

Random Thoughts . . .

HOW TO STOP CHEATING (OR AT LEAST SLOW IT DOWN)

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A: Will there be cheating in the course I'm about to teach?

B: It depends. Will there be more than five students in the class?

A: Yes.

B: Then, yes.

A: I don't believe it—not my students! How much would you care to bet?

B: How much do you have?

While B could conceivably lose that bet, I wouldn't bet on it. Cheating has existed on campuses since there were campuses, but it's now as much a part of student culture as sleeping through 8 a.m. classes. In recent surveys of over a thousand undergraduates, 80% of the respondents at 23 institutions—82% of those in engineering—reported that they cheated at least once in college, and in just the previous term most of the engineers cheated more than once on exams (33%) and/or assignments (60%).¹ In other studies, 49% of engineering and science students surveyed engaged in unauthorized collaboration on assignments (up from 11% 30 years earlier) and 75% copied homework solutions from bootlegged instructors manuals.²

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Why is cheating so common? Because grades *do* matter, and everyone knows it. You can't tell students otherwise when they know many companies interviewing on campus won't even look at them if their GPA is less than 3.5, and if it's below 3.8 they can pretty much kiss their chances of going to a top graduate school goodbye.

However compelling the pressures to do it may be, cheating is clearly a bad thing. Cheaters get grades they don't earn and sometimes diplomas that wrongfully certify them as qualified entry-level professionals. Also, there is no reason to expect students who take unethical shortcuts in school to stop taking them later in life, such as when they run plant safety inspections and design toxic-waste treatment facilities. In fact, they don't stop: cheaters in college are relatively likely to continue cheating in the workplace.¹

In recent years, researchers have begun to study cheating and the effectiveness of deterrents to it. Carpenter, et al.,¹ summarize results from a decade of such studies, and Bullard and Melvin² describe a program that has substantially decreased cheating in a course where it has been chronic. The rest of this column presents a few highlights of these papers.

Carpenter, et al.,¹ listed a number of questionable actions and asked students which ones they would regard as cheating. The results include copying from another student on an in-class exam (96%), copying from a crib sheet on a closed-book test (92%), copying another student's homework (73%), and unauthorized collaboration on web-based quizzes (41%) and

¹ Carpenter, D.D., Harding, T.S., and Finelli, C.J. (2010). Using research to identify academic dishonesty deterrents among engineering undergraduates. *Intl. J. Engineering Education*, 26(5), 1156–1165. See also Carpenter, et al., (2006). *Engineering students' perceptions of and attitudes toward cheating*. *J. Engr. Education*, 23(4), 181–194.

² Bullard, L.G., and Melvin, A.T. (2011). Using a role-play video to convey expectations about academic integrity. *Advances in Engr. Education*, 2(3), 1–12.

take-home exams (39%). Most survey respondents felt that instructors (79%) and the institution (73%) are responsible for preventing cheating, but only 22% thought students had any obligation to challenge or report it if they saw it.

At N.C. State University, the introductory chemical engineering course (CHE 205–Chemical Process Principles) has historically been a prime target for cheating attempts. Lisa Bullard, a faculty member who frequently teaches CHE 205, and Adam Melvin, a graduate student who has taught it several times, have developed an effective system for reducing cheating in the course.² The syllabus provides detailed descriptions of the activities that count as cheating and the procedure followed when students are caught at them. To reinforce the message, Bullard and Melvin and an instructor in the NCSU Communications Department produced a 15-minute video of student actors engaged in activities that might or might not count as cheating. The students watch the video on-line and complete a reflection assignment in which they state whether each of a number of specified activities would count as cheating, citing the rule in the syllabus or the NCSU Code of Student Conduct that supports their conclusion.

When a CHE 205 student is suspected of cheating, the course instructor has a conversation with him or her, decides whether the circumstances warrant filing a formal charge, and if the decision is to file, fills out a form stating the infraction and the proposed penalty. If the student signs the form, thereby admitting guilt and accepting the penalty, it goes on file with the Office of Student Conduct. If no subsequent violations occur prior to graduation, nothing goes on the student's permanent record, but if there is one, the automatic penalty is suspension for at least one semester. The student may instead decline to sign the form, contest the charge, and have a hearing before either a student-faculty judicial board or an OSC administrator. The outcome of the hearing may be to dismiss the charge, uphold the proposed penalty, or impose a more stringent penalty. At hearings, the course syllabus, video, and reflection assignment effectively refute students' claims that they didn't know their infractions would be considered cheating.³

To evaluate the effectiveness of this approach, Bullard and Melvin tabulated the frequency of cheating incidents and contested charges in the two years before the video was produced (2004–2005) and the first four years in which it was shown (2006–2009). The average percentage of enrolled students with reported violations dropped by 40% from 10% (2004–2005) to 6% (2006–2008). (It spiked up again in the

fall of 2009 when the authors devised a way to catch students copying problem solutions from unauthorized solution keys.) The percentages of accused students who contested the charges dropped from 24% pre-video to 1% post-video (one out of 63 students, who was subsequently found guilty at the hearing). A fringe benefit of the system's success is that other department faculty members have begun to use the institutional process for dealing with academic dishonesty instead of handling it on their own or simply ignoring it. Students who cheat in a course and are reported are now much less likely to try it again, knowing they are likely to be suspended and get a permanent stain on their transcript if they are caught.

There are several morals to be drawn from these two excellent studies.

- *Define explicitly what you consider cheating and what kinds of collaboration are acceptable.* As the statistics in Reference 1 suggest, your students' ideas about it are almost certain to be different from yours. If you don't make your definitions clear, they will invariably default to theirs. In addition, *consider giving the students a voice in formulating cheating policies.* Students are more likely to follow rules they help establish than rules they have no say about.
- *Follow your institution's procedures for dealing with suspected cheating.* When you yield to the strong temptation to handle it entirely by yourself, students you catch may not cheat again in your course, but since no one will be keeping track of their violations they will be almost certain to cheat in other courses. Plus, *if there is an institutional honor code, support and enforce it.* Strictly enforced honor codes reduce cheating.¹
- *Be fair to your students and they will be more likely to be honest with you.* When instructors give assignments and exams that are much too long or make any of the other "top four worst teaching mistakes,"⁴ students feel they are being cheated and many have no reservations about returning the favor.

These recommendations won't eliminate academic dishonesty, but if you and most of your colleagues follow them, you might succeed in moving the frequency of cheating from out-of-control to tolerable. Like getting old, it's not ideal but it beats the alternative. □

³ <http://www.che.ncsu.edu/bullard/Academic_integrity.htm> contains links to clips from the video and the policy statements and reflection assignment.

⁴ <www.ncsu.edu/felder-public/Columns/BadIdeasII.pdf>

All of the *Random Thoughts* columns are now available on the World Wide Web at http://www.ncsu.edu/effective_teaching and at <http://che.ufl.edu/~cee/>