TEACHING ELEMENTS
STUDENT RESPONSE SYSTEM (CLICKERS)

WHAT IS IT?
Would you like to create an engaging and inviting learning environment that increases student participation?
Clickers are an in-class audience-polling technology that allows students to provide rapid responses to multiple-choice questions. Students answer questions or problems using handheld wireless devices. The responses are received, aggregated, and can be displayed on the instructor’s computer monitor and an overhead projector screen. During class, students’ names are not associated with responses, so they may answer freely, but responses may also be associated with students’ names for grading purposes.

WHAT IS THE EVIDENCE THAT CLICKERS HAVE A POSITIVE IMPACT ON LEARNING?
Research in the effective use of Classroom Response Systems has shown:
• Improved retention of course material: Use of clickers increased student performance during a class, but also retention 4 months after the class, in a biology course for non-majors (Crossgrove and Curran, 2008).
• Increased performance on assessments: The rapid feedback afforded by clickers, and subsequent discussions among student peers, helped students who used clickers to obtain significantly higher performance test scores compared with their peers who did not use clickers. (Laxman, 2011)
• Increased student engagement: Students reported that the thoughtful use of clickers increased their content comprehension, increased their class participation and provided important and immediate instructor feedback. (Nagy-Shadman and Desrochers, 2008)

CLICKERS IN ACTION
Instructors use Clickers to:
• Gauge student understanding
  • Poll the class to find out their needs and interests, such as whether to review or move on to a new topic
  • Evaluate students’ prior knowledge on a topic
  • Evaluate conceptual understanding
  • Assess student mastery of content to identify concepts that are proving difficult for students to grasp
• Promote student input
  • Allow students to identify the next step in a complex calculation
• Anonymously facilitate class discussion on controversial or sensitive issues
• Survey students to determine background or opinions

OTHER BENEFITS OF CLICKERS

• Clickers can provide a quick way for students to validate their own learning, helping them identify areas that need improvement.
• At the beginning of a new content area, you can use some general questions to assess the class’s prior knowledge of the topic.
• Clickers can provide a passive tally of attendance, provided that students bring them to every class.

WHAT ELSE SHOULD I THINK ABOUT WHEN USING CLICKERS?

• The first time you introduce clickers to a class, start with a few “low-stakes” questions to help students get used to the system and to make sure that the system is working correctly.
• Explain to students why you are using Clickers for an activity; for example, is it to help you find out what they know, or to help them determine what to review?
• Use Clickers for low-stakes assessments rather than a formal quiz, midterm, or final.
• When developing multiple-choice questions, make sure that the “wrong” answers are plausible and require students to think before responding.
• Don’t always show the clicker results as they are being tallied or immediately after -- keeping students in suspense can focus their attention and keep them engaged.
• Point out to students that their incorrect responses can show them the areas they need to focus on.
• When using Clickers to review, sequence questions, starting with simple recall checks and moving on to questions that require more thought and analysis.
• If a significant number of students disagree on what the correct answer is, ask for volunteers to give their reasoning before revealing the correct answer.

WHERE CAN I LEARN MORE?

How to get started
• Online Documentation (link)
• Consultation Request form (link)

Potential Applications
• Use Clicker responses to gauge understanding of course material.
• Create anonymous opportunities for students to respond to sensitive questions.

Accessibility
• The latest model of iClicker used at RIT includes a Braille keypad

Related resources
• Vanderbilt University (link)
• Using Clickers in the Classroom (YouTube)
• Educause (link)
• The Active Class (link)
• University of Colorado Boulder (link)

Books:
REFERENCES:

