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Interactive 'clickers' transform classrooms

PROVIDENCE, Rhode Island (AP) -- Professor Ross Cheit put it to the students in his classroom. The room began to hum, but no one so much as raised a hand. Still, within 90 seconds, Cheit had roughly 150 student responses displayed on an overhead projector. Several times each class, Cheit's students answer his questions using handheld wireless devices. The devices, which the students call "clickers," are being used on hundreds of college campuses. They alter classroom dynamics, engaging students in large, impersonal lecture halls. "I use it to take their pulse," Cheit said. "I've often found in that setting, you find that students are not participating. In hard science classes, the clickers -- most of which allow several possible responses -- are an effective tool for spurring conversation, for getting a feel for the class. "It forces you to be active in the discussion because you are forced to make a decision." Cheit prepares most questions in advance but can add questions on the fly if needed. Clickers increased class participation and improved attendance after Stephen Bradford at Brown University. Bradford uses the clickers to get a sense of whether students are grasping the material. Eric Mazur, a Harvard University physics professor and proponent of interactive teaching, says that many colleges already use technology that allows teachers and students to interact more effectively. For example, professors can now post lecture notes, quizzes and reading lists online. Mazur envisions students someday using their laptops, cell phones or other Internet-connected devices. For now, the clicker systems appear to be selling. Two companies that make the systems are iClicker and Turning Technologies. Versions of clickers have been available since the 1980s, but in the past six years their use has exploded. Most universities that use clickers require students to buy them, although at Brown University they are provided. Made by companies including the Maryland-based GTCO CalComp, eInstruction Corp., of San Francisco and the California-based iClicker, the clickers communicate with receivers by infrared or radio signals, which feed the data to a computer. While each company offers slightly different features, the systems typically allow students to answer multiple-choice questions. The clickers themselves vary among companies but generally allow students to respond to questions by pressing a button. The clickers can also be used to give quizzes that can be graded automatically and e-mail the results to students. But several professors said they have avoided that so students will see the handheld devices. At the college level, the devices originally took hold in science classes, but they have spread to other disciplines. Cheit said that's especially true when it comes to sensitive topics, such as affirmative action.

"People that are against it will click," Cheit said, "But they might not raise their