When Teaching Large Classes, Think Like a Tutor

By: Maryellen Weimer, PhD in Effective Teaching Strategies

Often faculty who teach large classes (and some who don't) fantasize about sitting down and working individually with students. For many of us that's the ideal teaching scenario, but for most of us teaching realities are far removed from this ideal. You can’t tutor individual students when faced with 100 of them. Or can you?

Biologists Wood and Tanner undertook an interesting project. They decided to look at the research on tutoring to see if the characteristics of effective tutors had been identified. Then they explored whether any of the techniques used by effective tutors could be used by teachers in large courses. In their paper (reference below), “we present specific approaches for adapting effective tutoring strategies and applying them to large biology lecture classes.” (p. 3) Using a set of effective tutor characteristics identified by Lepper and Wolverton (a reference to their research is in the article), Wood and Tanner explore how these seven characteristics can be adapted and used in large lecture courses (and what they propose isn’t applicable just in biology courses). Here are some of the suggestions offered for each tutor characteristic.

**Applying characteristics of tutors in a large classroom setting**

**Intelligent**—The best tutors know their content. They are experts in the true sense of the word, but they also know a lot about how students learn and the best ways to teach certain kinds of content. Faculty have that same kind of content expertise, but many don’t know a lot about how students learn and how they should teach, given what is known about how students learn. That knowledge can be acquired (whether you teach large or small courses), and it can be used to successfully implement the strategies about to be described.

Research on effective tutors suggests they talk less and rely more on student talk and explanation. Wood and Tanner discuss the theory of cognitive apprenticeship, in which instructors describe how an expert may have misunderstood or how an expert approached a given problem. This can be helpful to student learning, but only after students have explored their own thinking. So, in those large courses, teachers can use an effective tutoring technique by letting students work on a problem, explaining how an expert might approach the problem, and then letting students work on it some more.

**Nurturant**—Good tutors establish rapport with students and empathize with students’ struggles to learn. In large classes this means teachers must work to see (or remember) how the content looks to novices. Wood and Tanner call this cultural competence, and describe it as “a commitment to seeing the learning situation from a student perspective.” (p. 7) Class size does not preclude developing this commitment.
Socratic—Any number of studies cited in the article document that the best tutors are typically the ones who tell those they are tutoring almost nothing. In one study, an analysis of transcripts between the tutor and the learner revealed that about 90 percent of the remarks made by the best tutors were questions. In the large lecture, Wood and Tanner defer to technology that makes possible “asking” all sorts of questions, and the technology makes possible a benefit not available to tutors. Possible answers can be discussed with other learners.

Even in large classes, student should have the opportunity to practice. They need time to learn “by actively thinking and doing activities related to the concepts under discussion.” Clicker technology can encourage that kind of thinking and dialogue. It’s hard for teachers to accept, but much research confirms the conclusion of these authors: “Students talking, whether to the instructor or to each other promotes learning.” (p. 7)

Progressive—Expert tutors start out by gaining an accurate picture of students’ understanding or misunderstanding. With that knowledge they proceed progressively to more challenging work in a predictable routine. It’s called “deliberate practice” in the research and involves repetition of problem-solving processes multiple times during the period of instruction.

Too often teachers in large (and not so large) classes assume certain levels of prior knowledge—what they think students should know. Often it’s a recipe for disaster, since understanding the new material depends on mastery of the old. It’s best to use short quizzes, pretests, concept assessments, and other tools to determine levels of understanding and then proceed with the deliberate practice methods. Again technology, as in online course management systems, can offer students those kinds of practice routines. Wood and Tanner recommend homework even in large classes. Students learn when they are dealing with higher-order, conceptually challenging questions and problems. Let their completion of the homework “count” as participation. Don’t grade every piece. Looking at 30 submissions from a 300-student class will identify areas of confusion and levels of understanding.

Indirect—Effective tutors don’t criticize or praise students directly. They draw “attention to errors by implication and through subsequent questioning, so that tutees themselves [have] to reconsider and change their ideas.” (p. 5) Good solutions are praised, but the person who offered the good solution is not. The goal is to avoid teaching in a judgmental atmosphere.

How might a teacher/coach in the large class handle split responses to clicker questions? “Talk with others. Have those around you make the best case for each option. Then argue with those conclusions and see if you can use the discussion to find your way to the right answer.” This tutoring approach promotes learning more effectively than telling students they are wrong or giving them the right answer.

Reflective—Tutors who help students learn are constantly asking them questions about what they are doing and why they are doing it. They’re trying to develop “metacognitive awareness.” Students learn when they have to explain their reasoning.
Can students do this in large classes? Yes. Teachers can ask the question and give students a brief time to reflect. Will they all reflect? Probably not, but some will, and repeatedly asking the question reinforces its importance. Students can also be asked to write online about changes in their thinking. Again, this writing is not for grading or thorough reading. The learning results from the writing. True, students probably need some reward for doing it, but students are motivated to do a lot for a small number of points.

**Encouraging**—Teachers, whether they’re working with one or 100, encourage students by “being inspiring, enthusiastic, caring, supportive and liberal with positive feedback.” (p. 8) Even in large classes, teachers can present themselves as being committed to students’ success in the course and their mastery of the material it contains. This is about believing in students and expecting the best from them because you are willingly giving them your best.

“In many ways, what promotes student learning with an expert is highly similar to practices that have been shown to be effective in a variety of teaching and learning environments and across disciplinary boundaries.” (p.8)

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