## Best Practices with Formative Assessment

(Originally titled "Formative Assessment in Seven Good Moves")

In this thoughtful *Educational Leadership* article, Brent Duckor (San Jose State University) says that effective use of on-the-spot assessments is *the* most influential factor in improving student learning. Duckor recommends the following seven "moves":

• *Explicitly prepare students*. "Unfortunately, the literature on formative assessment provides few accounts of the culture shock many students experience when they're expected to learn in this new and perhaps puzzling manner," says Duckor:

- Why is the teacher always answering a question with another question?
- Why is the teacher asking "Why" all the time?
- Why is the teacher using Popsicle sticks to call on us?
- Why is the teacher pausing before taking answers?
- Why is the teacher writing up all the answers, even the wrong ones?
- Why can't the teacher just solve the problem and write the correct answer on the board so we can move on?

• *Pose good questions*. Many classroom questions are either too simple ("Can someone give me the definition of mitosis?") or too open-ended ("Why did the French Revolution occur?"). "An effective question sizes up the context for learning, has a purpose related to the lesson and unit plan and, ideally, is related to larger essential questions in the discipline," says Duckor. For example, in a high-school civics class discussing a segregated skating rink: "Should the integration of public facilities extend beyond the ruling on education addressed by the *Brown v. Board of Education* decision?"

• *Give students time to think*. Some teachers feel uncomfortable with silences. Giving adequate wait time for students to process their answers requires planning, patience, and complementary moves – turn-and-talk, think-pair-share, journal writing, polling. All these help the teacher gauge the level of understanding and guide next steps.

• *Probe student responses*. Many standard classroom questions lead to staccato exchanges with students – "Does everyone understand?" "Can we move on now?" Standard *Who? What? When? Where? How? Why?* questions have one correct answer, and as soon as a student provides it, there's no need to follow up since "we" all know the correct answer. Probing, on the other hand, means there's always more to know. For example, in a lesson on buoyancy, a teacher might ask, "So who thinks things float because they're hollow? Can you say why? Turn to your partner and ask for an example of a hollow thing that might sink." "The more one learns about how real students in a particular classroom approach the material," says Duckor, "the better one can guide them through the bottlenecks, cul-de-sacs, and eddies that will inevitably mark a student's progression toward an understanding of conceptually difficult material."

• *Question all students*. "Feedback is about generating a loop," says Duckor. "Too often, the loop is too small, occurring mostly between the teacher and a few eager students." This can

give the teacher an inaccurate sense of whole-class understanding and allow most students to rest on their oars. The solution: cold-calling with popsicle sticks or all-class response systems. This is particularly important for low-achieving students and English language learners.

• *Use tagging to generate a wide range of responses*. For example, the teacher asks the class, "What is the first thing that pops into your head when you hear the word *ratio*?" and has students jot their ideas, turn and talk to a partner, and then creates a word web on the board. Some teachers are uncomfortable entertaining incorrect answers, but, says Duckor, "If teachers don't create a space for students to express both their understandings and their misunderstandings, students who are too embarrassed to express a potentially incorrect answer will simply remain silent."

• *Sort answers into "bins."* As students answer questions, the teacher mentally sorts them – correct, misconception, proficient, etc. "A teacher needs to know, through practical training and rich classroom experience, where kids get stuck and why," says Duckor. For example, teaching a science unit on why things sink or float, teachers need to know common misconceptions about mass, volume, density, and relative density.

"Formative Assessment in Seven Good Moves" by Brent Duckor in *Educational Leadership*, March 2014 (Vol. 71, #6, p. 28-32), http://www.ascd.org/publications/educational-leadership/mar14/vol71/num06/toc.aspx; Duckor can be reached at brent.duckor@sjsu.edu.