ABSTRAK

Newche Rolima Samosir, NIM 4223141041 (2022). Pengaruh Model Pembelajaran *Project Based Learning* (PjBL) terhadap Aktivitas dan Hasil Belajar Siswa pada Materi Sistem Ekskresi di SMA Negeri 15 Medan.

Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran *Project Based Learning* (PjBL) terhadap aktivitas dan hasil belajar siswa pada materi sistem ekskresi di kelas XI IPA SMA Negeri 15 Medan. Penelitian ini dilaksanakan pada semester genap Tahun Ajaran 2025/2026 di SMA Negeri 15 Medan. Metode yang digunakan adalah pendekatan kuantitatif dengan desain eksperimen *Control Group Design*, yang melibatkan kelas eksperimen dengan penerapan model PjBL dan kelas kontrol dengan pembelajaran *Teacher Centered Learning.* Data dikumpulkan melalui observasi aktivitas belajar siswa dan tes pretest-posttest untuk mengukur hasil belajar. Analisis data dilakukan menggunakan uji normalitas Shapiro-Wilk, uji homogenitas Levene's Test, dan uji Independent Samples t-Test. Hasil penelitian menunjukkan bahwa terdapat pengaruh signifikan model pembelajaran *Project Based Learning* (PjBL) terhadap aktivitas dan hasil belajar siswa. Hasil penelitian menunjukkan bahwa kelas eksperimen memiliki ($\bar{X}$ aktivitas = 87,33; $\bar{X}$ hasil belajar = 82,6), sedangkan kelas kontrol memiliki ($\bar{X}$ aktivitas = 59,55; $\bar{X}$ hasil belajar = 73,6). Berdasarkan hasil tersebut, dapat disimpulkan bahwa model pembelajaran *Project Based Learning* (PjBL) berpengaruh signifikan dalam meningkatkan aktivitas dan hasil belajar siswa pada materi sistem ekskresi di kelas XI IPA SMA Negeri 15 Medan.

Kata kunci: Project Based Learning, Aktivitas Belajar, Hasil Belajar, Sistem Ekskresi

ABSTRACT

Newche Rolima Samosir, NIM 4223141041 (2022). The Effect of *Project Based Learning* (PjBL) Model on Student Activities and Learning Outcomes in the Excretory System Material at SMA Negeri 15 Medan.

This study aims to determine the effect of the *Project Based Learning* (PjBL) learning model on student activities and learning outcomes on the excretory system material in class XI IPA SMA Negeri 15 Medan. This study was conducted in the even semester of the 2025/2026 Academic Year at SMA Negeri 15 Medan. The method used is a quantitative approach with an experimental design *Control Group Design*, which involves an experimental class with the application of the PjBL model and a control class with *Teacher Centered Learning*. Data were collected through observations of student learning activities and pretest-posttest tests to measure learning outcomes. Data analysis was carried out using the Shapiro-Wilk normality test, Levene's Test homogeneity test, and Independent Samples t-Test. The results showed that there was a significant effect of the *Project Based Learning* (PjBL) learning model on student activities and learning outcomes. The results of the study showed that the experimental class had ($\bar{X}$ activity = 87.33; $\bar{X}$ learning outcomes = 82.6), while the control class had ($\bar{X}$ activity = 59.55; $\bar{X}$ learning outcomes = 73.6). Based on these results, it can be concluded that the *Project Based Learning* (PjBL) learning model has a significant effect on improving student activity and learning outcomes on the excretory system material in class XI IPA SMA Negeri 15 Medan.

Keywords: Project Based Learning, Learning Activities, Learning Outcomes, Excretory System