

**THE IMPACT OF PROBLEM SOLVING MODEL ON
STUDENTS' CONCEPT MASTERY AND MOTIVATION
IN LEARNING HEAT BASED ON GENDER**

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ABSTRACT

This study investigated the effect of problem solving model on students' concept mastery and motivation in learning heat based on gender. The method which was used in this research was quasi experiment with pretest-posttest design in girls and boys class. Data are collected from girl class (N=16) and boys class (N=16) of 7th grader in one of a Bilingual Boarding School in Bandung. The quantitative data of this research was obtained through objective test, while the qualitative data was gained through questionnaire. Students' motivation is measured by ARCS Model. On the other hand, students' concept mastery is measured based on Bloom's taxonomy cognitive level through objective test and being analyzed by using statistical software *Statistical Package for Social Science (SPSS)* version 20 for Windows 8. The results show that overall concept mastery of girls and boys students have improvement. However, girls students are higher achiever than boys. Overall, problem-solving model makes improvement at students' concept mastery in both girls and boys. Thus, it indicates that the implementation of problem-solving model in learning heat can improve students' motivation and students' conceptual understanding in secondary level.

Key words: Problem-solving model, students' concept mastery, students' motivation, heat, gender.

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Penelitian ini menyelidiki tentang pengaruh model pemecahan masalah (problem-solving model) pada penguasaan konsep dan motivasi belajar siswa dalam pembelajaran kalor berdasarkan jenis kelamin. Metode yang digunakan dalam penelitian ini adalah percobaan kuasi dengan desain pretest-posttest pada kelas siswa perempuan dan siswa laki-laki. Data dikumpulkan dari siswa kelas 7 di kelas khusus perempuan (N = 16) dan kelas khusus laki-laki (N = 16) kelas 7 di salah satu sekolah asrama bilingual di Bandung. Data kuantitatif penelitian ini diperoleh melalui uji objektif, sedangkan data kualitatif diperoleh melalui kuesioner. Motivasi siswa diukur menggunakan adaptasi Model ARCS. Di sisi lain, penguasaan konsep siswa diukur berdasarkan tingkat kognitif Taksonomi Bloom melalui uji objektif dan dianalisis dengan menggunakan perangkat lunak SPSS (*Statistical Package for Social Science*) versi 20 untuk Windows 8. Hasil menunjukkan bahwa penguasaan konsep pada siswa perempuan dan siswa laki-laki mengalami peningkatan secara keseluruhan. Namun, siswa perempuan berprestasi lebih tinggi daripada anak laki-laki. Secara keseluruhan, model pemecahan masalah ini menghasilkan peningkatan pada penguasaan konsep siswa anak perempuan dan anak laki-laki. Dengan demikian, hal ini dapat disimpulkan bahwa penerapan model pemecahan masalah dalam pembelajaran kalor dapat meningkatkan motivasi belajar dan penguasaan konsep pada siswa di tingkat menengah pertama.

Key words: Problem-solving model, students' concept mastery, students' motivation, heat, gender.