

# **PENERAPAN MODEL *DISCOVERY LEARNING* BERMUATAN *READING INFUSION* DALAM PEMBELAJARAN IPA UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS DAN KETERAMPILAN PROSES SAINS SISWA SMP**

## **Abstrak**

Penelitian ini bertujuan untuk memperoleh informasi peningkatan keterampilan berpikir kritis dan keterampilan proses sains siswa SMP melalui penerapan model *discovery learning* bermuatan *reading infusion* dalam pembelajaran IPA. Metode penelitian yang digunakan dalam penelitian ini adalah kuasi eksperimen dengan desain tes awal-tes akhir kelompok kontrol (*pretest-posttest control group design*). Subyek penelitian terdiri atas 55 siswa kelas delapan salah satu SMP Negeri di Kabupaten Tasikmalaya yang terbagi ke dalam dua kelas yaitu kelas eksperimen sebanyak 28 siswa dan kelas kontrol sebanyak 27 siswa. Kelas eksperimen menerapkan model *discovery learning* bermuatan *reading infusion* sedangkan kelas kontrol menerapkan model pembelajaran langsung (*direct instructions*). Materi pelajaran yang menjadi objek penelitian yaitu materi getaran, gelombang dan indera pendengaran. Pengumpulan data menggunakan lembar observasi, tes keterampilan berpikir kritis dalam bentuk soal pilihan ganda beralasan sebanyak 28 butir soal dan tes keterampilan proses sains dalam bentuk soal pilihan ganda sebanyak 26 soal. Tes keterampilan berpikir kritis dan keterampilan proses sains dilakukan pada awal (*pretest*) dan akhir kegiatan pembelajaran (*posttest*). Analisis data menggunakan perhitungan persentase, perhitungan gain yang dinormalisasi (*N-Gain*), uji beda dua rata-rata, uji *effect size* Cohen. Hasil penelitian menunjukkan hampir seluruh aktivitas pembelajaran dengan penerapan model *discovery learning* bermuatan *reading infusion* dapat terlaksana dengan baik, rata-rata peningkatan keterampilan berpikir kritis dan peningkatan keterampilan proses sains siswa kelas eksperimen dan kelas kontrol dalam kriteria sedang. Penerapan model *discovery learning* bermuatan *reading infusion* memiliki efektivitas yang besar (*large effect*) dalam meningkatkan keterampilan berpikir kritis dan keterampilan proses sains siswa.

**Kata kunci:** *discovery learning*, *reading infusion*, pembelajaran IPA, keterampilan berpikir kritis, keterampilan proses sains.

# **THE IMPLEMENTATION OF READING INFUSION-LOADED DISCOVERY LEARNING MODEL IN SCIENCE INSTRUCTION TO IMPROVE JUNIOR HIGH SCHOOL STUDENTS' CRITICAL THINKING SKILLS AND SCIENCE PROCESS SKILLS**

## **Abstract**

This quasi-experimental study aimed to examine the improvement of middle students' critical thinking skills and science process skills through reading infusion-loaded discovery learning model in science instruction. Pretest-posttest control group design was used to involve 55 eight-year students of a Junior High School at Tasikmalaya Regency, which was divided into 28 students of the experimental group who had the reading infusion-loaded discovery learning model and 27 students of the control group who had direct instruction model. Teaching material encompassed three essential concepts, vibration, waves and auditory senses. Data were collected using a lesson observational sheet, 26 items of a science process skills test in multiple-choice format and 28 items of a critical thinking skills test in multiple-choice with reason format. Both tests administered before and after a given instruction. Data were analyzed using percentage, normalized gain, mean difference test and Cohen's effect size. The findings showed that almost whole lesson activities was performed well, the average improvement of students' critical thinking skills and science process skills in both experimental and control groups lied in the medium category. The implementation of reading infusion-loaded discovery learning model has a large effect on students' critical thinking and science process skills compared to the direct instruction model.

**Keywords:** discovery learning, reading infusion, science instruction, critical thinking skills, science process skills