ABSTRAK

EFEKTIVITAS PEMBELAJARAN *DISCOVERY* BERBANTUAN SIMULASI MOLEKUL UNTUK MENINGKATKAN KEMAMPUAN INTERPRETASI MAKNA REPRESENTASI KIMIA PADA MATERI STOIKIOMETRI

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Penelitian ini bertujuan untuk mendeskripsikan efektivitas model pembelajaran *discovery* berbantuan simulasi molekul dalam meningkatkan kemampuan interpretasi makna representasi kimia siswa pada materi stoikiometri dan mendeskripsikan profil kemampuan interpretasi makna representasi kimia setelah perlakuan. Metode dalam penelitian menggunakan desain penelitian *The Matching Only Pretest-Postest Control Group Design*. Populasi dalam penelitian ini adalah seluruh siswa kelas X IPA di SMA N 2 Metro Tahun Pelajaran 2022/2023. Sampel dalam penelitian ini adalah kelas X IPA 2 sebagai kelas eksperimen dan X IPA 3 sebagai kelas kontrol. Teknik analisis data yang digunakan adalah uji perbedaan dua rata-rata dengan uji t.

Hasil penelitian menunjukkan bahwa rata-rata n-gain bernilai 0,78 atau berkriteria tinggi di kelas eksperimen. Profil kemampuan interpretasi makna representasi kimia siswa setelah perlakuan menunjukkan sebesar 52% pada kategori sangat baik, 45% baik dan 3% cukup. Hasil uji t menunjukkan nilai rata-rata n-gain kemampuan interpretasi makna representasi kimia siswa di kelas eksperimen lebih tinggi dari nilai rata-rata n-gain kemampuan interpretasi makna representasi kimia siswa di kelas kontrol pada materi stoikiometri. Berdasarkan hasil penelitian maka dapat disimpulkan bahwa model pembelajaran *discovery* berbantuan simulasi molekul efektif dalam meningkatkan kemampuan interpretasi makna representasi kimia pada materi stoikiometri

Kata kunci: pembelajaran *discovery* berbantuan simulasi molekul, stoikiometri, kemampuan interpretasi makna representasi kimia.

ABSTRACT

EFFECTIVENESS OF MOLECULAR SIMULATION-ASSISTED *DISCOVERY LEARNING* TO IMPROVE THE ABILITY TO INTERPRET MEANINGS OF CHEMICAL REPRESENTATIONS ON STOICHIOMETRY

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This study aimed to describe the effectiveness of molecular simulation-assisted *discovery learning* in improving the ability to interpret meanings of chemical representations on stoichiometry and to describe profile of the ability to interpret meanings of chemical representations after treatment. The methods in this research used the matching-only pretest-postest control group design. The population in this study was all students of X IPA at SMAN 2 Metro in 2022/2023. The sample was X IPA 2 as an experimental class and X IPA 3 as a control class. The data analysis technique used the t-test.

The results showed the average n-gain of students was 0.78 in high criteria in the experimental class. The profile of students' ability to interpret the meaning of chemical representations after treatment showed 52% in the very good category, 45% good and 3% enough. The t-test results showed that the average n-gain of students' ability to interpret the meanings of chemical representations in the experimental class was higher than students' ability to interpret meanings of chemical representations in the control class on stoichiometry. It can be concluded that molecular simulation-assisted discovery learning is effective in improving students' ability to interpret the meanings of chemical representations on stoichiometry

Keyword: molecular simulation-assisted *discovery learning,* ability to interpret the meanings of chemical representations, sthoichiometry