AC 2009-551: WHAT NEW FACULTY NEED TO KNOW

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What New Faculty Need to Know, But Don't Know to Ask

Abstract

A smooth transition to life at an academic institution and the surrounding community is essential to the professional careers of new faculty members. The transition begins during the hiring process and startup package negotiations. Once at an institution, aspects of academia including teaching, proposal writing, and the tenure process inevitably generate issues and concerns for new faculty members. Research has shown that mentoring new faculty members early in their academic career can have significant impact on professional success. This is especially true at a research-based institution where the demands of funded scholarship add an extra level of complexity.

A survey was conducted of faculty members at Missouri University of Science & Technology (Missouri S&T) in their first three years of a tenure track appointment to determine areas of concern for new faculty members. This paper presents the survey results, discusses the issues raised by the survey, and makes recommendations for effective mentoring relationships. Specific questions for new faculty members discussed in this paper include: What to look for in a mentor? What to consider in selecting where to submit papers? When to say "yes" and when to say "no" to service? Where to begin the hunt for research funding? What are quality resources for teaching? The paper also provides insight to mentors relative to junior faculty members' concerns.

This paper evaluates issues that are critical to forming effective mentoring relationships. Guidance offered provides value to mentors in understanding which areas are of greatest concern to new faculty. It provides information to protégés as well in determining key characteristics of an effective mentor.

1 Introduction

The purpose of this paper is to address the transition to life at an academic institution for new faculty members and provide tools for success to these professionals. This academic transition has common characteristics at both research-based and teaching institutions although the priorities will shift based on the primary focus of the institution. This article explores the topic from the perspective of new faculty at a research-based institution with the understanding that some issues will have general application. At a research-based institution, the transition begins during the hiring process and startup package negotiations[4]. Discussions with various levels of faculty members, new through emeritus, reveal that each recalls that the transition to academic life is challenging. Productivity quotas to ensure tenure at universities are increasing; it is critical that the challenging or opaque aspects of transition to an academic career are removed or made transparent. The goal of this paper is to identify the challenges facing new faculty members and provide tools to ease some of those challenges during the first critical years of faculty development.

Many useful books and articles have been written on the importance of mentoring. Countless researchers have explored a variety of issues related to mentoring including how the mentor is assigned, individual vs. group mentors[2], unique issues for non-majority faculty members[5], and countless others. Understanding how to get assistance in a safe, comfortable environment is a key concern for new faculty members facing the challenges of launching a productive career that balances the right level of funded scholarship, effective teaching, and

service. It is our contention, however, if the protégé and mentor do not know the questions and issues they should be discussing, the relationship may not be successful.

An effective mentor should help a junior faculty progress to his or her goals by helping them adjust to the new role as a professor. Examples include helping them develop a support system, learn their way around the campus, and share insights about teaching and research[3]. When the relationship is working, the protégé benefits and is able to reach his or her goals faster and easier[1]. Also, the mentor enjoys a strong sense of satisfaction from assisting a junior colleague and the university benefits from improved faculty performance and retention.

2 New Faculty Survey Design and Administration

A survey of faculty members in their first three years of appointment was conducted to determine their opinion of the critical success factors for a transition to academic life. The survey was broken down into five major groupings including general information, mentoring, service, research, and teaching. The survey was open for eight days and was conducted using an on-line survey tool that enabled various types of questions. In total, twenty-two questions were asked in the five major groupings including multi-choice, open, and yes/no questions. The survey was sent to seventy-eight individuals with thirty-six responding (46.2% response rate). Of those completing the survey, 30.6% were in their first year, 38.9% in their second year, and 30.5% in their third year. New faculty members across the campus were asked to complete the survey. Missouri S&T has an overwhelming engineering and science focus; nearly 85% of our students are majoring in engineering. While we do not know the specific academic area of the respondents, to allow confidentiality, faculty hiring is proportional to the engineering and science focus. This focus suggests that the results may be more representative of the views of science and engineering faculty members than those in other disciplines.

