

Random Thoughts . . .

THE CURMUDGEON'S CORNER

RICHARD M. FELDER

*Sometimes you have to moan,
when nothing seems to suit ya* (Cat Stevens)

Most department faculties and university committees would be better off if they limited their meetings to 20 minutes. More real work would be done outside the meetings and much less valuable faculty time would be wasted on repetitive discussions that never produce action.

Courses taught online can never be as good as courses taught by live teachers who actively engage students and motivate and inspire them to learn. On the other hand, good online courses are better than courses taught live by teachers who just lecture, and *much* better if the lectures are nonstop PowerPoint shows.

Joe and Jake are both engineering students. Joe has a 3.6 GPA and Jake has 2.7. Joe is a fast but sloppy problem solver: he usually finishes tests and turns his paper in with time to spare, but loses points here and there for careless mistakes. Jake is methodical and careful but slow: he reads and rereads the problem statement, systematically works out the solution and checks it carefully, and rarely makes mistakes. Since most exams are so long that only the fastest students have time to finish, Jake often runs out of time, leaves large parts of the exam undone, and fails it.

A student who can solve a problem in 30 minutes and makes mistakes will not be a better engineer than one who needs 45 or even 60 minutes to do it but is much more likely to get it right. (Which one would you rather have designing the bridges you drive across and the planes you fly in?) It makes no sense at all to give exams that are too long, pushing careful but slow students out of engineering in favor of fast but careless ones. Why do so many of us do it with every exam we make up?

Tests with averages lower than 60 usually reflect either poor teaching or a teacher unwilling to take the time to construct a fair test.

If you're a new faculty member and a group of your department colleagues regularly goes out to lunch, no matter how much you have to do and how close that proposal deadline is, join them. Sitting alone in your office all day won't help

you learn about the campus culture and politics or cultivate advocates among the people who will eventually vote on your tenure and promotion. (You'll also have better and more enjoyable lunches.)

Most universities would be better off dropping the fiction that varsity football and basketball have anything to do with education. Just treat them as the businesses they are: if they make a profit, keep them; otherwise drop or outsource them.

Proposal: If an administrator fires an athletic coach before his or her regular appointment expires because the team hasn't won enough and a large payoff is required, the funds cannot be taken from existing institutional resources. They must instead be raised from students and alumni, the only ones who care that much about the number of wins. If sufficient funds cannot be raised, the coach may remain for the duration of the appointment.

Charging faculty members hundreds of dollars to park their cars on campus is absurd! It's like charging them rent for their offices or fees to use the restrooms.

None of us would ever submit to surgery at the hands of a surgeon who never went to medical school, or leave our car with a mechanic who never held a wrench. So why do universities think it's all right to send someone into a class to teach undergraduates who has never been taught a thing about how to do it? And what academic discipline other than engineering has people who have never done something in their lives (design, for example) teaching students to do it professionally?

Richard M. Felder is Hoechst Celanese Professor Emeritus of Chemical Engineering at North Carolina State University. He is co-author of *Elementary Principles of Chemical Processes* (Wiley, 2005) and numerous articles on chemical process engineering and engineering and science education, and regularly presents workshops on effective college teaching at campuses and conferences around the world. Many of his publications can be seen at <www.ncsu.edu/effective_teaching>.



© Copyright ChE Division of ASEE 2013

Some departments I know, including mine, have in the past hired faculty members who were exciting and innovative teachers and who didn't do research. Some departments I know, again including mine, have hired former engineers with decades of industrial experience who also didn't do research. Both groups of faculty members did beautifully, teaching core engineering courses brilliantly and serving as supportive advisors, mentors, and role models to the 85% of the undergraduates who planned to go into industry after graduation. Professors like that are the ones students remember fondly years later, and endow scholarships and student lounges and sometimes buildings in honor of. And yet the thought of bringing one or two of them into a 20-person department faculty instead of hiring yet another technical researcher who looks pretty much like the other 18 or 19 already there is unthinkable to many engineering administrators and professors. Why is that?

Professors who chronically get low student ratings are usually poor teachers. The ones who say "They may not like me now because I'm rigorous, but years from now they'll appreciate me," are almost always wrong.

I've heard colleagues say that they tried a new teaching method (say, active learning) once and it didn't work so they went back to traditional lecturing. That's like saying you tried riding a bicycle once and fell down so you went back to walking.

Students with 2.5 GPAs are as likely to succeed in engineering as their classmates with 3.9 GPAs. However, if they think that the 3.9 students will all end up working for them, they're kidding themselves.

Company recruiters and human resources people who don't bother to contact faculty references before hiring graduates are fools. We sometimes know important things—positive and negative—that they may not find out in their interviews, and it costs them nothing to check.

Most faculty members my department has hired in the last ten years or so are phenomenal researchers, getting major proposals funded and publishing papers in top journals at a rate that would have been unheard of back in the Middle Renaissance when I was an assistant professor. At the same time, a significant percentage of them have also won teaching awards. It's scary! I don't know whether to be proud or jealous of them. I usually go with proud.

You have to be crazy to write an undergraduate textbook

while you're still an untenured assistant professor. However, sometimes crazy things work out well.

When it comes to keeping the department running smoothly on a day-by-day basis, professors are irrelevant; the department head has some influence; the department staff has much more; and at the top of the mountain is the department computer technician.

In tests of science and math, United States students are behind students in almost every other developed country and many underdeveloped ones. That fact should seriously trouble a lot more people than it seems to. Education at all levels is a primary target for budget-cutting politicians whose efforts have been increasingly successful recently. That fact should also trouble people on both ends of the political spectrum. The thought that these facts may be related seems to play a negligible role in the political debate.

If some department faculties put half as much energy trying to address accreditation criteria as they spend in figuring out ways to get around the criteria, they would sail through accreditation with no problem whatever and their students would get a much better education.

In some departments the faculty meets weekly for coffee or (depending on which country you're in) tea, and most faculty members regularly show up. Those departments may or may not get higher ratings in U.S. News & World Report than departments where the professors only see their colleagues at faculty meetings, but they are almost certainly nicer places to work. If I were a bright young graduate student or postdoc looking for an academic position, I'd pay attention to which of those two categories the places I'm interviewing fall into.

Educational research can unquestionably produce results that can lead to improved teaching and learning; however, if all educational research stopped right now and we just implemented what we already know about what promotes learning, the average quality of our instructional programs would double immediately.

I love a lot of things about this profession—the autonomy, the intellectual challenge, great colleagues, great students, and so on. Maybe the thing I like best, though, is that if I don't have a class or office hours Tuesday morning, I can just sleep in and not have to explain it to anyone.

There—I feel much better now!