

ABSTRAK

Dinnar Wulansari. 2025. **IMPLEMENTASI MODEL *PROCESS ORIENTED GUIDED INQUIRY LEARNING* (POGIL) BERBANTUAN *THE PHYSICS CLASSROOM* TERHADAP HASIL BELAJAR KOGNITIF PADA MATERI FLUIDA DINAMIS**

Penelitian ini dilatarbelakangi dari hasil studi pendahuluan yang menunjukkan rendahnya hasil belajar siswa karena jaranganya melakukan kegiatan praktikum dan pembelajaran masih menggunakan model pembelajaran *Direct Instruction*, hal ini menjadi tantangan dalam pembelajaran fisika di sekolah. Solusi yang dapat dilakukan untuk memecahkan permasalahan tersebut adalah dengan menerapkan model *Process Oriented Guided Inquiry Learning* (POGIL) berbantuan *the Physics Classroom*. Penelitian ini bertujuan untuk mengetahui peningkatan hasil belajar kognitif setelah diimplementasi model *Process Oriented Guided Inquiry Learning* (POGIL) berbantuan *the Physics Classroom* pada materi fluida dinamis di kelas XI Fase F MIPA SMA Negeri 3 Tasikmalaya Tahun Ajaran 2024/2025. Metode pada penelitian ini menggunakan metode *quasi experimental* dengan desain penelitian *non-equivalent control group design*. Populasi penelitian ini yaitu seluruh kelas XI Fase F MIPA SMA Negeri 3 Tasikmalaya sebanyak 4 kelas dengan jumlah 144 peserta didik. Penentuan sampel menggunakan teknik *purposive sampling*. Untuk mengukur hasil belajar kognitif dilakukan tes berupa soal pilihan ganda beralasan yang memuat 4 aspek ranah kognitif C1-C4. Teknik analisis data yang akan digunakan yaitu uji *N-Gain* dan uji prasyarat meliputi uji normalitas, uji homogenitas, dan uji hipotesis menggunakan uji t dengan taraf signifikan ($\alpha = 0,05$) didapatkan $t_{hitung} > t_{tabel}$ sehingga H_0 ditolak dan H_a diterima. Artinya pada tingkat kepercayaan 95% maka dapat disimpulkan bahwa. Penerapan Model *Process Oriented Guided Inquiry Learning* (POGIL) berbantuan *the Physics Classroom* dapat meningkatkan hasil belajar kognitif pada materi fluida dinamis.

Kata kunci: Fluida Dinamis, Hasil Belajar Kognitif, POGIL, *the Physics Classroom*.

ABSTRACT

Dinnar Wulansari. 2025. **IMPLEMENTATION OF THE PROCESS ORIENTED GUIDED INQUIRY LEARNING (POGIL) MODEL ASSISTED BY THE PHYSICS CLASSROOM ON COGNITIVE LEARNING OUTCOMES IN DYNAMIC FLUID MATERIALS**

This research is motivated by preliminary study results which indicate low student learning outcomes due to the infrequent implementation of laboratory activities and the continued use of the Direct Instruction learning model. This poses a challenge in the teaching of physics in schools. A potential solution to address this issue is the implementation of the Process Oriented Guided Inquiry Learning (POGIL) model assisted by The Physics Classroom. The purpose of this study is to determine the improvement in cognitive learning outcomes following the implementation of the Process Oriented Guided Inquiry Learning (POGIL) model assisted by The Physics Classroom on the topic of dynamic fluids in Grade XI Phase F Science at SMA Negeri 3 Tasikmalaya in the 2024/2025 academic year. This research uses a quasi-experimental method with a non-equivalent control group design. The population of the study consists of all four classes of Grade XI Phase F Science students at SMA Negeri 3 Tasikmalaya, totaling 144 students. The sample was selected using purposive sampling. To measure cognitive learning outcomes, a multiple-choice test with reasoning was administered, covering four cognitive domains (C1–C4). Data analysis techniques include N-Gain testing and prerequisite tests such as normality test, homogeneity test, and hypothesis testing using a t-test at a significance level ($\alpha = 0.05$). The results showed that $t_{\text{count}} > t_{\text{table}}$, leading to the rejection of H_0 and acceptance of H_a . This means that at a 95% confidence level, it can be concluded that the implementation of the Process Oriented Guided Inquiry Learning (POGIL) model assisted by The Physics Classroom can improve cognitive learning outcomes on the topic of dynamic fluids.

Keywords: Dynamic Fluids, Cognitive Learning Outcomes, POGIL, the Physics Classroom.