3 New Faculty Survey Results

A key aspect in academe is to understand the responsibility split between research, teaching, and service. The vast majority of respondents (83.3%) expressed an awareness of the three areas and resultant demands. The survey found that 55.6% of those responding have mentors while 44.4% do not have a mentor. Even though the university does not have a formal campus-wide mentoring program, the number that reported the lack of a mentor was still surprising and alarming. For those that have a mentor, new faculty responded that personality traits were among key characteristics evaluated in the search for a mentor. Respondents suggested that 77.3% look for personality traits, 72.7% look for tenure status, and 68.2% look at research interests as key factors in selecting a mentor. An open ended question was also asked concerning desirable traits in a mentor. Selected responses are given in Table 1. These responses support the desire for an approachable mentor who is a successful researcher and teacher.

Service was the next category addressed in the survey. A majority (70.6%) of the respondents answered that they understand when to say "no" or "yes" to service activities. For service activity involvement, 97.1% are currently involved in service activities. Explored as a breakdown of type of activity, 29.4% are involved in campus related service, none responded that they were involved in only off-campus service (professional or service organizations), and 70.6% are involved in both campus and off-campus service activities. Another aspect of service is the time spent per week on service related activities. The responses show that 60.0% spend less than 5 hours per week and 37.1% spend between 5 and 10 hours per week. There were no responses suggesting service levels greater than 10 hours per week. The survey responses

suggest that service is not typically an area of greatest concern of new faculty. This may be because they lack the connections as new faculty to be appointed to a large number of service activities or may indicate a level of protection awarded to new faculty by their departments in making service appointments. In certain situations it may still be a significant issue. Factors such as being a member of an underrepresented group or a member in a recently formed department may greatly increase the service requests for a junior faculty which would warrant increased mentoring advice in this area.

Table 1 Desirable Mentor Characteristics

1.	My current mentor is what I want; he is easy to talk to, helps me address my weaknesses, and always helps me feel good about my abilities.
2.	Someone with personal experience in the area that I am working. Someone with time, patience, and understanding. Someone who realizes that if plan A doesn't work, go for plan B and if that doesn't work wing it – i.e., a person who is flexible and reasonable.
3.	He/she must be tenured (possibly more than once) so he/she can guide me towards tenure. He should have a strong research program first and foremost. If his/her research interests are close to mine that is a bonus but primarily I need guidance on how to start-up a program with everything else going on.
4.	Someone who is interested in similar research methods and knows the ropes of the academic department I am involved in.
5.	Teaching ability, relationship with other faculty and students.
6.	Willingness/time commitment for talking regularly, status within the department (well respected).
7.	Someone who is also relatively new and can relate better to a new faculty member's experiences – has had a number of successes and failures and can provide information about what works and what doesn't – does not necessarily push a new faculty member into doing he/she is not comfortable with

The next survey category evaluates respondent views regarding research activities. Respondents were asked how prepared they felt to write effective research proposals during their first year. The responses indicate a basic level of preparation. Responses suggest that 38.7% felt they were not prepared, 35.5% felt somewhat prepared, and 25.8% felt very prepared. The survey also assessed the number of proposals written during the first year. The majority of respondents (41.9%) wrote 3-4 proposals while 9.7% did not write any, 38.7% wrote 1-2, 3.2% wrote 5-6, and 6.5% wrote more than 6 proposals. The success rate of the research proposals is as follows: 43.3% did not have any research proposals funded their first year, 46.7% had 1-2 proposals funded, 10.0% had 3-4 proposals funded, and none of the respondents had 5 or more proposals funded in their first year. The survey asked which services or activities at Missouri S&T improved their proposal writing ability. Overwhelmingly, 61.1% responded "a mentor". (Yet remember nearly half do not have a mentor!) The remaining breakdowns were 33.3% for Freshman Faculty Forum (FFF), 33.3% for the New Faculty Teaching Scholars Program (NFTS), and 11.1% for the Promotion and Tenure Writing Group. The first two groups are a structured program lead by senior faculty and the last is a peer group that provides feedback on proposals and other papers. The respondents were also asked to list any other services or

activities they felt improved their proposal writing ability. A key finding in this question was that none of the formal programs in place where recognized by the majority of new faculty as helping their proposal writing skills. This signifies a level of disconnect between what is prescribed as a current aid by the institution and what is actually needed for new faculty. The results are given in Table 2.

