Strategies for Implementing Classroom Voting
Derek Bruff

Director of the Vanderbilt University Center for Teaching and a Senior Lecturer in the Vanderbilt
Department of Mathematics
https://cft.vanderbilt.edu//cft/guides-sub-pages/clickers/
http://derekbruff.org/

Strategies for Guiding Peer Instruction (PI)

- Let students know why you're having them engage in PI.
    - "This is not a quiz. This is an activity designed to help you figure things out through discussion. You'll benefit only to the extent you participate."

- Give specific instructions for forming pairs.
    - "Pair up with a student nearby."
    - "Find a student who answered differently."

- Instruct students to focus on reasons.
    - "Share reasons for your answer with your partner."
    - "Convince your partner that you're right."
    - "If you both agree, you could both be wrong, so discuss anyway."

- Circulate among your students during PI time.
    - Eavesdrop.
    - Ask leading questions without giving away answers.

- Individual voting prior to small-group discussion time?
    - Pros: promotes independent thinking, warms students up for PI, provides "time 0" data that can lead to skipping PI time or to more productive PI time
    - Cons: takes more time, can ask harder questions if students can work together immediately, some students don't engage productively when working solo

Strategies for Leading Classwide Discussions

- Have students share reasons for their responses.
    - Call on students by name, semi-randomly, to share their reasons.
    - Ask volunteers to share reasons for more popular answer choices.
    - Ask volunteers to hypothesize reasons for unpopular answer choices.
    - Ask for a student who changed his or her mind during PI time to share why he or she did so.
    - Have students respond to and challenge each other's comments.
    - Repeat less audible comments for all students to hear.

- Use the Socratic approach, probing students' reasoning without confirming whether they are correct or incorrect.

- If possible, allow the students to figure out the problem for themselves through discussion.

- After sufficient discussion, summarize and clarify the key points.

Strategies for Practicing Agile Teaching

- If most students answer correctly…
    - Confirm that students understand by hearing from one or two students.
    - Briefly discuss all of the answer choices and move on to the next topic.
    - Invite students still confused to your office hours.

- If two or more choices are popular…
    - Have students reengage with the question through small-group or classwide discussion.
    - Option: If students have already discussed the question in small groups, have them form new small groups.
    - Option: Provide a hint or two about the question or eliminate an answer choice, then have students reengage with the question.
    - Option: Have a few students share reasons for their answers, then have the students reengage with the question.

- If most students answer incorrectly…
    - More small-group discussion can be unproductive at this point without some additional perspectives on the question.
    - Option: Provide a few hints about the question and have students return to their groups.
    - Option: Tell students that the majority is wrong, wait for gasps of astonishment, and have them return to their groups.
    - Option: Tell students that the majority is wrong, then offer an explanation of the question.
    - Option: Tell students that the majority is wrong, then hear from a few students to better understand their reasoning. Return to the question in a subsequent class session.