Random Thoughts . . .

JUST-IN-TIME VS. JUST-IN-CASE

REBECCA BRENT
Education Designs, Inc.
RICHARD M. FELDER
North Carolina State University

The standard way to prepare people for a faculty career is not to. At most universities, new faculty members go to a campus-wide orientation workshop to be welcomed by the Provost and hear about their insurance and retirement options and the locations and functions of various campus administrative units, and graduate students learn how to work on a research project someone else has defined, but that's about it for academic career preparation. Little or nothing is generally said to either future or current professors about the three questions all new faculty members at research universities have uppermost on their minds: (1) How do I start and build an effective research program? (2) How do I teach? (3) How can I manage to do everything I need to do to get tenure and promotion and still have a life?

This is an absurd state of affairs. Being a tenure-track faculty member at a research university requires doing many things graduate school does not routinely teach, such as how to identify and approach funding sources and write successful proposals to them, compete with famous and well-funded faculty colleagues for good graduate students, design courses and deliver them effectively, write assignments and exams that are both rigorous and fair, deal with classroom management and advising problems and cheating, and learn a campus culture and integrate smoothly into it. Figuring out all those things on one's own is not trivial, and while there is something to be said for trial-and-error learning, it's not efficient. Robert Boice[1] studied the career trajectories of new faculty members and found that roughly 95% of them take between four and five years to get their research productivity and teaching effectiveness to levels that meet institutional standards. A 4–5 year learning curve is long and costly for universities, which invest as much as a million dollars in each new faculty hire, and the costs continue to mount for those faculty members who never manage to become effective at either research or teaching.

Boice also observed, however, that 5% of new faculty members meet or exceed their institutions' expectations for both research and teaching within their first 1–2 years. These *quick starters* do several things differently from their colleagues, including scheduling regular time for working on scholarly writing and sticking with the schedule, limiting lesson preparation time to less than two hours per hour of lecture (especially after the initial course offering), and networking with colleagues several hours a week, which helps the new faculty members transition into their institutional culture and cultivates advocates among colleagues who will eventually vote on their promotion and tenure.[1] The problem is that new faculty members are seldom made aware of those strategies and other things they should be doing to get their research and teaching careers off to a good start. In the absence of appropriate orientation and mentoring, most make the same mistakes

Rebecca Brent is an education consultant specializing in faculty development for effective university teaching, classroom and computer-based simulations in teacher education, and K-12 staff development in language arts and classroom management. She codirects the ASEE National Effective Teaching Institute and has published articles on a variety of topics including writing in undergraduate courses, cooperative learning, public school reform, and effective university teaching.

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>.*

95% of their colleagues make in their first few years, and the 4–5 year learning curve, tremendous stress and anxiety, and sometimes failure to earn tenure are the consequences.

As part of its comprehensive faculty development program,[2] shortly before the start of the Fall 2000 semester the N.C. State University College of Engineering (COE) gave a four-day orientation workshop to its new faculty members, covering essentially all of the topics mentioned in the second paragraph of this column. Since 2001 the workshop has been given jointly to new faculty in the COE and the NCSU College of Physical and Mathematical Sciences (PAMS), and it has now reached 257 faculty members (171 from COE, 86 from PAMS). Most participants were concerned about spending four days at a workshop shortly before the start of their first semester, but they were assured by their department heads and faculty colleagues that it would be worth their time. Those who participated clearly felt that it was: end-of-workshop rating forms have been completed by 238 attendees, who gave the program 209 "excellent," 29 "good," and no "average," "fair," or "poor" ratings.

Open responses in the post-workshop evaluations include many positive comments about the following workshop features:

- **Practicality.** The emphasis in the workshop is on "just-in-time" information as opposed to the "just-in-case" material that comprises most new faculty orientations. Besides tips on starting and building a research program and designing and delivering courses, sessions are devoted to dealing with common headaches in the life of a faculty member, including difficulty getting proposals and papers written and accepted; setbacks in research projects such as equipment breakdowns, unproductive research assistants, and loss of funding in mid-project; a wide variety of classroom management and academic advising problems; and cheating.
- **Interactivity.** While there is some lecturing in the workshop, a substantial portion of the four days is occupied with activities. The participants critique research descriptions, proposals, learning objectives, and examinations; work in bi-disciplinary pairs to outline a research project that involves the areas of expertise of both team members[3]; and find resolutions to hypothetical research, teaching, and advising crises. By the end of the first day the participants have clearly formed a learning community that continues to strengthen as the workshop progresses.
- **Relevance to the participants' disciplines.** Illustrative research and teaching scenarios and a mock NSF panel review are all STEM-related. In fact,

a comprehensive workshop like this could not be given to a campus-wide audience, since many of the things faculty members need to know (especially where research is concerned) differ significantly between STEM and non-STEM disciplines.[4]
- **Relevance to the local campus culture.** The participants learn about what they really need to do to succeed at N.C. State, with the message coming from engineering and science deans and department heads, research support staff, and some of the best STEM researchers and teachers on campus. Most participants leave the workshop with a strong sense that their administrators and senior colleagues are firmly committed to their success. They know where to go when they need help, and they feel comfortable asking for it.

To gauge the impact of the workshop, 32 attendees and nine non-attendees were surveyed three years after they joined the faculty. Attendees outperformed nonattendees in both research productivity and teaching evaluations. When asked to rate their orientation to their new profession, the attendees gave it an average rating of 4.6/5 and the non-attendees rated it 3.4/5. The workshop also plays an important role in faculty recruitment efforts in the two colleges. Candidates have said that its existence was a major factor in their decision to come to N.C. State, since none of the other universities they were considering offered anything comparable.

When we visit other campuses to give teaching seminars we generally mention the workshop to our hosts, observing that its benefits to both new faculty members and their institutions are significant and the total cost of food and facilitators' fees is in the noise level of most institutional budgets. The overhead from a single substantial grant that would not have otherwise been awarded would more than cover the cost, and based on the feedback we have received, there have been many such grants. We don't understand why every research university is not doing something similar for its new faculty members. Does yours? If not, why not?

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