

ABSTRAK

Arpin Jusmanto Pakpahan, NIM 4203151011 (2026), Pengaruh Model Problem Based Learning (PBL) terhadap Hasil Belajar pada Materi Usaha dan Energi di Kelas VIII di SMP N 8 Tebing Tinggi

Penelitian ini dilatarbelakangi oleh rendahnya hasil belajar siswa pada mata pelajaran IPA khususnya materi usaha dan energi di kelas VIII SMP Negeri 8 Tebing Tinggi, yang disebabkan oleh pembelajaran yang masih berpusat pada guru sehingga siswa cenderung pasif. Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran *Problem Based Learning* (PBL) terhadap hasil belajar siswa. Jenis penelitian ini adalah penelitian kuantitatif dengan metode *quasi experiment* menggunakan desain *pretest-posttest control group design*. Populasi penelitian adalah seluruh siswa kelas VIII SMP Negeri 8 Tebing Tinggi Tahun Pelajaran 2025/2026, dengan sampel dua kelas yang dipilih menggunakan teknik *cluster random sampling*, yaitu kelas VIII-4 sebagai kelas eksperimen dan kelas VIII-5 sebagai kelas kontrol. Instrumen yang digunakan berupa tes pilihan ganda untuk mengukur hasil belajar siswa. Analisis data dilakukan melalui uji prasyarat (uji normalitas dan homogenitas), perhitungan N-Gain, serta uji hipotesis menggunakan uji-t. Hasil penelitian menunjukkan bahwa rata-rata N-Gain kelas eksperimen sebesar 49,66 dan kelas kontrol sebesar 35,74 yang keduanya berada pada kategori sedang, namun kelas eksperimen lebih tinggi. Hasil uji-t menunjukkan nilai signifikansi sebesar 0,007 ($< 0,05$), sehingga H_0 ditolak dan H_a diterima. Hal ini menunjukkan bahwa terdapat pengaruh yang signifikan model pembelajaran *Problem Based Learning* terhadap hasil belajar siswa. Berdasarkan hasil penelitian, dapat disimpulkan bahwa model pembelajaran *Problem Based Learning* berpengaruh signifikan dalam meningkatkan hasil belajar siswa pada materi usaha dan energi di kelas VIII SMP Negeri 8 Tebing Tinggi.

Kata kunci: Problem Based Learning, hasil belajar, usaha dan energi

ABSTRACT

Arpin Jusmanto Pakpahan, Student ID 4203151011 (2026), The Effect of the Problem-Based Learning (PBL) Model on Students' Learning Outcomes in the Topic of Work and Energy for Grade VIII at SMP Negeri 8 Tebing Tinggi.

This study was motivated by the low learning outcomes of students in science subjects, particularly on the topic of work and energy in class VIII of SMP Negeri 8 Tebing Tinggi. This condition was caused by teacher-centered learning, which made students less active during the learning process. This study aims to determine the effect of the *Problem Based Learning* (PBL) model on students' learning outcomes. This research is a quantitative study using a quasi-experimental method with a *pretest-posttest control group design*. The population of this study consisted of all eighth-grade students of SMP Negeri 8 Tebing Tinggi in the 2025/2026 academic year. The sample was selected using cluster random sampling technique, consisting of class VIII-4 as the experimental class and class VIII-5 as the control class. The instrument used was a multiple-choice test to measure students' learning outcomes. Data analysis was carried out through prerequisite tests (normality and homogeneity tests), N-Gain calculation, and hypothesis testing using the t-test. The results showed that the average N-Gain score of the experimental class was 49.66, while the control class was 35.74, both categorized as moderate, but the experimental class was higher. The t-test results showed a significance value of 0.007 (< 0.05), indicating that H_0 was rejected and H_a was accepted. This means that there is a significant effect of the *Problem Based Learning* model on students' learning outcomes. Based on the results, it can be concluded that the *Problem Based Learning* model has a significant effect on improving students' learning outcomes on the topic of work and energy in class VIII of SMP Negeri 8 Tebing Tinggi.

Keywords: Problem Based Learning, learning outcomes, work and energy