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# The Academic Bookshelf

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## GUIDANCE FOR NEW FACULTY (AND STUDENTS)

The expectations for new faculty are high and rising. Publish, secure funding, serve the profession and community, teach well and the list goes on. Where do new faculty learn how to do all these things? Some have the benefit of coursework, mentoring, and other guidance during their graduate student days. Others must learn on the job, sometimes experienced as “trial by fire.”

A growing body of literature provides guidance for new faculty. Lyle Feisel reviewed several of the key resources here—Wankat & Oreovicz, Davidson & Ambrose, Davis, & Lowman—and I will add to the stack. Insight and inspiration for this column came from the leaders at Georgia Tech, Carnegie Mellon, Wisconsin, and Stanford who have been conducting the engineering education scholars workshops (see paper by Strader, Ambrose, and Davidson in this issue); and from my dear friends and tireless workers—Jim Stice and Rich Felder. Stice and Felder have been conducting the National Effective Teaching Institute (NETI) prior to the ASEE annual conference for the past several years and have helped hundreds of new faculty establish a solid foundation for their careers in the academy.

Rich Felder’s web site contains a wealth of information on succeeding in the academy, and is especially thorough in providing guidance for teaching and learning. The URL is [http://www2.ncsu.edu/effective\\_teaching/](http://www2.ncsu.edu/effective_teaching/). Felder’s advice in the *ASEE Prism* article (vol. 4, no. 2, October 1994, pp. 30–34) “Survival Kit for New Engineering Educators” provides lots of concise advice, such as “Find one or more research mentors and one or more teaching mentors and work closely with them for at least two years.” He recommends getting a copy of McKeachie (summarized below) and Wankat & Oreovicz (summarized by Feisel, *Journal of Engineering Education*, vol. 82, no. 2, October, 1993) and keeping them close at hand. He cites the advice of Boice (summarized below), Davis (summarized by Feisel, *Journal of Engineering Education*, vol. 84, no. 1, January 1995) and many others. Just as we would probably never delve into a research project without consulting the literature, Felder is recommending that we consult the literature before delving into an academic career. So, let’s delve in!

The grandmaster of all teaching guides is McKeachie’s *Teaching Tips*, which was first published in 1951. The earliest edition I own is the sixth, published in 1969. It cost \$4.95. I also have the seventh edition, 1978 and it also cost \$4.95. What happened to the cost of books in that 11-year period? The eighth edition published in 1986 lists a cost \$15.00. A major change, beside the price increase occurred in the ninth edition (published in 1994, \$34), in

that McKeachie invited several colleagues to join him. The latest edition is the tenth, published in 1999, and the price at Amazon.com was \$36.60 (discounted price). An interesting spare-time project might be to explore how McKeachie’s advice on teaching changed in this nearly 50-year period.

*Teaching Tips: Strategies, Research, and Theory for College and University Teachers.*

by Wilbert J. McKeachie

Houghton Mifflin Company, 1999, 380 pages.

McKeachie and contributors (Graham Gibbs, Diana Laurillard, Nancy Van Note Chism, Robert Menges, Marilla Svinicki, and Clare Ellen Weinstein) provide lots of well-grounded advice for successful teaching and learning.

Part 1 focuses on getting started and addresses the BIG questions about culture and research versus teaching. They state in a brief section about the scholarship of teaching that “Whatever your choice, it is likely that teaching will be a part of your role. *Teaching skillfully may be less time consuming than teaching badly.*” (p. 5). The rest of part 1 addresses course preparation, planning students’ learning activities, and meeting the class for the first time. McKeachie concludes Chapter 4, Meeting a Class for The First Time, with the following:

By the end of the first day, students will have

1. A sense of where they’re going and how they’ll get there.
2. A feeling that the other members of the class are not strangers, that you and they are forming a group in which it’s safe to participate.
3. An awareness that you care about their learning.
4. An expectation that the class will be both valuable and fun. (p. 41).

