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Excellence in Physics Education Award: SCALE-UP, Student Centered Active Learning Environment with Upside-down Pedagogies¹

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The Student-Centered Active Learning Environment with Upside-down Pedagogies (SCALE-UP) Project combines curricula and a specially-designed instructional space to enhance learning. SCALE-UP students practice communication and teamwork skills while performing activities that enhance their conceptual understanding and problem solving skills. This can be done with small or large classes and has been implemented at more than 250 institutions. Educational research indicates that students should collaborate on interesting tasks and be deeply involved with the material they are studying. SCALE-UP classtime is spent primarily on “tangibles” and “ponderables”—hands-on measurements/observations and interesting questions. There are also computer simulations (called “visibles”) and hypothesis-driven labs. Students sit at tables designed to facilitate group interactions. Instructors circulate and engage in Socratic dialogues. The setting looks like a banquet hall, with lively interactions nearly all the time. Impressive learning gains have been measured at institutions across the US and internationally. This talk describes today’s students, how lecturing got started, what happens in a SCALE-UP classroom, and how the approach has spread.

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