Table 2 Summary of Proposal Writing Aids Responses

1.	FFF and NFTS did not help as much as I would have hoped. The main learning process has been being the junior partner on other proposals and modeling my writing off of those.
2.	Talking with other colleagues at other schools.
3.	Excellent collaborators and previous work experience.
4.	NSF workshops
5.	No service activities improved my research proposal writing ability (they actually got in the way taking up writing time) – proposals were improved by feedback from mentors.
6.	Graduate and postdoctoral training.
7.	Learning from my own mistakes.
8.	Practice and feedback from reviewers, as well as reviews of submitted manuscripts.

The next series of questions explored the selection of funding sources by new faculty for proposals. The majority (75.9%) responded they started their search with government funding agencies websites (such as NSF and DOE). 55.2% responded also listed other faculty members and 34.5% responded their mentor. An open ended question asked respondents to list any other sources where they began their research funding hunt. The responses are given in Table 3. Also, an open question about research funding was present in the survey. This open ended question showed a lack of overlap in responses and highlighted the need for a forum discussion on a wide range of funding related questions. Some new faculty had functional questions such as "How I will administer/manage a grant award is an area where no one has really provided concrete answers". Some of the responses were of a more strategic nature such as "Is it better to just apply for a grant and get rejected because the review panel wants more data, or is it better to get all the data to fill in the gaps first?"

Table 3 Summary of Research Funding Sources Responses

1.	I connect with colleagues and resources from my doctoral fellowship group
2.	Internal and discipline-specific websites
3.	Grants.gov and industry contacts
4.	Internal resources within our institution and professional organizations
5.	Industry
6.	NIH, University research listserv
7.	Collaborations with non-governmental agencies and state agencies
8.	Professional organization websites
9.	Freshman Faculty Forum suggestions

Respondents were asked about what they considered when selecting journal choices for paper submissions. The characteristics listed by the survey participants show a great deal of

overlap and illustrate a common understanding of publishing. The typical response included the focus of the journal, its prestige, and turnaround time as important to new faculty.

The final category in the survey was teaching. All survey respondents use a syllabus in their class and 93.5% responded that they use a course schedule. Of those that use a course schedule, only 62.1% strictly follow the set course schedule. Another open ended question was asked if they had any specific questions regarding teaching; the responses to are given in Table 4. Questions along these lines are ideal for a protégé to discuss with his or her mentor.

Table 4 Teaching Questions Responses

1.	What is the best way to get students involved in active learning in a basic science course that relies on lecture style teaching?
2.	I am always looking for ways to involve students in active learning processes.
3.	I would like to know who told the students that all of their assignments for all of their classes would be posted on BlackBoard. I feel that if I give the students a syllabus and access to an electronic copy, then it is their responsibility to look on the syllabus and find out when things are due. And that sending out email reminders to them each week would take away from their individual responsibility. So I guess my question is what am I teaching the students if I take away this responsibility?
4.	In the absence of incentives provided by the University, particularly good bonuses or real raises linked to performance, will this ever be a priority for faculty given that there are few professional rewards? I try to be a good teacher, but in part it is because of personal objectives rather than because of monetary or professional awards.
5.	I need to build up confidence. What is the best way to build up my confidence?
6.	I struggle a bit with the use of technology – i.e. my students want copies of my lecture notes on the web and I resist. I am slowly finding middle ground on this.

4 Discussion: Mentor Relationship Prescription for New Faculty Members

The Missouri S&T survey results led to six areas of new faculty concerns: mentoring process, teaching, research, service, life balance, and campus climate. The following subsections are provided to give new faculty starting a point for discussions with their mentor. Answers will vary between universities and may even vary between departments at the same school.