Part Two addresses Basic Skills for Facilitating Student Learning. Chapters five through nine highlight the topics of Facilitating Discussion, Lecturing, Testing and Assessing Learning, What to do about Cheating, and the ABCs of Assigning Grades. Chapter Seven on Testing and Assessing Learning concludes with the following:

1. Learning is more important than grading.
2. Tests and other assessment should be learning experiences as well as evaluation devices.
3. Providing feedback is more important than assigning a grade. You can use nongraded evaluation as well as evaluation for assigning grades.
4. Try to assess attainment of all your objectives, even if some objectives (such as increased motivation for learning) are not appropriate criteria for grades.
5. Avoid evaluation devices that increase anxiety and competition.

Notice how these two examples of chapter conclusions provide good support for the title—*Teaching Tips*. Each relatively short

chapter provides similar pithy conclusions as well as brief elaboration on the main points in the body of the chapter.

Part Three, Adding to Your Repertoire of Skills and Strategies for Facilitating Student Learning, emphasizes writing, text comprehension skills and strategies, laboratories, experiential learning, peer learning, project methods, problem-based learning, communication and information technology, class size, and teaching large classes. Part Four, Understanding Students, addresses diversity, problem students, and counseling and advising. Part Five, Lifelong Learning for You as Well as Your Students, focuses on appraising and improving you teaching, and ethics in college teaching. Documenting teaching, as well as overall scholarship is an essential part of preparing for promotion and tenure. The chapter on appraising and improving your teaching provides guidance to using students, peers, experts, and classroom research. Checking out the suggestions will surely lead to improved documentation as well as time savings. Part Six, Teaching for Higher-Level Goals, addresses motivating students for lifelong learning, teaching students how to learn, teaching thinking, and teaching values.

As you can no doubt tell, *Teaching Tips* lives up its title. I concur with Rich Felder who wrote “Get copies of McKeachie and Wankat and Oreovicz. Keep one within easy reach in your office at school and the other in your home office or bathroom. You can open either book to any page and get useful pointers or answers to troubling questions, and you’ll also get research backing for the suggestions presented.” (*Chemical Engineering Education*, vol. 28, no. 2, 1994, pp. 108–109).

### *The New Faculty Member: Supporting and Fostering Professional Development*

by Robert Boice

Jossey-Bass Publishers, 1992, 396 pp.

### *First-Order Principles for College Teachers: Ten Basic Ways to Improve the Teaching Process*

by Robert Boice

Anker Publishing Company, 1996, 170 pp.

Boice’s books, *The New Faculty Member* and *First-Order Principles for College Teachers* have helped lots of beginning faculty come to grips with the job. In *The New Faculty Member*, Boice outlines the challenges facing new faculty—teaching, proposal writing, article and book writing, and fitting in as a colleague—and provides well-founded strategies for succeeding. Boice takes a broad view of the lives of new faculty members and offers lots of guidance.

New faculty I’ve worked with in the Lilly Teaching Fellows Program at Michigan State University indicate that Boice’s first-order principles provide “incredibly helpful guidance.” Boice’s first-order principles are:

1. Moderate classroom incivilities with prosocial immediacies.
2. Wait.
3. Begin before feeling ready.
4. Work and teach in brief, regular sessions.
5. Stop.
6. Moderate overattachment to content and overreaction to criticism.
7. Moderate negative thinking and strong emotions.
8. Let others do some of the work.
9. Welcome learning and change.
10. Build resilience by limiting wasted efforts.

Boice not only elaborates on each of these first-order principles

and provides practices to achieve it, but also provides metacognitions about first-order principles for teaching.

### *A Handbook for Adjunct/Part-Time Faculty and Teachers of Adults*

by Donald Greive

Info-Tec, Inc., 1995, 84 pp.

In addition to “regular” new faculty, adjunct and part-time faculty are increasingly joining the ranks. Occasionally adjunct and part-time faculty are included in faculty development and improving teaching efforts, but often they’re excluded. As we take more responsibility for high quality in our courses and programs, we must find ways to help develop the talents of adjunct and part-time faculty. Greive’s book addresses the needs of adjunct and part-time faculty and provides excellent guidance for this rapidly growing group of colleagues.

### *Tomorrow’s Professor: Preparing for Academic Careers in Science and Engineering*

by Richard M. Reis

IEEE Press, 1997, 416 pp.

