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Student Self-Efficacy in Introductory Project-Based Learning Courses[1] GEOFFREY PLEISS, YEVGENIYA V. ZASTAVKER, F. W. Olin College of Engineering — This study investigates first-year engineering students' self-efficacy in two introductory Project-Based Learning (PjBL) courses – *Physics (Mechanics) Laboratory* and *Engineering Design* – taught at a small technical institution. Twelve students participated in semi-structured open-ended interviews about their experiences in both courses. Analysis was performed using grounded theory. Results indicate that students had lower self-efficacy in *Physics Lab* than in *Engineering Design*. In *Physics Lab*, students reported high levels of faculty-supported scaffolding related to final project deliverables, which in turn established perceptions of an outcome-based course emphasis. Conversely, in *Engineering Design*, students observed high levels of scaffolding related to the intermediate project deliverables, highlighting process-centered aspects of the course. Our analyses indicate that this difference in student perceptions of course emphases – resulting from the differences in scaffolding – is a primary factor for the discrepancy in self-efficacy between *Physics Lab* and *Engineering Design*. Future work will examine how other variables (e.g., academic background, perception of community, gender) affect students' self-efficacy and perception of scaffolding in these PjBL courses.

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