADI) melalui strategi *online learning* untuk meningkatkan keterampilan argumentasi dan penguasaan konsep siswa SMA pada materi pencemaran lingkungan. Metode penelitian yang digunakan ialah pre-eksperimen dengan desain penelitian *one group pretest-posttest design*. Sampel penelitian ialah siswa kelas X SMA yang terdiri atas 30 siswa. Instrumen yang digunakan terdiri atas tes keterampilan argumentasi dan tes penguasaan konsep yang keduanya berbentuk soal uraian. Dilakukan analisis berupa uji beda rata-rata nilai siswa saat sebelum dan sesudah perlakuan menggunakan uji *paired sample t-test* dan *Wilcoxon*, untuk selanjutnya dilakukan uji analisis *N-Gain* dengan bantuan program *SPSS Ver. 25*. Dilakukan pula uji korelasi menggunakan uji korelasi *Rank Spearman* antara keterampilan argumentasi dan penguasaan konsep siswa. Berdasarkan hasil penelitian yang dilakukan, terdapat kenaikan nilai rata-rata keterampilan argumentasi dari kategori kurang (12,27) menjadi kategori cukup (47,60), dengan capaian *N-Gain* dalam kategori sedang (0,40). Elemen argumentasi yang mengalami peningkatan dengan capaian *N-Gain* dalam kategori tinggi ialah pernyataan (*claim*), penalaran (*warrant*), dan bukti (*evidence*). Sedangkan, untuk elemen argumen kontra (*counter argument*) dan argumen pendukung (*supportive argument*) memperoleh capaian *N-Gain* dalam kategori rendah. Penguasaan konsep pencemaran lingkungan awal siswa dikategorikan cukup (58,23) dan meningkat menjadi kategori baik (72,17) setelah perlakuan, dengan capaian *N-Gain* dalam kategori sedang (0,33). Terdapat korelasi atau hubungan signifikan antara keterampilan argumentasi dan penguasaan konsep siswa dalam kategori yang rendah dan searah. Artinya, semakin baik penguasaan konsepnya, semakin baik pula keterampilan argumentasinya. Berdasarkan penelitian ini, dapat disimpulkan bahwa penerapan model pembelajaran rADI melalui strategi *online learning* mampu meningkatkan keterampilan argumentasi dan penguasaan konsep pencemaran lingkungan siswa SMA dalam capaian kategori *N-Gain* rendah.

**Kata kunci:** *revised Argument Driven Inquiry* (rADI), *online learning*, keterampilan argumentasi ilmiah, penguasaan konsep, pencemaran lingkungan

## ABSTRACT

*This study's aim was to analyze the student's scientific argumentation skill and concept mastery on environmental pollution topics before and after application of revised Argument Driven Inquiry (rADI) learning models through online learning strategy. This study used Pra-Experiment method with One Group Pretest-Posttest design. The sample of this study were 30 students on 10<sup>th</sup> grade. The instrument of scientific argumentation skill test and concept mastery test were used in this study, with essay form. Analysis was conducted with SPSS Ver. 25 in the form of differences of student's average score using paired sample t-test, Wilcoxon, and N-Gain. The correlation test between argumentation skills and student's mastery concepts was also conducted using the Rank Spearman correlation test. The result showed that there was an increase in the average value of argumentation skills from the "low" category (12,27) to the "fair" category (47,60), with the N-Gain in "medium" category (0,40). Argument elements that have increased with the achievement of N-Gain in the "high" category are claim, warrant, and evidence. Meanwhile, for the counter argument and supportive argument, the N-Gain achievement is in the "low" category. The concept mastery was categorized as "fair" (58,23) at the first time and increased to a "good" category (72,17) after treatment, with the achievement of N-Gain in the "medium" category (0,33). There is a significant correlation between argumentation skills and student's concept mastery in "low" and one-way category. Based on this study, it can be conclude that the application of the rADI learning model through online strategies is able to improve argumentation skills and concept mastery of environmental pollution for high school students in the "low" N-Gain category.*

**Keywords:** revised Argument Driven Inquiry (rADI), online learning, scientific argumentation skill, concept mastery, environmental pollution

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