*Tomorrow’s Professor* is aimed at graduate students but is also an important resource for new faculty. Part one, Setting the Stage, provides a engagingly detailed look at the academic enterprise and is richly illustrated with tables and figures. Reis provides cogent interpretations of the data, such as,

Graduate students and postdocs preparing for academic careers must consider not only the 250 or so schools from which new faculty come, and to which, of course, a number return, but the other 1250 or so schools to which almost half will go as new professors. (p. 9).

Part two, Preparing for an Academic Career, provides guidance to which I suspect many senior professors would say “I wish someone had told me that.” Part three, Finding and Getting the Best Possible Academic Position, offers insightful guidance to identifying possibilities, applying for positions, and getting the results you want.

Part four, Looking Ahead to Your First Years on the Job, will be of most use to new faculty. Reis provides insights on time management, teaching and learning, research, professional responsibility, tenure, and academia. The last section, Insights on academia, focuses on helping beginning faculty succeed. Reis states “. . . the central message from over 70 conversations with beginning faculty from schools across North America was their sense of being overwhelmed by the number of items on their plates, their belief that they were not doing any of their tasks well, and their frustration at having time to think long term.” His advice to senior faculty and administrators—help set the proper context, support beginning faculty in their efforts to set long-term goals, and take a closer look at tenure—is poignant and timely.

Rick Reis also maintains a two ListServes—New Century Scholars and Tomorrow’s Professor. Here is his description of the Tomorrow’s Professor ListServ:

TOMORROW’S PROFESSOR LISTSERV

<http://sll-6.stanford.edu/projects/tomprof/listserver.html>

“Welcome to Tomorrow’s Professor™ Listserv with postings twice a week (usually on Monday and Thursday). By all means feel free to offer comments, reactions, ideas, and suggestions, informal is just fine, that can be shared with over 5,000 other members (mostly graduate students, postdocs, and faculty at colleges and universities in 57 countries around the world). Looking forward to hearing from you.”

### *Preparing for Promotion and Tenure Review: A Faculty Guide*

by Robert M. Diamond

Anker Publishing Company, 1995, 68 pp.

Diamond's brief book provides excellent advice on preparing for promotion and tenure. The book is organized in two sections—Process and Resources. He stresses knowing the rules, recognizing challenges and the importance of interpersonal relationships, and is especially strong and insightful in the area of documentation. Diamond describes six features of scholarly and professional work:

1. The activity requires a high level of discipline-related expertise.
2. The activity breaks new ground, is innovative.
3. The activity can be replicated or elaborated.
4. The work and its results can be documented.
5. The work and its results can be peer-reviewed.
6. The activity has significance or impact.

Diamond recommends reviewing all areas of scholarship—discovery, integration, application, and teaching—according to these criteria. He provides several examples of documentation and closes with a concise checklist.

### *New Paradigms for College Teaching*

Edited by Wm. E. Campbell and Karl A. Smith

Interaction Book Company, 1997, 281 pp.

Whereas all the books summarized above are single-authored and rigorous, Bill Campbell and I asked several leaders in higher education to provide narrative guidance to new faculty. In our invitation to prospective authors we asked them to write as if they were having an informal chat over coffee with a new faculty member. The eleven chapters provide candid and often humorous guidance to beginning faculty. The topics include Renewal of community in higher education by Parker Palmer, The use of stories in teaching by Nel Noddings, The braiding of classroom voices by Wendy Bishop and Tony Fulwiler, Tools for tampering with teaching's taboos by Craig Nelson, For openers... An inclusive course syllabus by Terence Collins, Student management teams by Edward Nuhfer, Using knowledge maps to enhance excellence by Donald Dansereau and Dianna Newbern, Extending the classroom walls electronically by Tom Creed, Cooperative learning for new teachers by Karl Smith and Alisha Waller, Academic controversy by David & Roger Johnson, and Getting it together: Learning communities by Valerie Ann Bystrom.

Just as faculty members' roles and responsibilities are changing, so are things changing for our students. There are literally tens of books on how to succeed in college. Bill Campbell wrote *The Power to Learn: Helping Yourself to College Success* (Wadsworth, 1997, 235 pp.). A few focus specifically on engineering and technology. Many are quite general, and a few are written for parents, such as Boyer and Boyer *Smart Parents Guide to College* (Peterson's, 1996, 227 pp.).

Five books from the myriad of choices are briefly summarized.

