

**PENGARUH MODEL PEMBELAJARAN *PROJECT BASED LEARNING*
TERINTEGRASI *STEM* TERHADAP KETERAMPILAN BERPIKIR
KREATIF SISWA KELAS XI MIPA SMA NEGERI 4 DENPASAR**

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ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan secara kualitatif dan kuantitatif perbedaan keterampilan berpikir kreatif antara siswa yang belajar dengan model pembelajaran *project based learning* (PjBL-STEM) dan model pembelajaran *direct instruction* (DI). Penelitian ini merupakan penelitian kuantitatif dengan jenis penelitian *quasi-experiment* dengan desain *one way pretest-posttest nonequivalent control group design*. Populasi penelitian ini adalah siswa kelas XI MIPA SMA Negeri 4 Denpasar dengan jumlah populasi 359 orang. Sampel dalam penelitian ini ditentukan dengan menggunakan teknik *simple randomize* berbasis kelompok. Sampel pada penelitian ini adalah siswa kelas XI MIPA 1 dan XI MIPA 2 sebagai kelompok eksperimen dengan jumlah sampel 88 siswa, sedangkan kelompok kontrol terdiri dari siswa kelas XI MIPA 5 dan XI MIPA 8 dengan jumlah sampel 91 siswa. Jumlah seluruh sampel pada penelitian ini sebanyak 179 siswa. Keterampilan berpikir kreatif siswa diukur dengan menggunakan instrumen penelitian dalam bentuk 15 butir soal *essay* yang memiliki konsistensi internal butir bergerak antara $r = 0,42 - 0,72$ (tinggi) dan reliabilitas tes sebesar $\alpha = 0,807$ (sangat tinggi). Data yang diperoleh dianalisis secara analisis deskriptif, analisis kovarian (ANAKOVA) satu jalur dan uji lanjut *Least Significant Difference* (LSD). Data yang didapatkan telah diuji asumsi sebagai prasyarat uji ANAKOVA satu jalur, dan telah memenuhi semua uji asumsi. Hasil uji ANAKOVA satu jalur yang dilakukan menunjukkan bahwa terdapat perbedaan keterampilan berpikir kreatif siswa yang belajar dengan model pembelajaran PjBL-STEM dengan siswa yang belajar dengan model pembelajaran DI ($F=31,980; \alpha=0,000$). Hasil uji LSD yang dilakukan didapatkan nilai rata-rata untuk kelompok PjBL-STEM memiliki nilai yang lebih tinggi dibanding kelompok DI ($\Delta\mu = 7,287 > LSD = 2,661$). Hasil Uji LSD yang dilakukan mendapat hasil bahwa terdapat perbedaan secara signifikan pada nilai rata-rata keterampilan berpikir kreatif. Simpulan dari penelitian ini adalah terdapat perbedaan berpikir kreatif siswa yang belajar dengan model pembelajaran PjBL-STEM dengan yang belajar menggunakan DI serta nilai rata-rata kelompok PjBL-STEM lebih tinggi dibanding kelompok DI. Hasil penelitian ini menampilkan bahwa model pembelajaran PjBL-STEM berpengaruh terhadap keterampilan berpikir kreatif

Kata-kata kunci: *project based learning*, *stem*, *pjbl-stem*, *direct instruction*,
keterampilan berpikir kreatif.

**THE EFFECT OF STEM INTEGRATED PROJECT BASED LEARNING
MODEL ON CREATIVE THINKING SKILLS OF STUDENTS OF CLASS
XI MIPA SMA NEGERI 4 DENPASAR**

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ABSTRACT

This study aims to describe qualitatively and quantitatively the differences in creative thinking skills between students who study with the project based learning (PjBL-STEM) learning model and the direct instruction (DI) learning model. This research is a quantitative research with a quasi-experimental type of research with a one way pretest-posttest nonequivalent control group design. The population of this study were students of class XI MIPA SMA Negeri 4 Denpasar with a total population of 359 people. The sample in this study was determined using a group-based simple randomize technique. The samples in this study were students of class XI MIPA 1 and XI MIPA 2 as the experimental group with a sample of 88 students, while the control group consisted of students in class XI MIPA 5 and XI MIPA 8 with a sample of 91 students. The total number of samples in this study was 179 students. Students' creative thinking skills were measured using a research instrument in the form of 15 essay questions which had an internal consistency of moving items between $r = 0.42 - 0.72$ (high) and test reliability of $= 0.807$ (very high). The data obtained were analyzed by descriptive analysis, one-way analysis of covariance (ANACOVA) and Least Significant Difference (LSD) follow-up test. The data obtained have been tested for assumptions as a prerequisite for the one-way ANACOVA test, and have fulfilled all the assumption tests. The results of the one-way ANAKOVA test conducted showed that there were differences in the creative thinking skills of students who studied with the PjBL-STEM learning model and students who studied with the DI learning model ($F=31,980; =0.000$). The results of the LSD test carried out showed that the average value for the PjBL-STEM group had a higher value than the DI group ($\bar{\mu} = 7.287 > LSD = 2.661$). The results of the LSD test carried out showed that there was a significant difference in the average value of creative thinking skills. The conclusion of this study is that there are differences in the creative thinking of students who study with the PjBL-STEM learning model and those who learn to use DI and the average value of the PjBL-STEM group is higher than the DI group. The results of this study show that the PjBL-STEM learning model has an effect on creative thinking skills

Keyword: *project based learning, stem, pjbl-stem, direct instruction, creative thinking skills.*