

ABSTRAK

Purba, Rahmadani, NIM 4203121005 (2020). Pengaruh Model *Discovery Learning* Berbantuan Simulasi PhET Terhadap Hasil Belajar Siswa pada Materi Gerak Lurus di Kelas XI SMAN 1 Percut Sei Tuan.

Penelitian ini bertujuan untuk mengetahui hasil belajar peserta didik menggunakan model *discovery learning* berbantuan simulasi PhET dan model pembelajaran konvensional serta untuk mengetahui pengaruh model *discovery learning* berbantuan simulasi PhET terhadap hasil belajar peserta didik pada materi gerak lurus di kelas XI. Jenis penelitian ini ialah penelitian eksperimen dengan sampel 36 peserta didik kelas XI Inflanfis sebagai kelas eksperimen dan 36 peserta didik kelas XI Matlanko 3 sebagai kelas kontrol. Pengambilan sampel yang dilakukan ialah melakukan teknik *simple random sampling*. Instrumen yang digunakan ialah instrumen tes berbentuk pilihan ganda. Sebelum diberikan perlakuan yang berbeda dilakukan terlebih dahulu pemberian *pretest* kepada peserta didik. Hasil nilai rata-rata *pretest* pada kelompok eksperimen ialah 43,83 dan nilai rata-rata *pretest* pada kelompok kontrol ialah 42,89. Pada pengujian normalitas dan homogenitas data *pretest* kedua kelas diperoleh bahwa data kedua kelas berdistribusi normal dan homogen. Hasil uji t dua pihak pada *pretest* diperoleh nilai $t_{hitung} < t_{tabel}$ ($0,282 < 1,997$) maka H_0 diterima dan H_a ditolak. Sehingga diperoleh bahwa kemampuan awal kelas eksperimen sama dengan kemampuan awal kelas kontrol. Kemudian dilakukan perlakuan berbeda dan dilakukan *posttest* terhadap kelas eksperimen dan kelas kontrol. Hasil nilai rata-rata *posttest* kelas eksperimen ialah 82,92 dan 71 untuk rata-rata *posttest* kelas kontrol. Pada pengujian normalitas dan homogenitas data *posttest* kedua kelas diperoleh bahwa data kedua kelas berdistribusi normal dan homogen. Hasil uji t satu pihak pada *posttest* diperoleh nilai $t_{hitung} > t_{tabel}$ ($4,464 > 1,666$) maka H_0 ditolak dan H_a diterima. Sehingga diperoleh bahwa terdapat pengaruh model *discovery learning* berbantuan simulasi PhET terhadap hasil belajar pada materi gerak lurus.

Kata-kata kunci: Model *discovery learning*, hasil belajar, gerak lurus



ABSTRACT

Purba, Rahmadani, NIM 4203121005 (2020). *The Effect of Discovery Learning Model Assisted by PhET Simulation on Student Learning Outcomes on Straight Motion Material in Class XI SMAN 1 Percut Sei Tuan.*

This study aims to determine the learning outcomes of students using the discovery learning model assisted by PhET simulation and conventional learning models and to determine the effect of discovery learning model assisted by PhET simulation on student learning outcomes on straight motion material in class XI. This type of research is experimental research with a sample of 36 students of class XI Inglanfis as the experimental class and 36 students of class XI Matlanko 3 as the control class. Sampling is done by doing simple random sampling technique. The instrument used is a multiple choice test instrument. Before being given different treatments, a pretest was given to students. The average value of the pretest in the experimental group was 43,83 and the average value of the pretest in the control group was 42,89. In testing the normality and homogeneity of the pretest data of the two classes, it was found that the data of the two classes were normally distributed and homogeneous. The results of the two-party t test on the pretest obtained the value of $t_{count} < t_{table}$ ($0,282 < 1,997$) then H_0 is accepted and H_a is rejected. So it is obtained that the initial ability of the experimental class is the same as the initial ability of the control class. Then different treatments were carried out and posttests were carried out on the experimental class and control class. The average posttest score of the experimental class was 82,92 and 71 for the average posttest of the control class. In testing the normality and homogeneity of the posttest data of both classes, it was found that the data of both classes were normally distributed and homogeneous. The results of the one-party t test on the posttest obtained the value of $t_{count} > t_{table}$ ($4,464 > 1,666$) then H_0 is rejected and H_a is accepted. So it is obtained that there is an effect of discovery learning model assisted by PhET simulation on learning outcomes on straight motion material.

Keywords: Discovery learning model, learning outcomes, straight motion

