

ABSTRAK

Irene Tiara Grace, NIM 4213321016, Pengaruh Model Pembelajaran Kooperatif Tipe Jigsaw Berbantuan Simulasi *PhET* Terhadap Hasil Belajar Siswa Kelas XI SMA Negeri 1 Percut Sei Tuan

Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran kooperatif tipe Jigsaw berbantuan simulasi *PhET* terhadap hasil belajar siswa pada materi fluida statis kelas XI SMA Negeri 1 Percut Sei Tuan Tahun Ajaran 2025/2026. Penelitian ini merupakan penelitian kuasi eksperimen dengan desain pretest–posttest control group design. Populasi penelitian adalah seluruh siswa kelas XI, dengan sampel penelitian terdiri dari dua kelas yang dipilih menggunakan teknik cluster random sampling, yaitu kelas XI Matlanko-1 sebagai kelas eksperimen yang diajar menggunakan model pembelajaran kooperatif tipe Jigsaw berbantuan simulasi *PhET* dan kelas XI Matlansos sebagai kelas kontrol yang diajar menggunakan pembelajaran konvensional. Instrumen penelitian berupa tes hasil belajar berbentuk pilihan ganda yang telah diuji validitas dan reliabilitasnya. Data dianalisis menggunakan uji normalitas, uji homogenitas, dan uji hipotesis dengan uji t.

Hasil penelitian menunjukkan bahwa data *pretest* dan *posttest* kedua kelas berdistribusi normal dan homogen. Berdasarkan hasil uji hipotesis menggunakan uji t satu pihak pada taraf signifikansi 0,05 diperoleh bahwa nilai rata-rata hasil belajar siswa pada kelas eksperimen lebih tinggi dibandingkan kelas kontrol. Dengan demikian, dapat disimpulkan bahwa model pembelajaran kooperatif tipe Jigsaw berbantuan simulasi *PhET* berpengaruh signifikan terhadap hasil belajar siswa pada materi fluida statis. Penerapan model ini mampu meningkatkan keterlibatan siswa secara aktif, pemahaman konsep, serta kemampuan kognitif siswa dibandingkan dengan pembelajaran konvensional.

Kata Kunci: Model Pembelajaran Kooperatif Jigsaw, Simulasi *PhET*, Hasil Belajar, Fluida Statis.



ABSTRACT

Irene Tiara Grace, NIM 4213321016, The Effect of Jigsaw Cooperative Learning Model Assisted by PhET Simulations on Students' Learning Outcomes of Grade XI Students at SMA Negeri 1 Percut Sei Tuan

This study aimed to determine the effect of the Jigsaw cooperative learning model assisted by PhET simulations on students' learning outcomes in the topic of static fluids for eleventh-grade students at SMA Negeri 1 Percut Sei Tuan in the 2025/2026 academic year. This research employed a quasi-experimental method using a pretest–posttest control group design. The population of this study consisted of all eleventh-grade students, while the sample was selected using the cluster random sampling technique. The experimental class (XI Matlanko-1) was taught using the Jigsaw cooperative learning model assisted by PhET simulations, whereas the control class (XI Matlansos) was taught using conventional learning. The research instrument was a multiple-choice test that had been tested for validity and reliability. Data were analyzed using normality tests, homogeneity tests, and hypothesis testing with a t-test. The results showed that the pretest and posttest data of both classes were normally distributed and homogeneous. Based on the results of the one-tailed t-test at a significance level of 0.05, the average learning outcomes of students in the experimental class were higher than those in the control class. Therefore, it can be concluded that the Jigsaw cooperative learning model assisted by PhET simulations has a significant effect on students' learning outcomes in the static fluids topic. This learning model is able to increase students' active participation, conceptual understanding, and cognitive achievement compared to conventional learning.

Key Words: Jigsaw Cooperative Learning Model, PhET Simulation, Learning Outcomes, Static Fluids.

