Early-Career Faculty Guidance – School of Engineering Education, Purdue University

Karl Smith, Monica Cox, David Radcliffe and Heidi Diefes-Dux

December 2008

Early career faculty guidance is an important aspect of faculty and departmental responsibilities and is especially critical in the School of Engineering Education. Since the creation of the School in 2004 the number of early career (pre-tenure) faculty has increased at a faster rate than the number of tenured faculty. Currently (November, 2008) there are ten early-career faculty members whose tenure home is in Engineering Education. Early career faculty guidance, especially mentoring, is essential. The challenge is to develop a meaningful and manageable approach.

The University as well as the School of Engineering strategic plans emphasize scholarship across the mission – Learning, Discovery and Engagement – and we propose that the early-career faculty guidance plan encourage and support Scholarship Across the Mission first and foremost by employing a scholarly approach to early-career faculty guidance.

This early-career faculty guidance document is organized in four sections: (1) Suggested outcomes/intentions, (2) Summary of selected research on early-career faculty, (3) Suggested approaches for providing early-career faculty guidance across the mission, and (4) Selected resources.

Suggested outcomes for the early-career faculty guidance

For the Early-Career Faculty
1. Improved clarity on expectations for success
2. Constructive feedback on progress
3. Increased sense of support and enthusiasm for scholarship across the mission
4. Emergence of scholarly community

For the School of Engineering Education
5. Increased familiarity with research and best practices on early career faculty guidance
6. A model plan that others will adopt/adapt
7. Transparency, flexibility and adaptability of the process
8. Support for rewarding multiple forms of scholarship (O'Meara & Rice, 2005)

Summary of selected research on early-career faculty

Several recent studies of early career faculty, such as Rice, Sorcinelli and Austin, (2000) are summarized.

The *Heeding New Voices: Academic Careers for a New Generation* study by Rice, Sorcinelli and Austin (2000) highlighted three core, consistent, and interwoven concerns on the minds of early-career faculty:

1. Lack of a comprehensible tenure system
2. Lack of community
3. Lack of an integrated life

Sorcinelli's (2000) *Principles of Good Practice: Supporting Early-Career Faculty* were based on the *Heeding New Voices* study and provided the following Guidance for Deans, Department Chairs, and Other Academic Leaders:

Improving Tenure Process
1. Good practice communicates expectations for performance
2. Good practice gives feedback on progress
3. Good practice enhances collegial review processes
4. Good practice creates flexible timelines for tenure

Encouraging Collegial Relations
5. Good practice encourages mentoring by senior faculty
6. Good practice extends mentoring and feedback to graduate students who aspire to be faculty members
7. Good practice recognizes the department chair as a career sponsor

Easing Stresses of Time and Balance
8. Good practice supports teaching, particularly at the undergraduate level
9. Good practice supports scholarly development
10. Good practice fosters a balance between professional and personal life

O'Meara and Rice's (2005) *Faculty priorities reconsidered: Rewarding multiple forms of scholarship* includes extensive guidance for encouraging and supporting Scholarship Across the Mission – Learning, Discovery and Engagement They provide excellent insights into embracing Boyer's *Scholarship reconsidered* through a mix of contributed chapters and their own synthesis work.

O'Meara provides a prototypical set of guidelines in Chapter Fourteen – Principles of Good Practice: Encouraging Multiple Forms of Scholarship in Policy and Practice:

1. Prepare faculty in graduate school for the variety of roles and types of scholarship in which they will engage
2. Socialize new faculty to the broader institutional definition of scholarship
3. Present clear expectations for scholarship in promotion and tenure guidelines
4. Do not expect or reward the "overloaded plate."
5. Assess the impact of scholarship on multiple beneficiaries and partners
6. Provide useful feedback to faculty during evaluation

7. Support pioneers with resources -- structural and financial, training and development, political and symbolic
8. Encourage scholarly contributions that build on strengths
9. Define and emphasize scholarship in the context of institutional mission
10. Resist increasing research expectations to enhance institutional prestige

Rice presents the idea of "unbundling the faculty role" in Chapter Fifteen. He argues that "Established faculty, particularly in research universities, are already deeply implicated in this unbundling process." (p. 309). Furthermore, Rice (2005) notes that "the most persuasive argument for differentiated staffing, or unbundling the faculty role, emerges from interviews with early career faculty in *Heeding New Voices*, "Asked about the future, new faculty responded, quite consistently, by citing issues related to their 'overloaded plate'." (p. 309). Furthermore, he argues, "We urgently need cost-effective strategies for sharing the load and encouraging greater collaboration." (p. 310).

Sorcinelli, Austin, Eddy and Beach (2006) map the stages of faculty development and argue that we are currently in the Age of the Network. Here's their mapping of the stages:

*   Age of the Scholar (1950s and early 1960s)
*   Age of the Teacher (mid 1960s through 1970s)
*   Age of the Developer (1980s)
*   Age of the Learner (1990s)
*   Age of the Network (2000s)

Overall they provide an excellent synthesis of the research on faculty development as well as a summary of the landscape of faculty development across the US.

Additional guidance may be found in the American Academy's ARISE report, *Advancing Research In Science and Engineering: Investing in Early-Career Scientists and High-Risk, High-Reward Research*, the Howard Hughes Medical Institute and Burroughs Wellcome Fund report, *Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty*, and the guidebooks listed in Smith (2000).

A recent TIAA-CREF Institute Research Dialogue, Perceptions of early career faculty: Managing the transition from graduate school to the professorial career (Berberet, 2008) portrays faculty life very positively, and as other surveys have indicated, report "not only that faculty choose this career because they enjoy teaching and seek the faculty professional lifestyle, but that they are also committed to serve society and to have a positive impact on their employing institutions." (p. 20) The report notes that "in spite of the clamor for reform in graduate education in recent years, graduate schools do not appear to prepare candidates well for their future faculty responsibilities in ANAC member settings" (p. 21).

