

PENERAPAN MODEL *DIRECT INSTRUCTION* BERBANTUAN *VIRTUAL LABORATORY* PADA MATERI TEORI KINETIK GAS UNTUK MENINGKATKAN KOGNITIF SISWA SMA

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui peningkatan kognitif siswa SMA setelah diterapkannya model *direct instruction* berbantuan *virtual laboratory* pada materi teori kinetik gas. Metode penelitian yang digunakan adalah *quasi experiment* dengan menggunakan *nonequivalent pretest-posttest control group design*. Sampel penelitian adalah siswa kelas XI MIA 2 dan XI MIA 3 pada salah satu SMA Negeri di Kabupaten Garut tahun ajaran 2015/2016 yang berjumlah 37 siswa pada masing-masing kelas. Instrumen penelitian yang digunakan adalah tes kognitif pilihan ganda sebanyak 30 soal dan lembar observasi keterlaksanaan model *direct instruction*. Penggunaan model *direct instruction* berbantuan *virtual laboratory* terhadap peningkatan kognitif dapat dilihat dari hasil uji t dan persentase rata-rata skor hasil *pretest* dan *posttest*. Hasil penelitian menunjukkan bahwa peningkatan kognitif siswa meningkat pada kelas eksperimen dan kelas kontrol dengan rata-rata gain yang ternormalisasi berturut-turut yaitu sebesar 0.61 dan 0.34. Peningkatan paling efektif terjadi pada siswa kelas eksperimen dengan kategori sedang pada taraf signifikansi 1%.

Kata Kunci: *Model Direct Instruction, Virtual Laboratory, Teori Kinetik Gas, Kognitif Siswa SMA.*

**THE USE OF MODELS DIRECT INSTRUCTION USING LEARNING
MEDIA AIDED VIRTUAL LABORATORY ON THE MATERIAL THE
KINETIC THEORY OF GASSES TO INCREASE STRUDENT
COGNITIVE SENIOR HIGH SCHOOL**

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ABSTRACK

This research aimed to determine the senior high school student's cognitive improvement after the implementation of direct instruction models aided virtual laboratory on the kinetic theory of gasses. The purpose of this study to increase the student's cognitive by applied to direct instruction model aided virtual laboratory on physics learning teaching on the kinetic theory of gasses. The method used was quasi exsperiment by used nonequivalent control group, pretest-posttest design. The samples were student's of class XI MIA 2 and XI MIA 3 one of the senior high school in Garut district academic year 2015/2016 which amount to 37 student's in each class. The research instruments used were multiple-choice test which consists of 30 questions, and observation sheets of direct instruction model. The effect of direct instruction model aided virtual laboratory approach on increase cognitive could be seen from the result of t test and average percentage score of pretest and posttest. The result showed that cognitive enhancement of sudent's increased in the experimental class and a control class with an average gain normalized that is equal to 0.61 and 0.34. The increase was more effective in experimental class student's, categorized as medium at the significance level of 1%.

Keywords : Direct Instruction Model, Virtual Laboratory, Kinetic Theory of Gasses, Student's Cognitive Senior High School.