ABSTRAK

Kamal Rizky Hidayatuloh. 2025. **PENGARUH MODEL *PROCESS ORIENTED GUIDED INQUIRY LEARNING* (POGIL) BERBANTUAN *MICROSOFT SWAY* TERHADAP KEMAMPUAN PEMECAHAN MASALAH DAN KEMAMPUAN KOMUNIKASI MATEMATIS PADA MATERI FLUIDA STATIS**

Hasil studi pendahuluan di SMAN 2 Tasikmalaya menunjukkan bahwa kemampuan pemecahan masalah dan kemampuan komunikasi matematis peserta didik pada materi kinematika gerak lurus rendah dengan rata-rata persentase kemampuan pemecahan masalah 49,7% dan kemampuan komunikasi matematis 15,24%. Untuk mengatasi masalah tersebut, peneliti menerapkan model *Process Oriented Guided Inquiry Learning* (POGIL) berbantuan *Microsoft Sway*. Tujuan penelitian ini adalah untuk mengetahui pengaruh Model *Process Oriented Guided Inquiry Learning* (POGIL) berbantuan *Microsoft Sway* terhadap kemampuan pemecahan masalah dan kemampuan komunikasi matematis peserta didik pada materi fluida statis. Metode penelitian yang digunakan adalah kuasi eksperimen dengan desain *post-test only control group design*. Populasi penelitian meliputi seluruh kelas XI SMAN 2 Tasikmalaya sebanyak 6 kelas, dan sampel penelitian dipilih menggunakan teknik *purposive sampling,* yaitu kelas XI-A3 sebagai kelas eksperimen dan kelas XI-A1 sebagai kelas kontrol. Teknik pengumpulan data dilakukan melalui tes (*posttest*) berupa soal uraian yang mencakup indikator kemampuan pemecahan masalah dan kemampuan komunikasi matematis. Hasil uji hipotesis menggunakan uji MANOVA (*Multivariate Analysis of Variance*) *Wilk's Lamda* diperoleh $F_{hitung} > F_{tabel}$ yaitu $10,001 > 4,105$ maka dapat disimpulkan bahwa model *Process Oriented Guided Inquiry Learning* (POGIL) berbantuan *Microsoft Sway* berpengaruh terhadap kemampuan pemecahan masalah dan kemampuan komunikasi matematis pada materi fluida statis di kelas XI Fase F SMA Negeri 2 Tasikmalaya. Pengaruh model POGIL terhadap kemampuan pemecahan masalah dan komunikasi matematis terjadi karena model ini mendorong pembelajaran yang aktif, berorientasi proses, kolaboratif, dan berbasis diskusi, sehingga meningkatkan kemampuan berpikir kritis dan pemahaman konsep matematika peserta didik.

Kata kunci: Fluida Statis, Kemampuan Komunikasi Matematis, Kemampuan Pemecahan Masalah, *Microsoft Sway*, POGIL.

ABSTRACT

Kamal Rizky Hidayatuloh. 2025. *THE INFLUENCE OF THE PROCESS ORIENTED GUIDED INQUIRY LEARNING (POGIL) MODEL ASSISTED BY MICROSOFT SWAY ON PROBLEM SOLVING CAPABILITY AND MATHEMATICAL COMMUNICATION CAPABILITY IN STATIC FLUID MATERIALS*

The results of a preliminary study at SMAN 2 Tasikmalaya showed that students' problem-solving ability and mathematical communication ability on the kinematics of straight motion material were low with an average percentage of problem-solving ability of 49.7% and mathematical communication ability of 15.24%. To overcome this problem, the researcher applied the Process Oriented Guided Inquiry Learning (POGIL) model assisted by Microsoft Sway. The purpose of this study was to determine the effect of the Process Oriented Guided Inquiry Learning (POGIL) Model assisted by Microsoft Sway on students' problem-solving ability and mathematical communication ability on static fluid material. The research method used was quasi experiment with a post-test only control group design. The research population all XI class of SMAN 2 Tasikmalaya have 6 classes, and the research sample was selected using the purposive sampling technique, namely class XI-A3 as the experimental class and class XI-A1 as the control class. The data collection technique was carried out through a test (posttest) in the form of descriptive questions that included indicators of problem-solving ability and mathematical communication ability. The results of the hypothesis test using the MANOVA (Multivariate Analysis of Variance) Wilk's Lamda test obtained $F_{\text{statistic}} > F_{(\propto,dk)}$, namely $10{,}001 > 4{,}105$, so it can be concluded that the Process Oriented Guided Inquiry Learning (POGIL) model assisted by Microsoft Sway has an effect on problem-solving skills and mathematical communication skills in static fluid material in class XI Phase F of SMA Negri 2 Tasikmalaya. The influence of the POGIL model on mathematical problem-solving and communication skills occurs because this model encourages active, process-oriented, collaborative, and discussion-based learning, thereby improving students' critical thinking skills and understanding of mathematical concepts.

Keywords: Static Fluid, Mathematical Communication Ability, Problem Solving Ability, Microsoft Sway, POGIL.