

ABSTRAK

Rahma Yuli Rambe, NIM 4213151011 (2026). Pengaruh Model Project Based Learning Terhadap Kemampuan Literasi Sains Siswa Kelas VIII SMP Swasta Imelda Medan Materi Sistem Ekskresi

Tujuan penelitian ini untuk mengetahui pengaruh model *Project Based Learning* (PjBL) terhadap kemampuan literasi sains siswa kelas VIII SMP Swasta Imelda Medan pada materi sistem ekskresi. Jenis penelitian ini adalah *quasi eksperimen* dengan desain *Non-equivalent Control Group Design* dengan metode penelitian kuantitatif. Populasi dalam penelitian ini adalah seluruh siswa kelas VIII SMP Swasta Imelda tahun ajaran 2024/2025. Sampel penelitian dipilih secara *purposive sampling* yang terdiri dari dua kelas, yaitu kelas eksperimen dengan model PjBL, sedangkan kelas kontrol dengan model *Direct Instruction*. Data dikumpulkan melalui observasi pra-penelitian, wawancara dengan guru IPA kelas VIII, dan tes literasi sains, karena sumsi data tidak terpenuhi yaitu nilai *pretest* kelas eksperimen tidak terdistribusi normal, maka dilakukan uji nonparametrik sebagai alternatif yaitu menggunakan uji Mann-Whitney untuk menguji hipotesis dan uji N-Gain untuk mengukur keefektifan model. Hasil analisis menunjukkan bahwa terdapat pengaruh signifikan model PjBL terhadap kemampuan literasi sains siswa pada materi sistem ekskresi dengan perolehan $\alpha < 0.001$ (< 0.05), dengan tingkat keefektifan model PjBL dalam kategori cukup efektif digunakan untuk meningkatkan literasi sains. Rata-rata skor literasi sains siswa berada pada kategori tinggi untuk kedua aspek, yaitu kompetensi (67,63%), dan pengetahuan (68,86%). Berdasarkan hasil analisis data diperoleh kesimpulan penerapan model *Project Based Learning* berpengaruh terhadap kemampuan literasi sains siswa kelas VIII SMP Swasta Imelda Medan pada materi sistem ekskresi.

Kata kunci: Project Based Learning, Literasi Sains, Sistem Ekskresi

ABSTRACT

Rahma Yuli Rambe, ID. 4213151011 (2026). The Effect of the Project Based Learning Model on the Science Literacy Ability of Eighth Grade Students at SMP Swasta Imelda Medan on the Excretory System Material

The purpose of this study is to determine the effect of the Project Based Learning (PjBL) model on the science literacy skills of eighth-grade students at Imelda Private Junior High School Medan on the excretory system material. This type of research is a quasi-experiment with a Non-equivalent Control Group Design using a quantitative research method. The population in this study consists of all eighth-grade students at Imelda Private Junior High School for the 2024/2025 academic year. The research sample was selected using purposive sampling, comprising two classes: an experimental class with the PjBL model, and a control class with the Direct Instruction model. Data were collected through pre-research observations, interviews with eighth-grade science teachers, and science literacy tests. Since the data assumptions were not met, namely the pretest scores of the experimental class were not normally distributed, a nonparametric test was conducted as an alternative, using the Mann-Whitney test to test the hypothesis and the N-Gain test to measure model effectiveness. The analysis results indicated that there is a significant effect of the PjBL model on students' science literacy abilities on excretory system material with an alpha value <0.001 (<0.05), with the effectiveness level of the PjBL model being quite effective for improving science literacy. The average science literacy score of students falls into the high category for both aspects, namely competence (67.63%) and knowledge (68.86%). Based on the data analysis results, it can be concluded that the implementation of the Project Based Learning model affects the science literacy abilities of eighth-grade students at Imelda Private Junior High School Medan on excretory system material.

Keywords: Project Based Learning, Science Literacy, Excretory System