

ABSTRAK

Nur Oktavia Sry Rejeki, NIM 4213351001 (2025). Pengaruh Model *Problem Based Learning* (PBL) terhadap Kemampuan Pemecahan Masalah Siswa Pada Materi Zat dan Perubahannya di SMP Negeri 1 Silaen.

Penelitian ini bertujuan untuk mengetahui pengaruh model *problem based learning* (PBL) terhadap kemampuan pemecahan masalah siswa pada materi Zat dan Perubahannya di SMP Negeri 1 Silaen. Latar belakang penelitian ini adalah rendahnya kemampuan pemecahan masalah siswa akibat dominasi pembelajaran konvensional yang berpusat pada guru, sehingga siswa cenderung pasif dan kurang terlatih dalam menyusun strategi penyelesaian masalah. Penelitian ini menggunakan pendekatan kuantitatif dengan desain *quasi experimental* jenis *non-equivalent control group design*. Sampel penelitian dipilih melalui teknik *purposive sampling*, yaitu Kelas VII-D (26 siswa) sebagai kelas eksperimen yang diajarkan menggunakan model PBL dan Kelas VII-E (25 siswa) sebagai kelas kontrol dengan pembelajaran konvensional. Pengumpulan data dilakukan melalui tes kemampuan pemecahan masalah berbentuk soal uraian yang diberikan pada *pretest* dan *posttest*. Uji hipotesis menggunakan Independent Sample T-Test. Hasil penelitian menunjukkan bahwa terdapat pengaruh positif dan signifikan penerapan model *problem based learning* terhadap kemampuan pemecahan masalah siswa. Hal ini dibuktikan dengan nilai t_{hitung} sebesar 4,404 yang lebih besar dari t_{tabel} sebesar 2,019 pada taraf signifikansi 0,005, serta nilai signifikansi 0,000 yang lebih kecil dari 0,005 sehingga H_0 ditolak. Secara deskriptif, rata-rata *posttest* kelas eksperimen sebesar 77,76 lebih tinggi dibandingkan kelas kontrol sebesar 63,76, dengan selisih rata-rata 13,437. Model *problem based learning* dapat disimpulkan efektif dalam meningkatkan kemampuan pemecahan masalah siswa melalui keterlibatan aktif, penyelidikan, dan pengembangan berpikir kritis.

Kata Kunci: *Problem Based Learning* (PBL), Kemampuan Pemecahan Masalah, Zat dan Perubahannya.

ABSTRACT

Nur Oktavia Sry Rejeki, NIM 4213351001 (2025). *The Effect of the Problem Based Learning (PBL) Model on Students' Problem-Solving Ability in the Material of Matter and Its Changes at SMP Negeri 1 Silaen.*

This study aims to know the effect of the problem based learning (PBL) model on students' problem solving abilities in the topic of Matter and Its Changes at SMP Negeri 1 Silaen. The background of this study is the low level of students' problem-solving abilities due to the dominance of conventional, teacher-centered learning, which makes students passive and less trained in developing problem-solving strategies. This study employed a quantitative approach with a quasi experimental design, specifically a non equivalent control group design. The sample was selected using purposive sampling, consisting of Class VII-D (26 students) as the experimental group taught using the PBL model and Class VII-E (25 students) as the control group taught using conventional learning. Data were collected through problem solving ability tests in the form of essay questions administered as pretest and posttest. Hypothesis testing was conducted using the Independent Sample T-Test. The results showed that there is a positive and significant effect of the Problem-Based Learning model on students' problem solving abilities. This is evidenced by the t-value (4.404), which is greater than the t-table value (2.019) at a significance level of 0.005, and a significance value of 0.000, which is lower than 0.005, leading to the rejection of H_0 . Descriptively, the average posttest score of the experimental class (77.76) is higher than that of the control class (63.76), with a mean difference of 13.437. The *problem based learning* model can therefore be concluded to be effective in improving students' problem-solving abilities through active engagement, investigation, and the development of critical thinking skills.

Keywords: *Problem Based Learning (PBL), Problem-Solving Ability, Matter and Its Changes.*