Suggested Approaches for Providing Early Career Faculty Guidance: Scholarship Across the Mission – Learning, Discovery and Engagement

Discovery/Research

High quality disciplinary research is the norm in the academy and its prominence will with little doubt continue. We embrace the Purdue career guidance guidelines (appended) in which research mentors are selected by each individual early career faculty member. These mentors will like come from the broader community, that is, other departments and colleagues at Purdue as well as national and international colleagues.

Features of scholarly and professional work, such as those proposed by Diamond (2002), help provide insight into the nature of high-quality work:

- It requires a high level of discipline-related expertise
- It is conducted in a scholarly manner with clear goals, adequate preparation, and appropriate methodology
- The work and its results are appropriately and effectively documented and disseminated. This reporting should include a reflective critique that addresses the significance of the work, the process that was used, and what was learned.
- It has significance beyond the individual context.
- It breaks new ground or is innovative.
- It can be replicated or elaborated on.
- The work both process and product or result is reviewed and judged to be meritorious and significant by a panel of ones peers.

Learning/ Teaching

Many early career faculty may benefit from joining the Teaching for Tomorrow Fellows Program as well as participating in Center for Instructional Excellence workshops and seminars.

We also suggest considering a small group interactive learning model (sometimes framed as a learning community) in which early career faculty propose topics for discussion, the whole group sorts and prioritizes; a facilitator (senior faculty) identifies and distributes resources (readings, contacts, electronic resources, etc.) for each topic; and then engages early career faculty in conversation around the topic. Typical meeting format: (1) Celebrating successes in which each participant brings something that is working well in her/his class, (2) Focused conversation on the topic, and (3) Problems/Solutions – identification of problems, challenges and barriers; and then working together to figure out how to solve, resolve or eliminate the problem, challenge or barrier. This model has been used for many years at peer institutions such as Michigan State University and the University of Minnesota.

Engagement/Service

We think it is important to integrate and strive to make congruent with Discovery and Learning. Perhaps School Head can address this aspect during Annual Reviews

Next Steps

A low threshold approach for getting started might be a periodic meeting (once per month) around a selected reading. Potential readings include those summarized in the *Journal of Engineering Education* Academic bookshelf column, Guidance for new faculty (attached). A couple of the most salient are: (1) Bob Diamond, *Preparing for promotion and tenure review: A faculty guide, 2nd Ed*, and (2) Phil Wankat, *The effective, efficient professor: Teaching, scholarship and service.* Others to consider include the HHMI Report, *Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty* (http://www.hhmi.org/resources/labmanagement/moves.html); and the University of Wisconsin report, *Entering Mentoring: A Seminar to Train a New Generation of Scientists* (http://www.hhmi.org/resources/labmanagement/downloads/entering_mentoring.pdf)

Resources

American Academy for Arts and Science. 2008. *Advancing Research In Science and Engineering: Investing in Early-Career Scientists and High-Risk, High-Reward Research* (http://www.amacad.org/ariseFolder/)

Berberet, Jerry. 2008. Perceptions of early career faculty: Managing the transition from graduate school to the professorial career. TIAA-CREF Institute Research Dialogue. http://www.tiaa-crefinstitute.org/research/dialogue/92.html (Accessed 12/5/08).

Diamond, R. 2002. The Mission-Driven Faculty Reward System, in R.M. Diamond, Ed., *Field Guide to Academic Leadership*. San Francisco: Jossey-Bass.

Diamond, Robert M. 2004. *Preparing for promotion and tenure review: A faculty guide, 2nd Ed*. Bolton: Anker.

Howard Hughes Medical Institute and Burroughs Wellcome Fund. 2006. *Making the Right Moves: A Practical Guide to Scientific Management for Postdocs and New Faculty.* (http://www.hhmi.org/resources/labmanagement/moves.html)

O'Meara, KerryAnn & Rice, R. Eugene. 2005. *Faculty priorities reconsidered: Reward multiple forms of scholarship*. San Francisco: Jossey-Bass.

Smith, K.A. 2000. Guidance for new faculty (and students). *Journal of Engineering Education, 89 (1)*, 3-6.

Sorcinelli, Mary Deane. 2000. *Principles of Good Practice: Supporting Early-Career Faculty - Guidance for Deans, Department Chairs, and Other Academic Leaders*. Washington, DC: American Association for Higher Education. [Note: These "Principles of Good Practice" are excerpted from Heeding New Voices: Academic Careers for a New Generation, by R. Eugene Rice, Mary Deane Sorcinelli, and Ann E. Austin (Washington, DC: American Association for Higher Education, 2000), which reports findings from the Heeding New Voices study, a year-long series of structured interviews with new faculty and graduate students aspiring to be faculty members around the country. The study's intent was to both give voice to those who are just beginning their academic careers and provide guidance for the senior faculty, chairs, deans, and others in higher education responsible for shaping the professoriate of the future.]

Sorcinelli, Mary Deane, Austin, Ann, E., Eddy, Pamela L. and Beach, Andrea L. 2006. *Creating the future of faculty development: Learning from the past, understanding the present*. Bolton, MA: Anker Publishing.

The Wisconsin Program for Scientific Teaching. 2005. *Entering Mentoring: A Seminar to Train a New Generation of Scientists* (http://www.hhmi.org/resources/labmanagement/downloads/entering_mentoring.pdf)

Wankat, Phillip C. 2002. *The effective, efficient professor: Teaching, scholarship and service*. Boston: Allyn and Bacon.