PENGARUH MODEL *PROBLEM BASED E-LEARNING* TERHADAP KEMAMPUAN PEMECAHAN MASALAH FISIKA SISWA DI SMA NEGERI 2 TABANAN

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ABSTRAK

Penelitian ini bertujuan menganalisis perbedaan kemampuan pemecahan masalah fisika siswa yang belajar menggunakan model *problem based e-learning* (MPBEL), dan model *direct guided e-learning* (MDGEL). Jenis penelitian ini adalah penelitian eksperimen semu (*quasi experiment*) dengan desain *nonequivalent pretest-posttest control group design*. Populasi penelitian adalah kelas X MIPA SMA Negeri 2 Tabanan yang berjumlah 8 kelas dengan total populasi 287 orang. Sampel penelitian diambil dengan teknik *random assignment* untuk menentukan sampel penelitian yang digunakan. Kelas yang digunakan dalam penelitian ini adalah X MIPA 3, dan X MIPA 5 dengan total sampel 71 orang. Data yang dikumpulkan dalam penelitian ini adalah data kemampuan pemecahan masalah fisika siswa dengan reliabilitas tes sebesar 0,883. Data kemampuan pemecahan masalah fisika siswa dianalisis dengan analisis deskriptif dan analisis kovarian satu jalur. Pengujian hipotesis dilakukan pada taraf signifikansi 0,05. Hasil penelitian menunjukkan terdapat perbedaan kemampuan pemecahan masalah fisika siswa antara siswa yang belajar menggunakan model *problem based e-learning* dan siswa yang belajar menggunakan model *direct guided e-learning* (F = 252,401; $\alpha < 0{,}05$). Kemampuan pemecahan masalah fisika siswa pada penerapan MPBEL berada pada kualifikasi sangat tinggi ($M = 86.43; SD = 3.752$). Kemampuan pemecahan masalah fisika siswa pada penerapan MDGEL berada pada kualifikasi tinggi ($M = 72.20; SD = 4.059$). Hasil uji LSD menunjukkan bahwa kemampuan pemecahan masalah fisika siswa dengan penerapan MPBEL lebih tinggi dibandingkan penerapan MDGEL ($LSD = 1.65;\ \Delta\mu = 13.589$).

Kata kunci: model *problem based e-learning*, model *direct guided e-learning*, kemampuan pemecahan masalah fisika siswa.

THE EFFECT OF PROBLEM BASED E-LEARNING MODEL ON STUDY PHYSICS PROBLEM SOLVING ABILITY IN SMA NEGERI 2 TABANAN

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ABSTRACT

This study aimsed to analyzing the differences of physics problem solving abilities of students who learned by using the problem based e-learning model (PBELM), and the students who learned by using the direct guided e-learning model (DGELM). The type of this research was quasi-experimental research with a nonequivalent pretest-posttest control group design. The population was grade X MIPA SMA 2 Tabanan, totaling 8 classes as much 287 people. The research sample was taken by random assignment technique to determine the research sample used. The classes used in this study were X MIPA 3, and X MIPA 5 total sample as much 71 people. The data collected in this study is solving physical problems with a test reliability of 0.883. Data on students' physics problem solving abilities were analyzed with descriptive analysis and one-way covariance analysis. Hypothesis testing is performed at a significance level of 0.05. The results showed there were differences in students' physics problem solving abilities between students who learned to use the problem based e-learning model and students who learned to use the direct guided e-learning model ($F = 252,401$; $\alpha < 0.05$). The students' physics problem solving abilities in applying MPBEL are very high qualifications ($M = 86.43$; $SD = 3.752$). The students' physics problem solving abilities in applying MDGEL are at high qualifications ($M = 72.20$; $SD = 4.059$). LSD test results showed that the students' physics problem solving ability with the application of MPBEL was higher than the application of MDGEL ($LSD = 1.65$; $\Delta\mu = 13,589$).

Keywords: problem based e-learning model, direct guided e-learning model, students' physics problem solving abilities.