

**PENGARUH MODEL *PROBLEM BASED LEARNING* BERBANTUAN
BLENDED LEARNING TERHADAP KEMAMPUAN BERPIKIR KRITIS
SISWA SMA**

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ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan perbedaan kemampuan berpikir kritis siswa antara kelompok PBL berbantuan *Blended Learning*, PBL, dan Konvensional. Jenis penelitian ini adalah eksperimen semu dengan *desain one way non-equivalent pretest-posttest control group design*. Populasi penelitian adalah seluruh siswa kelas XI SMA Negeri 1 Seririt Tahun Pelajaran 2025/2026 yang terdistribusi dalam 5 kelas sebanyak 177 siswa. Sampel penelitian ditentukan dengan teknik *simple random sampling* berbasis kelas, yang terdistribusi sebanyak 106 siswa. Data kemampuan berpikir kritis diukur menggunakan instrumen tes esai dengan koefisien reliabilitas 0,748 pada pokok bahasan Suhu dan Kalor dan konsistensi internal butir pada rentang 0,62-0,82. Data analisis menggunakan analisis deskriptif, uji ANAKOVA satu jalur, dan uji lanjut LSD pada taraf signifikansi 5% ($\alpha = 0,05$). Hasil *pretest* kelompok PBL berbantuan *Blended Learning* sebesar 36,28 (SD 8,98; kategori sangat rendah), kelompok PBL sebesar 38,14 (SD 8,67; kategori sangat rendah), dan kelompok konvensional sebesar 28,47 (SD 8,12; kategori sangat rendah). Hasil *posttest* kelompok PBL berbantuan *Blended Learning* sebesar 78,00 (SD 7,47; kategori tinggi), kelompok PBL sebesar 68,99 (SD 8,38; kategori sedang), dan kelompok konvensional sebesar 58,75 (SD 6,65; kategori sedang). Hasil uji ANAKOVA memperoleh nilai statistik pada model dengan $F = 50,122$ dengan signifikansi = 0,001 yang berarti $< \alpha$ (0,05). Hasil uji lanjut LSD menunjukkan nilai terestimasi *posttest* kelompok PBL berbantuan *Blended Learning* sebesar 76,987, kelompok PBL sebesar 67,037, dan kelompok konvensional sebesar 61,661. Perbedaan rata-rata antar kelompok masing-masing sebesar 9,950, 15,326, dan 5,376, dengan nilai tersebut lebih besar dibandingkan nilai LSD sebesar 2,945, 2,945, dan 2,903 ($p = 0,001$), yang menunjukkan bahwa perbedaan nilai LSD antar pasangan kelompok terjadi karena perbedaan jumlah sampel pada setiap kelompok. Disimpulkan bahwa terdapat perbedaan signifikan kemampuan berpikir kritis siswa pada ketiga kelompok, dan model PBL berbantuan *Blended Learning* terbukti paling efektif meningkatkan kemampuan berpikir kritis siswa dibandingkan model PBL maupun konvensional.

Kata Kunci: *Problem Based Learning*, *Blended Learning*, konvensional, kemampuan berpikir kritis, fisika.

THE EFFECT OF A PROBLEM BASED LEARNING MODEL SUPPORTED BY BLENDED LEARNING ON HIGH SCHOOL STUDENTS' CRITICAL THINKING SKILLS

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ABSTRACT

This study aims to describe the differences in students' critical thinking skills among the Blended Learning-Supported PBL group, the PBL group, and the conventional group. This study is a quasi-experimental study using a one-way non-equivalent pretest-posttest control group design. The study population consisted of all 11th-grade students at State Senior High School 1 Seririt for the 2025/2026 academic year, distributed across 5 classes totaling 177 students. The sample was selected using simple random sampling based on class, comprising 106 students. Data on critical thinking skills were measured using an essay test instrument with a reliability coefficient of 0.748 for the topic of Temperature and Heat and internal consistency coefficients ranging from 0.62 to 0.82. Data analysis involved descriptive statistics, a one-way ANCOVA (Analysis of Covariance), and a post-hoc LSD test at a 5% significance level ($\alpha = 0.05$). The pretest results for the Blended Learning-Supported PBL group were 36.28 (SD 8.98; very low category), for the PBL group 38.14 (SD 8.67; very low category), and for the conventional group 28.47 (SD 8.12; very low category). The posttest scores were 78.00 (SD 7.47; high category) for the Blended Learning-Supported PBL group, 68.99 (SD 8.38; moderate category) for the PBL group, and 58.75 (SD 6.65; moderate category) for the conventional group. The ANCOVA test yielded a statistical value for the model of $F = 50.122$ with a significance level of 0.001, which is $< \alpha$ (0.05). The results of the post-hoc LSD test showed estimated posttest scores of 76.987 for the Blended Learning-Supported PBL group, 67.037 for the PBL group, and 61.661 for the conventional group. The mean differences between the groups were 9.950, 15.326, and 5.376, respectively, with these values being greater than the LSD values of 2.945, 2.945, and 2.903 ($p = 0.001$), indicating that the differences in LSD values between pairs of groups occurred due to differences in sample size within each group. It was concluded that there were significant differences in students' critical thinking skills across the three groups, and the PBL model supported by Blended Learning proved to be the most effective in enhancing students' critical thinking skills compared to both the PBL and conventional models.

Keyword: Problem Based Learning, Blended Learning, conventional, critical thinking skills, physics.