

Nia Maulidya. 2026. *Pengaruh Model Pembelajaran Project Based Learning Berbantuan Artificial Intelligence (AI) terhadap Hasil Belajar Siswa SMK*. Skripsi, Program Studi Pendidikan Informatika, Fakultas Keguruan dan Ilmu Pendidikan, Universitas Trunodjoyo Madura.

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ABSTRAK

Penelitian ini bertujuan untuk mengukur dan menganalisis tingkat capaian hasil belajar siswa SMK pada mata pelajaran Informatika materi Dasar Jaringan Komputer sebelum dan sesudah penerapan model pembelajaran *Project Based Learning* (PjBL) berbantuan *Artificial Intelligence* (AI), menganalisis perbedaan hasil belajar antara kelas yang menggunakan *Project Based Learning* (PjBL) berbantuan *Artificial Intelligence* (AI) dengan kelas yang menggunakan model konvensional, serta menganalisis respons siswa terhadap penerapan model tersebut. Penelitian ini menggunakan metode kuantitatif dengan desain *quasi-experimental* bentuk *Nonequivalent Control Group Design*. Populasi penelitian adalah seluruh siswa kelas X TKJ SMK Negeri 1 Kamal tahun ajaran 2025/2026, dengan teknik *nonprobability sampling* jenis sampling jenuh. Sampel penelitian terdiri atas kelas X TKJ 1 sebagai kelas eksperimen (32 siswa) dan kelas X TKJ 2 sebagai kelas kontrol (30 siswa). Data dikumpulkan melalui tes (*pretest* dan *posttest*), observasi aktivitas guru dan siswa, serta angket respons siswa. Hasil penelitian menunjukkan bahwa nilai rata-rata *posttest* kelas eksperimen (82,50) lebih tinggi dibandingkan kelas kontrol (61,75), dengan uji-t memperoleh nilai t-hitung sebesar 10,859 lebih besar dari t-tabel 2,040, sehingga H_0 ditolak dan H_a diterima. Hasil uji N-Gain pada kelas eksperimen menunjukkan rata-rata sebesar 0,588 dengan kategori "sedang", lebih tinggi dibandingkan kelas kontrol yang berkategori "rendah". Respons siswa terhadap penerapan model pembelajaran ini memperoleh persentase sebesar 87,5% dengan kategori "sangat baik". Berdasarkan hasil tersebut, dapat disimpulkan bahwa model pembelajaran *Project Based Learning* berbantuan *Artificial Intelligence* (AI) berpengaruh secara signifikan terhadap peningkatan hasil belajar siswa SMK pada mata pelajaran Informatika.

Kata-kata kunci: *Artificial Intelligence*, Dasar Jaringan Komputer, hasil belajar, *Project Based Learning*, Informatika.

Nia Maulidya. 2026. *The Effect of Artificial Intelligence (AI)-Assisted Project Based Learning Model on Vocational High School Students' Learning Outcomes. Undergraduate Thesis, Informatics Education Study Program, Faculty of Teacher Training and Education, Trunodjoyo Madura University.*

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ABSTRACT

This study aims to measure and analyze the level of vocational high school students' learning outcomes in the Informatics subject, specifically on the Basic Computer Networking material, before and after the implementation of the Artificial Intelligence (AI) assisted Project Based Learning (PjBL) model, to analyze the differences in learning outcomes between classes using AI-assisted Project Based Learning (PjBL) and those using a conventional model, and to analyze students' responses to the implementation of the model. This study employed a quantitative method with a quasi-experimental design in the form of a Nonequivalent Control Group Design. The population consisted of all tenth-grade Informatics students at SMK Negeri 1 Kamal in the 2025/2026 academic year, selected using a saturated (total) nonprobability sampling technique. The sample consisted of class X TKJ 1 as the experimental group (32 students) and class X TKJ 2 as the control group (30 students). Data were collected through tests (pretest and posttest), observations of teacher and student activities, and student response questionnaires. The results showed that the experimental class's posttest mean score (82.50) was higher than the control class's (61.75), with a t-test result of t-count 10.859, greater than t-table 2.040, so H_0 was rejected and H_a was accepted. The N-Gain test result for the experimental class showed an average of 0.588, categorized as "moderate," which was higher than the control class, categorized as "low." Student responses to the implementation of this learning model reached 87.5%, categorized as "very good." Based on these results, it can be concluded that the AI-assisted Project Based Learning model has a significant effect on improving vocational high school students' learning outcomes in the Informatics subject.

Keywords: *Artificial Intelligence, Basic Computer Networking, learning outcomes, Informatics, Project Based Learning.*