

ABSTRAK

Sahrul Ramadhan Harahap, NIM 4211151011 (2026). Pengaruh Model *Problem Based Learning* (PBL) Terhadap Kemampuan Literasi Sains Siswa Kelas VII SMP Materi Zat dan Perubahannya.

Penelitian ini bertujuan untuk menganalisis pengaruh dan efektivitas model *Problem Based Learning* (PBL) terhadap kemampuan literasi sains siswa kelas VII pada materi zat dan perubahannya. Penelitian ini menggunakan metode *quasi-experimental* dengan desain *pretest-posttest control group design*. Sampel penelitian terdiri dari dua kelas, yaitu kelas eksperimen (PBL) dan kelas kontrol (*Direct Instruction*). Hasil penelitian menunjukkan bahwa rata-rata nilai posttest kelas eksperimen (83,2) lebih tinggi dibandingkan kelas kontrol (75,8). Uji hipotesis menunjukkan nilai signifikansi $0,003 < 0,05$, sehingga terdapat perbedaan yang signifikan antara kedua kelas artinya ada pengaruh model PBL terhadap kemampuan literasi sains. Uji N-Gain menunjukkan kelas eksperimen memperoleh nilai 0,73 (kategori tinggi), lebih tinggi dibandingkan kelas kontrol sebesar 0,61 (kategori sedang). Uji N-Gain menunjukkan bahwa model *Problem Based Learning* (PBL) cukup efektif dalam meningkatkan kemampuan literasi sains siswa, dengan nilai rata-rata kelas eksperimen sebesar 0,73 atau 73,43% dibandingkan kelas kontrol sebesar 0,60 atau 60,66%. Kemampuan literasi sains siswa berdasarkan aspek kompetensi tergolong dalam kategori sedang dengan perolehan persentase sebesar 61,63%. Berdasarkan hasil tersebut, dapat disimpulkan bahwa model *Problem Based Learning* berpengaruh signifikan dan efektif dalam meningkatkan kemampuan literasi sains siswa.

Kata kunci: *Problem Based Learning, Literasi Sains, Zat dan Perubahannya*

ABSTRACT

Sahrul Ramadhan Harahap, ID 4211151011 (2026). The Effect of Problem Based Learning Model on the Scientific Literacy Ability of Seventh Grade Students at SMP the Matter and Its Changes.

This study aims to analyze the influence and effectiveness of the Problem Based Learning (PBL) model on the scientific literacy skills of seventh-grade students on the topic of substances and their changes. This study employed a quasi-experimental method with a pretest-posttest control group design. The research sample consisted of two classes, namely the experimental class (PBL) and the control class (Direct Instruction). The results showed that the average posttest score of the experimental class (83.2) was higher than that of the control class (75.8). Hypothesis testing indicated a significance value of $0.003 < 0.05$, meaning that there is a significant difference between the two classes, which implies that the PBL model has an effect on students' scientific literacy skills. The N-Gain test showed that the experimental class achieved a score of 0.73 (high category), which is higher than the control class score of 0.61 (moderate category). The N-Gain test also indicates that the Problem Based Learning (PBL) model is quite effective in improving students' scientific literacy skills, with an average score of 0.73 or 73.43% in the experimental class compared to 0.60 or 60.66% in the control class. Students' scientific literacy skills based on competency aspects fall into the moderate category, with a percentage of 61.63%. Based on these results, it can be concluded that the Problem Based Learning model has a significant effect and is effective in improving students' scientific literacy skills.

Keywords: Problem Based Learning, scientific literacy, Matter and Its Changes