

**PENGARUH MODEL *PROJECT BASED LEARNING STEAM*  
DAN EFIKASI DIRI TERHADAP KETERAMPILAN BERPIKIR  
KREATIF DAN PRESTASI BELAJAR PESERTA DIDIK PADA  
MATA KULIAH ARSITEKTUR KOMPUTER**

**ANAK AGUNG GDE EKAYANA**

**ABSTRAK**

Model pembelajaran berbasis proyek yang diintegrasikan dengan pendekatan STEAM penting untuk diterapkan di pendidikan tinggi karena model ini dapat membantu peserta didik mengembangkan berbagai kompetensi abad ke-21. Tujuan penelitian ini adalah 1) mendeskripsikan secara mendalam perbedaan keterampilan berpikir kreatif dan prestasi belajar arsitektur komputer antara peserta didik yang belajar dengan *project based learning STEAM* dengan *direct learning STEAM*, 2) mendeskripsikan perbedaan keterampilan berpikir kreatif dan prestasi belajar arsitektur komputer antara peserta didik yang memiliki efikasi diri tinggi dan yang rendah, 3) mendeskripsikan pengaruh interaktif antara model dan efikasi diri terhadap keterampilan berpikir kreatif dan prestasi belajar arsitektur komputer. Penelitian ini merupakan penelitian eksperimen semu dengan rancangan *pretest-posttest nonequivalent control group*. Populasi penelitian adalah peserta didik program studi Teknik Informatika yang memprogram mata kuliah arsitektur komputer tahun akademik 2023/2024 yang berjumlah lima belas kelas dengan total populasi 447 orang. Enam kelas dipilih sebagai sampel dengan teknik *group random sampling* dan dibagi menjadi dua kelompok, yaitu kelompok eksperimen terdapat sebanyak tiga kelas yang berjumlah 74 orang dan kelompok kontrol sebanyak tiga kelas berjumlah 76 orang. Sampel dipilih menjadi kelompok atas dan bawah dengan pemilahan 33%, sehingga masing-masing kelompok terdapat 50 orang sebagai sampel penelitian. Data efikasi diri dikumpulkan dengan kuesioner, data keterampilan berpikir kreatif dikumpulkan dengan tes uraian dan data prestasi belajar arsitektur komputer dengan tes pilihan ganda. Data dianalisis secara deskriptif dan *multivariate analysis of covariance* dengan taraf signifikansi 5%. Hasil penelitian menunjukkan bahwa, terdapat perbedaan keterampilan berpikir kreatif dan prestasi belajar arsitektur komputer antara peserta didik yang belajar dengan model *project-based learning STEAM* dan peserta didik yang belajar dengan model *direct learning STEAM*, dengan hasil yang lebih unggul pada peserta didik yang belajar dengan model *project-based learning STEAM*. Perbedaan efikasi diri yang dimiliki peserta didik berdampak pada perolehan prestasi belajar arsitektur komputer, dan juga berdampak pada capaian keterampilan berpikir kreatif. Tidak terjadi interaksi antara model pembelajaran (*project-based learning STEAM* vs *direct learning STEAM*) dan efikasi diri terhadap keterampilan berpikir kreatif dan prestasi belajar peserta didik. Berdasarkan hasil penelitian dapat disimpulkan bahwa model *project-based learning STEAM* dan efikasi diri secara signifikan berpengaruh sendiri-sendiri terhadap keterampilan berpikir kreatif dan prestasi belajar arsitektur komputer.

**Kata kunci:** *direct learning*, efikasi diri, keterampilan berpikir kreatif, prestasi belajar, *project-based learning*, STEAM

**THE IMPACT OF THE STEAM PROJECT-BASED LEARNING MODEL  
AND SELF-EFFICACY ON STUDENTS' CREATIVE THINKING SKILLS  
AND LEARNING OUTCOMES IN A COMPUTER  
ARCHITECTURE COURSE**

**ANAK AGUNG GDE EKAYANA**

**ABSTRACT**

*The project-based learning model integrated with the STEAM approach is essential to apply in higher education because this model can help students develop 21st-century competencies. The aims of this research are 1) to describe in depth the differences in creative thinking skills and computer architecture learning achievement between students who study with project-based learning STEAM and STEAM direct learning, 2) to describe the differences in creative thinking skills and computer architecture learning achievement between students who have high and low self-efficacy, 3) describe the interactive influence between the model and self-efficacy on creative thinking skills and computer architecture learning achievement. This research is a quasi-experimental research with a pretest-posttest nonequivalent control group design. The research population is students of the Informatics Engineering study program who are programming computer architecture courses for the 2023/2024 academic year, totaling fifteen classes. Six classes were selected as samples using a group random sampling technique and divided into two groups: the experimental group of 50 people and the control group of 50. Self-efficacy data was collected using a questionnaire. Creative thinking skills data was collected using a description test, and learning achievement data was collected using a multiple-choice test. Data were analyzed descriptively and by multivariate analysis of covariance with a significance level of 5%. The research results show differences in creative thinking skills and computer architecture learning achievements between students who study with the STEAM project-based learning model and students who study with the STEAM direct learning model, with superior results for students who study with the STEAM model. Project-based learning STEAM. The differences in self-efficacy that students have have an impact on their achievement in learning computer architecture and also have an effect on their achievement of creative thinking skills. There is no interaction between the STEAM (project-based learning and direct learning) approach to creative thinking skills and student learning achievement. Based on the research results, it can be concluded that the STEAM project-based learning model and self-efficacy significantly influence creative thinking skills and computer architecture learning achievement. STEAM project-based learning fosters creative thinking and improves student learning achievement.*

**Keywords: creative thinking skills, direct learning, project-based learning, learning achievement, self-efficacy, STEAM**