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Improving Student Learning and Views of Physics in a Large Enrollment Introductory Physics Class KATHY SHAN, University of Toledo — Interactive engagement (IE) strategies can be helpful for students learning introductory physics with small group recitations. Less is known about their impact for large lecture-based courses. This study examined student learning and views of physics in a large enrollment course that included IE but no small-group recitation. The questions addressed were: (a) What do students learn about physics and how does this compare to reports for traditional courses?, (b) How do students' views of physics change and how does this compare to reports for traditional courses?, and (c) Which instructional strategies contribute to student outcomes? Data included pre-post FCI scores, classroom examinations during the term, pre-post CLASS scores, and student work, interviews, and open-ended surveys. Findings include a FCI average normalized gain of 0.32, which is high for students with low pre-test score (30% for this group) and instructors new to IE methods. Students' views of physics remained relatively unchanged, which is promising given the typical decline for student views. And instructional strategies as a set, not individual strategies, impacted student outcomes. Findings support the recommendation to adopt IE methods in introductory physics classes, particularly when pre-tests are low.

Kathy Shan
University of Toledo

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