

**Abstract:** Computational problem solving and programming are foundational skills for engineers. The first undergraduate level course that covers these topics is critical to laying these foundations. As instructors strive to incorporate the spirit of inquiry in their courses, an important question that comes forth is whether the teaching methodology should be student-centered or teacher-centered. This paper adds helpful information in the ongoing debate on this question. The paper reports on the student performance results obtained by teaching two sections (cohorts) of an introductory Computation Lab course sequence. This course sequence aims to teach new engineering students MATLAB scripting and programming in the context of technical problem-solving using mathematical models. Cohort A was taught using a traditional teacher-centered approach, while Cohort B employed an open-ended student-centered approach. Our results indicate that the teacher-centered approach has the potential of creating polarized grade distributions with relatively more A grades in the class compared to the student centered approach. On the other hand, the student-centered approach provided a smoother grade distribution, indicating that a higher number of students demonstrate noticeable progress as compared to the teacher-centered approach.

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