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I>CLICKER CASE STUDY: DEPARTMENT OF POLITICAL SCIENCE, AUBURN UNIVERSITY

Political Science Professor applies new medium to assess student learning and increase course engagement

Challenge:

Without a medium to keep students engaged and focused on the course material, students often have a hard time determining the key concepts, ideas, and facts on which to focus.

Solution:

Application of i>clickers allow instructors to regularly assess student learning and provide feedback to course material.

Benefits:

i>clickers reinforce learning, assess student comprehension, and encourage student learning through participation.

Political Science course reinforces students learning and successfully adjusts lectures and discussions to ensure concepts are comprehended.

Motivation For Using i>clickers

- Easily take attendance
- Encourage greater student engagement and participation in classes
- Regularly assess student learning and provide prompt feedback

Technology Implementation & Usage

Obtaining/Registering i>clickers: Students are required to purchase i>clickers and can buy them bundled with their textbooks from the university bookstore. On the second day of class, students register i>clickers in the classroom. Students who signed up late or have not purchased i>clickers at this point can register one-on-one with the TA during his or her office hours.

Classroom Application: i>clickers work well with other technology in the classroom including PowerPoint for presentations where i>clicker questions are seamlessly integrated to guide discussions.

“ Because i>clickers made it simple to give and grade weekly quizzes, I met my goal of regularly assessing student learning and providing prompt feedback.

Mitchell Brown, PHD, Department of Political Science, Auburn University, Auburn

i>clicker Grading Policy: i>clickers are used to record attendance, give quizzes, and elicit participation in class — and students earn credit in all of these areas (for specific grading information, please refer to Course Grading Policy).

Daily Use/Questions Asked: i>clickers are used in every class — to take attendance, and as a form of a quiz or exam with from 1 to 10 clicker questions per class.

Class Attendance: At the start of each class, PowerPoint is used to display an opinion question with multiple-choice answers. Students record their responses, which are then used to earn their attendance point for the day. The questions always pertain to the topic we were addressing on that particular day, and the instructor reviews the summary answers with the class before the lecture begins.

Question Examples:

Sample Question

Did you vote in the last Presidential election?

- A. No, I was too young.
- B. No, I was old enough but didn't register.
- C. No, I was old enough and registered, but I didn't vote.
- D. Yes.

Quiz Administering. A "quiz" is given on the last class of each week about the key concepts from that week's lectures and readings. The 10 most important concepts, ideas, or facts are selected from the week and turned into multiple-choice questions. For each question, students are given up to 1 minute to record their responses, and then the class moves on to the next question. After students complete all 10 questions, the instructor returns to the beginning and works through the correct answers for each. The percentages of correct and incorrect answers are displayed in class (using the graph tool that came with the software), and when a question is missed by more than a quarter of the class, extra time is spent reviewing the concept and lecture materials.

Sample Question

The principle that any power not listed in the Constitution is not granted to the Congress is called:

- A. Expressed powers
- B. Implicit powers
- C. The elastic clause
- D. Federalism

Increase Student Participation. Questions are interspersed in the lectures that poll students on material they've just seen or on important and/or controversial issues we are discussing. Students "vote" and then through the display function see how their responses compare with those of classmates. Finally, students are given some time to discuss the results with their peers in groups of 2-3.

Sample Question

Are you afraid of globalization?

- A. No
- B. Yes, because of what it does to our economy
- C. Yes, because it threatens our national security
- D. Yes, but for other reasons

Course Overview

Course Title/Subject: American Government in a Multicultural World (addressing American politics, including ideology, political structure, political behavior, and policy).

Typical Enrollment/Student Information: ~90 students per class. While the majority of students are freshmen and sophomores, juniors and seniors also take the course.

Course Structure: A 3-credit course meeting 3 days per week for 50 minutes each day, with 1 teaching assistant (TA) to help with administration and grading. There are no discussion or laboratory sections to accompany the lecture. As this is a survey class, it is organized to address a different topic each week. On the first and second days, it addresses the key materials through lecture and class discussion, and on the third day, it reviews important concepts and conclude with more in-depth student discussion.

Course/Student Challenges: There are 3 major challenges in this course, both for teaching and taking it. First, there is a great deal of material to address, and students often have a hard time determining the key concepts, ideas, and facts on which to focus. Second, because of the size of the class, it is difficult to keep students engaged and to have all students participate. Finally, also because of the class size, it is difficult to provide regular feedback to students to encourage them to keep up with work (e.g. through regular homework assignments, papers, or testing).

Course Grading Policy: Students are graded on attendance (10%); quizzes (15%); 2 short papers (15%); a mid-term exam (25%); a final exam (25%); and participation (10%). Participation credit is earned in a variety of ways —by participating in i>clicker exercises during discussions, producing group projects, and engaging their peers and instructor during lecture and discussion.

Results

Successes

- ▶ **Easily Recorded Attendance** i>clickers save time (and paper) when used to take attendance.
- ▶ **Regularly Assessed Student Learning** Because i>clickers make it simple to give and grade weekly quizzes, student learning can be regularly assessed and prompt feedback given. Armed with this relevant information, lectures are adjusted and discussions as used to ensure that important concepts are grasped.
- ▶ **Reinforced Learning With Additional Medium** Pedagogy research demonstrates that repetition in multiple forms helps aid student learning. Using i>clickers to give weekly quizzes, students are exposed to course material through reading, lecture, discussion, and application
- ▶ **Improved Attendance** Before i>clickers, 60% to 70% of students came to class on a typical (non-exam) day, while after i>clickers, 85% to 90% of students are in attendance. On a survey given to students, about 71% of General Chemistry students and 57% of Organic Chemistry students indicate that they come to class more often because of clickers.

“ The reduction in the instructors and the TA's time spent on paperwork (attendance and grading quizzes) is well worth the investment of time at the semester's start in familiarizing with the system.

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Conclusion

The i>clicker system provides significant support in administrating classwork. The reduction in the instructors and the TA's time spent on paperwork (attendance and grading quizzes) is well worth the investment of time at the semester's start in familiarizing with the system.

In addition, the potential for "cheating" during the weekly quizzes is no longer a concern — providing students with a method to review important material and identify areas needing more attention. Furthermore, i>clickers will be used to aid in class discussions.