

ABSTRAK

Natasya Zendrato, NIM 4203151018 (2024). Pengaruh Laboratorium *Virtual PhET Colorado* Menggunakan Model *Discovery Learning* Terhadap Hasil Belajar Siswa Pada Materi Reaksi-Reaksi Kimia Dan Dinamikanya.

Penelitian ini bertujuan untuk mengetahui Pengaruh Laboratorium *Virtual PhET Colorado* Menggunakan Model *Discovery Learning* Terhadap Hasil Belajar Siswa Pada Materi Reaksi-Reaksi Kimia Dan Dinamikanya. Penelitian ini menggunakan quasi eksperimen dengan desain Two Group Pretest- Posttest Control Design. Pengambilan sampel dilakukan dengan teknik random sampling. Sampel pada penelitian ini terdiri dari 2 kelas, yakni kelas IX-3 (Kelas Eksperimen 1) dengan Laboratorium *Virtual PhET Colorado* Menggunakan Model *Discovery Learning* dan IX-6 (Kelas Eksperimen 2) dengan model pembelajaran *Discovery Learning*. Pengumpulan data dengan tes, wawancara dan dokumentasi. Data rata-rata pretest dan posttest hasil belajar pada kelas eksperimen 1 masing masing adalah 49.833 dan 78.333 dan pada kelas eksperimen 2 yaitu 40.166 dan 61.5. Berdasarkan uji hipotesis diperoleh bahwa ada pengaruh yang signifikan terjadi pada hasil belajar siswa di kelas eksperimen 1 dengan menerapkan Laboratorium *Virtual PhET Colorado* Menggunakan Model *Discovery Learning* $5.198 > 1.672$ ($n=30$) dengan taraf signifikansi 0,05 atau 5% yang menyatakan bahwa H_1 diterima dan H_0 ditolak. Dengan demikian dapat disimpulkan bahwa “Terdapat pengaruh Laboratorium *Virtual PhET Colorado* Menggunakan Model *Discovery Learning* Terhadap Hasil Belajar Siswa Pada Materi Reaksi-Reaksi Kimia Dan Dinamikanya.”

Kata kunci: Laboratorium *Virtual PhET Colorado*, *Discovery Learning*, Hasil Belajar

ABSTRACT

Natasya Zendrato, NIM 4203151018 (2024). The Influence of the PhET Colorado Virtual Laboratory Using the Discovery Learning Model on Student Learning Outcomes in Chemical Reactions and Their Dynamics.

This research aims to determine the effect of the PhET Colorado Virtual Laboratory using the Discovery Learning Model on student learning outcomes in chemical reactions and their dynamics. This research used a quasi-experiment with a Two Group Pretest- Posttest Control Design. Sampling was carried out using random sampling technique. The sample in this study consisted of 2 classes, namely class IX-3 (Experimental Class 1) with the PhET Colorado Virtual Laboratory Using the Discovery Learning Model and IX-6 (Experimental Class 2) with the Discovery Learning learning model. Data collection using tests, interviews and documentation. The average data for pretest and posttest learning outcomes in experimental class 1 were respectively 49,833 and 78,333 and in experimental class 2, namely 40,166 and 61.5. Based on the hypothesis test, it was found that there was a significant influence on student learning outcomes in experimental class 1 by implementing the Colorado PhET Virtual Laboratory Using the Discovery Learning Model $5,198 > 1,672$ ($n=30$) with a significance level of 0.05 or 5% which states that H_1 is accepted and H_0 is rejected. Thus it can be concluded that "There is an influence of the PhET Colorado Virtual Laboratory Using the Discovery Learning Model on Student Learning Outcomes in the Material of Chemical Reactions and Their Dynamics."

Keywords: PhET Colorado Virtual Laboratory, Discovery Learning, Learning Outcomes