### *Studying Engineering Technology*

by Stephen R. Cheshier

Discovery Press, 1998, 320 pp.

Lyle Feisel reviewed the companion volume *Studying Engineering* by Raymond Landis (Discovery Press, 1995, 320 pp.) in *Journal of Engineering Education*, vol. 85, no. 1, January 1996. *Studying*

*Engineering and Studying Engineering Technology* are widely used to help engineering and technology students benefit the most from their academic experience. Cheshier and Landis provides lots of wonderful insights in a lively and personally engaging manner. New faculty could learn a lot from these books.

### *How to Get the Most Out of College*

by Arthur W. Chickering and Nancy K. Schlossberg

Allyn and Bacon, 1995, 293 pp.

Art Chickering, author of *Education and Identity* (Jossey Bass, 1969) and many other books, is probably best known for *Seven Principles of Good Practice for Undergraduate Education* that he co-authored with Zee Gamson in 1987. In case you've forgotten, the seven principles of good practice are:

1. Good Practice Encourages Student-Faculty Contact.
2. Good Practice Encourages Cooperation Among Students
3. Good Practice Encourages Active Learning.
4. Good Practice Gives Prompt Feedback.
5. Good Practice Emphasizes Time on Task.
6. Good Practice Communicates High Expectations.
7. Good Practice Respects Diverse Talents and Ways of Learning.

Chickering and Schlossberg provide a thorough and thoughtful guide to success and integrate emphasis on the seven principles.

### *On Becoming an Engineer: A Guide to Career Paths*

by J. David Irwin

IEEE Press, 1997, 152 pp.

*On Becoming an Engineer* provides lots of guidance on the nature of engineering careers and preparing to practice them. The notes of the back cover note that the book offers valuable insights into: the type of work done by engineers, preparation for entering an engineering program, details on selected engineering curricula, program and personal enhancement strategies, examples of career paths for new graduates, and essentially everything needed to make informed engineering career decisions.

### *The Engineering Student Survival Guide*

by K. Donaldson

McGraw-Hill's BEST, 1999, 174 pp.

This recent addition to the success books is delightful! It is written in an energetic and captivating manner and is wonderfully illustrated by Dan Kim. I met Krista Donaldson this summer when I conducted a session in the Stanford New Century Scholars Workshop (one of the Engineering Education Scholars Workshop series mentioned in the opening paragraph). She was working with her colleagues Carol Muller, Sheri Sheppard, Michele Marinovich, and Rick Reis as well as other TAs to help insure success in faculty careers.

Chapter One, Let's Take a Shot at Defining Success, is two pages long, but has magnificent focus and advice. She writes

Engineers are admired. Engineers are cool. There is a reason: *Engineering is hard. . . . To become an engineer (admired and cool): You must work (very hard).*

She tempers this advice by reminding the reader that college shouldn't be all work and writes that a truly successful undergraduate experience requires at least the following:

- A solid understanding of what was taught to you

- Confidence at graduation that you are academically prepared for your next adventure, whether it is in the work world or graduate school
- Great friends
- More “growing experiences” than you felt were needed or to which you were entitled.
- Awesome memories with which to torture your grandchildren.
- Time and opportunity to develop completely random interests.

Krista has written a wonderful book for students (and a fascinating read for faculty, too). I hope one day she will turn her attention to writing a book for faculty.

*Striving for Excellence in College*

by M. Neil Browne and Stuart Keeley

Prentice-Hall, 1997, 121 pp.

The last book in this long list caught my attention because the authors are strong advocates of active learning. In Part II, Knowledge, they guide students through asking questions to help make sense of the reasoning, asking questions to evaluate the reasoning, asking questions to make connections, preparing for a class where active learning takes place, taking notes for active learning, and searching for clarity in texts, lectures, discussions, and assignments.

I've addressed changing roles and resources for both faculty and students because their success is intertwined. Students and faculty are interdependent. Faculty need to learn to create learning environments where they share the intellectual workload with students and entrust students with responsibility for learning. Students need to learn how to decrease the dependence on faculty for “the right answers” and strengthen their skills and confidence in themselves for figuring things out. The books summarized above with help both faculty and students gain personal autonomy and interpersonal interdependence.

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