

ABSTRAK

PENGARUH MODEL PEMBELAJARAN *PROBLEM-BASED LEARNING* BERBANTUAN MEDIA WEB *PhET SIMULATION* TERHADAP HASIL BELAJAR PESERTA DIDIK KELAS IV SD PADA MATA PELAJARAN MATEMATIKA

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Penelitian ini dilatarbelakangi oleh rendahnya hasil belajar matematika peserta didik kelas IV SD Negeri 3 Gunung Sugih Pasar, khususnya pada materi pengukuran luas. Tujuan penelitian ini adalah untuk mengetahui pengaruh model *Problem Based Learning* berbantuan media *PhET Simulation* terhadap hasil belajar peserta didik. Penelitian ini memberikan manfaat teoretis dalam pengembangan pembelajaran berbasis masalah dengan media interaktif, serta manfaat praktis sebagai acuan bagi pendidik dalam memilih strategi pembelajaran yang inovatif. Metode yang digunakan adalah kuantitatif dengan desain *quasi experiment* tipe *nonequivalent control group design*. Sampel berjumlah 54 peserta didik, yang terdiri dari kelas eksperimen dan kelas kontrol, dengan teknik pengambilan sampel menggunakan *non-probability sampling*. Penelitian dilaksanakan di SDN 3 Gunung Sugih Pasar pada semester genap tahun ajaran 2024/2025. Teknik pengumpulan data dilakukan melalui *pretest* dan *posttest*. Hasil penelitian berdasarkan uji hipotesis dengan menggunakan regresi linier sederhana menunjukkan bahwa terdapat pengaruh penggunaan model *Problem Based Learning* berbantuan media *PhET Simulation* terhadap hasil belajar matematika peserta didik kelas IV SD.

Kata Kunci: hasil belajar, *PhET simulation*, *problem based learning*

ABSTRACT

THE EFFECT OF PROBLEM-BASED LEARNING MODEL ASSISTED BY PHET SIMULATION WEB MEDIA ON STUDENT RESULTS CLASS IV SD ON MATHEMATICS LESSONS

By

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This study was motivated by the low mathematics learning outcomes of fourth grade students of SD Negeri 3 Gunung Sugih Pasar, especially on area measurement material. The purpose of this study was to determine the effect of the Problem Based Learning model assisted by PhET Simulation media on student learning outcomes. This research provided theoretical benefits in the development of problem-based learning with interactive media, as well as practical benefits as a reference for educators in choosing innovative learning strategies. The method used is quantitative with a quasi experiment design type nonequivalent control group design. The sample amounted to 54 students, consisting of experimental and control classes, with sampling techniques using non-probability sampling. The research was conducted at SDN 3 Gunung Sugih Pasar in the even semester of the 2024/2025 school year. Data collection techniques were done through pretest and posttest. The results of the study based on hypothesis testing used simple linear regression showed that there was an effect of using the Problem Based-Learning model assisted by PhET Simulation media on the mathematics learning outcomes of grade IV elementary school students.

Keywords: learning outcomes, PhET simulation, problem based learning