4.1 What to Ask – Mentoring Process

The protégé and mentor should establish what is expected in the mentoring process. How often will they meet? In what areas does the protégé want mentoring - teaching, research, academia in general? Ideally the protégé wants a person who understands their goals and is supportive. The protégé should avoid a mentor who treats them as another graduate student. It is vital that the mentor view the protégé as a colleague. The protégé should ask whether the mentor is comfortable mentoring in a particular area. For example, an administrator who has been inactive in research may not feel comfortable in providing feedback in that area. A mentor in a different research area may not feel comfortable in providing specific guidance of journal selection or which conference to attend.

4.2 What to Ask - Teaching

Some advice related to teaching is general across universities and academic fields. Many great resources are available through ASEE, for example. However, there are always some unique issues related to a particular campus and/or department. A protégé might ask to see a syllabus to get an understanding of the norm at the school. The protégé should ask questions about the types of students and their level of preparation entering the class. "What types of resources are available on campus to improve one's teaching?" is another question that can be useful to ask. A protégé may also want to discuss the available teaching tools, such as, WebCt, Blackboard, and Clickers, and to what extent they are used for instruction. A mentor can also guide them to different training resources available on-campus for these tools. A protégé might also want to get help from a mentor to arrange plant tours, access data, and invite speakers from the nearby community for his or her class.

4.3 What to Ask – Research

Protégés should ask questions related to conducting research in their fields such as where to get funding and where to publish. They should also ask about how research is viewed in the promotion and tenure process at their school. Does it matter which journal or conference proceedings you publish in? Are all funding sources (NSF vs. Industry vs. In-house) considered the same in the P&T process?

It might be very useful for a mentor to introduce the protégé to influential people in the field: editors, program chairs, program officers, etc. A protégé should ask how he or she can become a reviewer for an appropriate journal, conference, or funding agency. A protégé should also become familiar with the proposal submission process followed in his or her school. The school might need the proposal to be submitted to them at least a few days before the actual dead line for review. It is also important for the protégé to discuss the different matching funds available from the school as well as other local and government agencies.

Graduate students play an important role for a successful research progress of a new faculty. A mentor can co-advise students' research with the protégé to put him or her on the right track for advising students.

4.4 What to Ask – Service

Service is possibly the area of the P&T process that varies the most from campus to campus. What is expected of a new faculty member? What are the associated time requirements? How is the particular service viewed towards tenure? Who should the new professor speak to reduce the service demand he or she is experiencing or who should he or she speak to participate in a service opportunity? How much service is too much service and how much service is too little?

4.5 What to Ask – Life Balance

Protégés can benefit from mentors if they share experiences on managing time, handling stress, and balancing workload effectively. Mentors can also address special needs or questions and help in troubleshooting difficult situations. What resources are available in the local community? What opportunities are available related to the new faculty members' interests or family situation. Possibly, the best information that has been exchanged in the past year between

the mentor and one of the protégé authors of this paper was the name and phone number of an exceptional housekeeper.

4.6 What to Ask – Campus Climate

Most new faculty members are given the official academic policies and procedures. However, there are often unwritten guidelines. How are things actually done? What are the unwritten rules? Are you expected to attend meeting, graduation, etc., or is that unimportant? Discussions related to student issues such as advising, motivating, and handling academic dishonesty can be very useful for new faculty. Mentors should share information on academic and student support services on campus. Are there university websites with useful information?

5 Conclusions

It is not enough to have formal programs in place for new faculty. Our survey results show that new faculty members need practical support with relevant guidance. Basic questions regarding funding sources and general procedures must be included and addressed to help new faculty achieve a common level of understanding. Although most respondents had a fairly high awareness of journal selection and publication strategies, this comfort level did not extend to their new requirement for securing funding. Since the institution does have forums in place that include these topics, a review and revision of materials presented should be conducted. The teaching function is shared by all institutions regardless of research requirements. Mentors are invaluable in helping new faculty achieve proficiency in the classroom and secure answers to basic questions of curriculum design and improvement.

6 Future Work

This research paper presents only a snapshot of new Missouri S&T faculty's opinion of critical areas in their career development. Future work will be performed by surveying tenured faculty at the University to determine missing links in the new faculty's perceptions. Further, this work will be expanded to faculty beyond this university to gage parameters for success at other institutions to provide a more comprehensive guideline for new faculty success.

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