A minimalist assessment method which maximizes student learning and participation.

In undergraduate mathematics tutorials or problem-solving classes, instructors are often faced with the dilemma: how can we assess student learning in a time-minimal way so that we may concentrate on maximizing engagement and learning? To solve the problem, often the decision is made for students to submit, directly, written work for grading. This is a time-intensive option for the instructor, and is sometimes heart-breaking: in today’s learning environment, not all students even bother to read written feedback!

The method that I suggest in this talk gives students immediate feedback, encourages direct engagement, and reduces out-of-class grading time. It has been trialed in two separate second-year classes: one on theoretical computer science, and another on engineering mathematics. Measured upsides include increased conceptual understanding of material and lifting the performance of borderline-case students who are willing to engage. A possible disadvantage is the possible drop-off of students who have problems engaging, though this turned out to be difficult to measure. A surprising outcome was the difference in behavior in response to the method between the computer science students and the engineering students. (Received September 17, 2015)