

Random Thoughts . . .

THE EFFECTIVE, EFFICIENT PROFESSOR

RICHARD M. FELDER

North Carolina State University • Raleigh, NC 27695

Becoming a successful faculty member at a research university is no trivial undertaking. People are not born knowing how to prepare and deliver effective lectures, make good use of the growing power of instructional technology, write rigorous but fair assignments and exams, help students deal with a bewildering array of academic and personal problems, build a world-class research program, manage research and teaching assistants, and balance the endless and often conflicting time demands imposed by teaching, research, service, and personal life. It takes most faculty members long years of trial and error to learn how to do all that, and some never quite figure it out.

A new book—*The Effective, Efficient Professor*,^[1] by Phillip Wankat—is a treasure trove of information on the strategies, techniques, and tricks of the trade of successful faculty members. While the book applies to all disciplines, its author is a well-known chemical engineering professor with superb credentials in both education and disciplinary research, and the writing reflects the pragmatic point-of-view of a skilled engineer.

The book opens with a chapter that defines the dual themes of effectiveness and efficiency and argues that one can have both in a faculty career. The eleven chapters that follow are grouped into four sections:

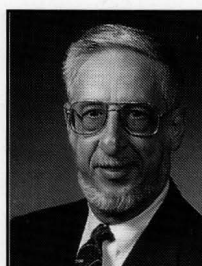
1. *Time management* • Missions, goals, and activities; applying time management methods.
2. *Effective and efficient teaching* • Teaching and learning; lecture-style classes; problem-oriented learning; rapport with students and advising.
3. *Effective, efficient students* • Undergraduates; graduate students and graduate programs.
4. *Scholarship and service* • Scholarship and writing; service and administration; making changes.

The chapters begin with anecdotes about hypothetical professors experiencing all-too-familiar problems, such as classes full of students with glazed eyes and low motivation, heavy pressures to churn out papers and proposals with little time to think about what goes in them, and time-consuming service responsibilities that offer neither tangible reward nor personal satisfaction. The anecdotal professors return periodically to illustrate the possible benefits of applying the suggestions in the text (which—speaking of those service responsibilities—include pointers on when and how to say no).

Lists of practical tips are the heart of the book. Tips are given on time management, motivating students to learn, equipping them with good study and test-taking skills, increasing their active involvement in lectures, teaching with technology, implementing cooperative and problem-based learning, getting the most out of office hours, minimizing cheating, dealing with a large variety of student crises, motivating and helping graduate students to finish writing their dissertations, and many other topics. Most of the suggestions are things I wish someone had told me when I started out in this business. For example:

■ *Lecture preparation*

On average, it should take two hours to prepare a new 1-



Richard M. Felder is Hoechst Celanese Professor Emeritus of Chemical Engineering at North Carolina State University. He received his BChE from City College of CUNY and his PhD from Princeton. He is coauthor of the text *Elementary Principles of Chemical Processes* (Wiley, 2000) and codirector of the ASEE National Effective Teaching Institute

hour lecture on material you know, three at most; half-an-hour to revise a 1-hour lecture; and roughly 30 hours to prepare a 1-hour interactive web lecture. If it takes you much more than that, you're probably overpreparing (a common mistake made by new faculty members).

■ **Motivating students**

Instructors can motivate students by learning and using their names, communicating expectations clearly (for example, by handing out lists of measurable learning objectives), and creating opportunities for early success. Tests with average grades in the 50s or lower are seriously demotivating, even if the grades are subsequently curved.

■ **Avoiding overloaded syllabi**

Have several professors independently analyze the content of a course and decide which topics they would not include. Those topics may generally be considered optional.

■ **Instructional technology**

Use instructional technology only for tasks that are essential to the course and cannot be done as well—if at all—without it, and when the added cost of using it is reasonable. If you decide to use it and you're not an expert, get help.

■ **Cooperative learning**

When assigning problems to groups, minimize single-answer problems. Make the problems highly structured early in the curriculum and more open-ended later.

■ **Grading homework in large classes**

Not all assignments need to be handed in, and not all problems handed in need to be graded.

■ **Test design**

Design tests so that 15–20% of the material is covered only in the lectures, 15–20% only in the readings, and the remaining 60–70% in both. To make sure that a test is not too long, work through it yourself and multiply your solution time by five for freshmen, four for juniors, and three for graduate students.

■ **Office hours**

Come out from behind the desk, keep candy on hand, and consider requiring every student to come in once early in the semester.

■ **Word-processing**

Avoid perfectionism and endless revisions of documents that are not particularly important.

■ **Asking for volunteers**

People are more likely to say yes if you ask them individually rather than addressing the request to a group.

■ **E-mail**

Assume that your messages are not private. Never send a hot (angry) e-mail message.

■ **Reviewing papers for journals**

Don't spend time rewriting or over-discussing what you're reviewing. If you find a fatal error that invalidates the paper, stop there.

■ **Business trips**

Give yourself plenty of time to get to the airport—the number one priority is the trip, not doing 15 more minutes of work.

When recommendations are based on research (as many are), the sources are cited in exhaustive detail.

The book has an encyclopedic topical coverage and should be consulted like a reference volume, not read like a novel. Browse it to get ideas about implementing supplemental instruction, guided design, service learning, and inquiry learning, or to find out how contemporary learning theories (e.g., Lowman's model of effective teaching, the ABCF model for student crisis management, Piaget's and Perry's models of student development, Maslow's theory of student motivation, and various learning style models) can be used to design effective instruction. Alternatively, just randomly open it and start reading. I can guarantee that before you get through a single page you'll find an idea that can help make you a better professor.

In short, if you're looking for a psychological treatise on the latest theories of student cognition and motivation, you would probably do better elsewhere (and the reference list in *The Effective, Efficient Professor* might be a good place to start looking). But if you want a book that can provide answers to your questions about teaching and learning that you can start applying next Monday morning, this is the book for you.

REFERENCES

1. Phillip C. Wankat, *The Effective, Efficient Professor: Teaching, Scholarship, and Service*, Boston, Allyn & Bacon (2002)

All of the *Random Thoughts* columns are now available on the World Wide Web at http://www2.ncsu.edu/effective_teaching/ and at <http://che.ufl.edu/~cee/>