

ABSTRAK

Miftahurrahmah Pulungan, NIM. 4201151001 (2024). Pengaruh Model Inkuiri Terbimbing Berbantuan PhET Colorado Terhadap Hasil Belajar Siswa Pada Materi Getaran dan Gelombang Kelas VIII SMP Negeri 23 Medan.

Penelitian ini bertujuan untuk mengetahui pengaruh model Inkuiri Terbimbing terhadap hasil belajar siswa pada materi Getaran dan Gelombang Kelas VIII SMP Negeri 23 Medan. Populasi dalam penelitian ini adalah seluruh siswa kelas VIII SMP Negeri 23 Medan yang berjumlah 308 siswa. Sampel penelitian terdiri dari dua kelas yang diperoleh berdasarkan teknik *probability random sampling*. Kemudian diberi perlakuan yang berbeda kelas eksperimen dengan model inkuiri terbimbing berbantuan PhET Colorado dan kelas kontrol menggunakan model konvensional. Hasil *posttest* yang diperoleh yaitu rata-rata *posttest* kelas eksperimen 68,125 dan kelas kontrol 48,774. Selanjutnya, data dianalisis dengan uji normalitas dan uji homogenitas. Setelah data dari *pretest* dan *posttest* normal dan homogen. Selanjutnya, data *posttest* di uji t satu pihak diperoleh $t_{hitung} > t_{tabel}(6,055 > 1,999)$, maka H_0 diterima dan H_a ditolak. Dengan demikian data menunjukkan bahwa Model Pembelajaran Inkuiri Terbimbing Berbantuan PhET Colorado Berpengaruh Terhadap Hasil Belajar Siswa Pada Materi Getaran dan Gelombang Kelas VIII SMP Negeri 23 Medan. Perhitungan g Faktor (N-Gain) sebesar 0,787 menunjukkan pada kategori tinggi yang artinya efektif, dan dilihat dari hasil perhitungan dapat disimpulkan terjadi Peningkatan Hasil Belajar Siswa Setelah Menggunakan Model Inkuiri Terbimbing Berbantuan PhET Colorado Pada Materi Getaran dan Gelombang Kelas VIII SMP Negeri 23 Medan

Kata Kunci: Inkuiri Terbimbing, PhET Colorado, Hasil Belajar, Getaran dan Gelombang

ABSTRACT

Miftahurrahmah Pulungan, NIM. 4201151001 (2024). The Effect of the Guided Inquiry Model Assisted by PhET Colorado on Student Learning Outcomes in Vibrations and Waves Material for Class VIII SMP Negeri 23 Medan.

This research aims to determine the effect of the Guided Inquiry model on student learning outcomes in the material Vibrations and Waves for Class VIII SMP Negeri 23 Medan. The population in this study was all students in class VIII of SMP Negeri 23 Medan, totaling 308 students. The research sample consisted of two classes obtained based on probability random sampling techniques. Then, different treatments were given to the experimental class using the guided inquiry model assisted by PhET Colorado and the control class using the conventional model. The posttest results obtained were the average posttest for the experimental class was 68.125 and the control class was 48.774. Next, the data was analyzed using the normality test and homogeneity test. After the data from the pretest and posttest were normal and homogeneous. Next, the posttest data in the one-party t test obtained $t_{count} > t_{table}$ ($6.055 > 1.999$), so H_o was accepted and H_a was rejected. Thus the data shows that the Guided Inquiry Learning Model Assisted by PhET Colorado has an Influence on Student Learning Outcomes in Vibrations and Waves Material for Class VIII SMP Negeri 23 Medan. The calculation of the g factor (N-Gain) of 78.73% shows that it is in the high category, which means it is effective, and judging from the results of the calculation it can be concluded that there has been an increase in student learning outcomes after using the Guided Inquiry Model assisted by PhET Colorado in Vibration and Wave Material for Class VIII State Middle Schools. 23 Medan

Keywords: *Guided Inquiry, PhET Colorado, Learning Outcomes, Vibrations and Waves*