Large lecture courses pose challenges to engaging students during class and providing timely feedback on their learning. In his spring 2019 *Introduction to Psychology* course, Dean of Yale College and Richard M. Colgate Professor of Psychology Marvin Chun implemented two digital tools to address both of these long-standing issues. During class, he interspersed lecture content with wireless polling, collecting live input from students on relevant psychological topics through the Poll Everywhere platform. Outside of class, his Teaching Fellows were freed from time-consuming grading logistics by the Gradescope tool, which allowed them to focus on giving students fair and timely feedback.

Professor Chun’s prize-winning instruction of the *Introduction to Psychology* course is highly regarded among Yale students. “I have taught this course often, and part of the joy is finding ways to improve it each time,” Chun explained. “I like to experiment with new technology to improve the experience for students.” Poll Everywhere allows students to individually respond to questions through their personal digital devices and enables faculty to collect and display live data. This tool engages students in discussions about course content in a manner that scales effectively to large classes.

Now supported broadly at Yale, Poll Everywhere solves issues that plagued classic clickers such as dead batteries and reliance on students to bring an extra physical device. “I can easily flip between anonymous and registered feedback, either to collect sensitive answers privately or to award participation credit,” comments Chun. He designs survey questions to align with social science studies, using the power of live, aggregate data to show how class responses match established theories about human behavior. In one example, he asked students to report how many hours they sleep, a question he has been tracking for over a decade. Interestingly, this semester’s class reported an average of over 7
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Research exploring the benefits of engaging students with in-class activities:

Researchers at the University of Colorado and Yale University offer evidence that a brief values affirmation writing assignment can improve the grades of and reduce the achievement gap for underrepresented students. Read “Reducing the Racial Achievement Gap: A Social-Psychological Intervention” online via Science.

Researchers at Washington State University conducted a meta-analysis of wireless polling studies and found mixed results on measures of student cognition. Their analysis points to the need for thoughtful implementation of pedagogical principles when designing these in-class activities. Read “A meta-analysis of the effects of audience response systems (clicker-based technologies) on cognition and affect” online via Computers & Education.

Researchers at Worcester Polytechnic Institute and Dartmouth College examined the introduction of clickers in an introductory physics course. The clickers had an immediate effect on “engagement, learning, and efficiency.” Read “In-class use of clickers and clicker tests improve learning and enable instant feedback and retests via automated grading” online via Physics Education.

The Poorvu Center has a variety of resource guides online, including an article about using audience response systems with students, strategies for teaching large classes, and recommendations for inclusive teaching. A recording of the 2019 Canvas Lightning Talks – featuring Poll Everywhere and Gradescope – will be posted on the Poorvu Center website by May 17.