

Know Thyself

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Organisms from Molecules to the Environment
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Know Thyself

The inscription reputedly once engraved on the Temple of Apollo at Delphi remains good advice, including for biology instructors. Programs designed to help biology faculty expand their use of inquiry-based, "learner-centered" teaching methods may be having less of an effect on classroom practice than the participating faculty believe, judging from the article by Diane Ebert-May and colleagues that starts on p. 550 of this issue. The universal human penchant for self-deception was fully engaged in two professional development programs' participating faculty, who later judged themselves to be providing more learner-centered teaching and less lecture-style instruction. Yet independent ratings of video recordings of their classes by trained assessors showed that most of the participating instructors did not actually teach this way after the programs. Dismayingly, the clearest signal in the data showed that faculty with more years of teaching experience were even less likely to provide learner-centered teaching after a professional development program than were faculty with fewer years' experience. A proverb about old dogs comes irresistibly to mind.

Ebert-May and her five coauthors examined data from two multiday programs for introductory biology faculty, one of which occurred over several years and one of which was repeated annually. Both programs resulted in faculty knowing more about inquiry-based teaching, as would be expected, and most of the participating faculty reported in questionnaires completed afterward that they were using such practices. But 75 percent were not in fact doing so substantially, according to the video assessments, nor did they improve noticeably over the following two years.

Psychologists know that self-deception in such circumstances is almost to be expected: It is especially common in potentially unfavorable judgments about one's own performance. In that sense, the new findings are hardly surprising, although they should serve as a loud reminder to educational researchers of the dangers of relying on self-reports to assess programs' effects.

It is worth pointing out that Ebert-May and colleagues did not assess the instructors' teaching before the programs, so the study cannot rule out that they brought about some increase in inquiry-based teaching. But any such increase was clearly well short of the participants' self-assessments. The study also established, interestingly, that the instructors felt that having insufficient time was the main impediment to their teaching, not, as has been suggested, lack of support from colleagues.

The study's authors reasonably conclude that changes are needed in professional development programs if they are to bring about real improvements in teaching practice. They favor providing participating faculty with more opportunities for direct practice of what they have learned, which certainly seems as though it should be feasible, if logistically challenging. The recommendation supports the urgings of others for regular and timely feedback on teaching from experts, which seem in line with the Delphic view. "Instant replays of teaching, with expert commentary, may become our most powerful tool as we strive to improve the outcomes of professional development programs that could ultimately improve student learning," the *BioScience* authors conclude. We can hope that observations of teaching after such coaching might provide more cheerful reading. Cheerful or not, *BioScience* looks forward to publishing such results when they are available.

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