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**Teaching Tips:  
The Iclicker....Coming to a Classroom Near You!**

**Susan Charles  
University of California, Irvine**

How do you reach the student in the back of the large lecture hall? Teaching a seminar with twenty students allows me to connect with my students: I ask each one questions, grade them on participation, and even remember their names. A sixty person class is more challenging: I know the people in the first row who come to class ten minutes early: they ask questions and make comments about the past lectures. The other fifty-five people include a familiar face every now and then of a person who attended office hours, asked a thought-provoking question, or wrote an interesting term paper. When the numbers swell to over one hundred, however, my attempts at connecting with the students during the lecture are challenging at best. The ten minutes prior to class are filled with people coming up and asking questions about grading, the timing of mid-terms, or extra credit queries. When I am not answering tactical questions, I am usually scrambling to organize a multi-media presentation that will keep my students interested...or at least awake.

In my class of four-hundred students, the room is dark in the back. Unless I attempt to walk up and down the stadium seating and lecture at the same time (harder for me than it once was), distinguishing facial expressions in the darkened, stadium- tiered lecture hall is difficult. The situation reminds me why I never attempted to learn the Facial Action Coding System. Everything is a blur. I would like to think I'm connecting to these students, but the only information I receive from them is in the form of work unconnected to the students, in the form of papers and tests I see in the privacy of my office. Apart from a question now and then, we can hardly call this an example of the "interactive learning environment" so encouraged by the university these days. Four hundred students. An eighty-minute lecture twice a week. Not so much interaction.

Luckily, however, technology has entered the classroom. This past year I was introduced to the iclicker. The iclicker (<http://www.iclicker.com/>) is a device that was required for all students taking my introductory psychology class. This device has an on-off button and buttons labeled A through E. After purchasing an iclicker, students go to its website and register the device so that the iclicker's code number is paired with the student's name. The professor uses a little black box (it's actually black and grey) from iclicker that is the size of a paperback book and about the same weight. This device is plugged into a computer at the front of the room. Once it's turned on, a little start/stop/display

window the size of the average house key comes to the screen. I generally move it to the upper left hand corner of my PowerPoint presentation and ignore it until I ask the students a question.

My questions can range from something requesting the students' opinion and answered with the A button for yes and the B button for no, or a multiple-choice question to ensure that students have understood the information I just presented. As long as students can answer the question with an A, B, C, D, or E, I can use the iclicker. After I ask a question, I press the start button on the computer, the computer tallies up the responses until I press stop, and then I press display. A histogram then displays the responses on my computer screen, projected for all to see. In the meantime, a small flash drive attached to the computer has a program that is creating a database (read in excel) that codes which iclickers are providing responses. With these data, you can then give students points based on whether their iclicker was used in class. You can also opt to only give students point based on whether they get your question correct, and you can keep a record of their responses. This style allows professors to administer, and score, pop quizzes.

I give students participation points, as calculated by how many times they used the iclicker in my class. Instead of getting a show of hands in my darkened classroom where I frantically ask my teaching assistants whether the "yes" or "no" vote was more popular, I have the information displayed on the screen where both the students and I can evaluate it. Students seem to enjoy using the device, and I know how many people are attending my classes every week, and how they are understanding, or not understanding, my lectures. They also know that I have heard their response, even if it is presented in the form of a huge histogram. More and more professors are using iclickers at my university.

The same student can use one iclicker for all of his or her classes across multiple quarters. Most of my students had used the iclickers for another class, so they did not have to buy the device again for my classroom. And, my university has devoted some technological specialists to teach the less technologically competent professors (like me) to use the iclicker, and to drop off the "black box" prior to the teaching quarter and pick it up after finals. In this way, I did not have to purchase any supporting materials for the iclicker, and there was always someone to help me if I had any technological difficulties. The iclicker is easy, and it allows the professor to tap into the opinions of the students. I highly recommend the iclicker to all of you who teach large classes. The iclicker provides a voice, albeit a voice limited to A, B, C, D, and E, to even the shyest undergraduate sitting in the darkest corner of your lecture hall.