

Postdoc Academic Chat #1

Teaching as a Postdoc – Why it Matters and How to Do It Successfully

Wednesday, September 26, 2016

Questions/Discussion Items to Consider

- * What do you personally see as some of the barriers to your obtaining some postdoc teaching experiences?**
- * What steps could you take to address the above concerns?**
- * What experiences can you share about other postdocs you know who have obtained teaching opportunities?**

READINGS

- 1. Why Teach as a Graduate Student or Postdoc?**
- 2. Finding Teaching Experiences During Your Postdoc**
- 3. Postdoctoral Teaching: Savvy Career Move or
Distraction From Research?**

1. Why Teach as a Graduate Student or Postdoc? *

Confirming that teaching is what you want to do.

You have observed teaching for as long as you can remember and now it is something you think you would like to do. Yet, as you may already suspect, it is one thing to observe teaching and another thing to actually do it, and do it well. Teaching assistantships (TAs) expose you to certain aspects of teaching and they are a good place to start. However, nothing compares with giving lectures that are engaging and informative, dealing with student questions on the spot, and preparing examinations and

homework assignments that connect with your lectures. As a geology graduate student who had just taught an introductory earth sciences course remarked, "The idea that I was the only one responsible for what my students were getting, that my course might determine who went on to major in the earth sciences, that I was the one who determined their final grade, and that the University counted what I did just like they did a 'real' professor, was quite sobering." For all of you, including those heading for Research I and II institutions, teaching will be an important, if not central activity, during your years as a professor. Now is the time to find out if this is what you really want to do.

Helping to prepare you for your first teaching assignment as a professor.

Wanting to teach is important, but of course wanting alone is not enough. As someone once said, "those who think all you have to do to be a good teacher is to love to teach, have to believe that all you have to do to be a good surgeon is to love to cut." Indeed, the medical model is quite instructive.

Your health maintenance organization has assigned you to a new physician who is just starting his practice. You make an appointment to see him, complaining of pain in your lower right side. He confirms it is appendicitis and says he wants to operate right away. In answer to your anxious questions, he informs you this will be his first operation and that he will probably be a bit nervous. But he also tells you not to worry. He has studied the appendix extensively, and he even did some research on it while a medical student. Furthermore, he has dreamed of being a surgeon for as long as he can remember. He has observed hundreds of operations, although it has been some time since he witnessed an appendectomy. However, before completing his degree he assisted a well-known surgeon by handing him the scalpels during a heart bypass operation. But no, he has not yet performed any surgery on his own.

I suspect that under such circumstances, you would say thank you very much, head for the door (as best you could) and start shopping around for another physician.

Of course nothing like the above is actually going to happen because it is not the way surgeons are trained. All future surgeons go through an extensive period in which they work side by side with experienced surgeons. At first they just observe. Then they assist the experienced surgeon, and only then, with an experienced surgeon at their side, and usually dozens of other physicians looking on from above, they perform their first operations. It is quite some time before they are actually performing operations in which they are the only physician on the scene.

I recognize that teaching doesn't involve life or death situations as is often the case with surgery. Yet, we insist that all future professors obtain training as researchers prior to entering the profession, even though half will do little or no subsequent research, but we don't do the same with respect to teaching. Is it because we think that compared to research, teaching is "easy" and doesn't require much preparation? Or is it because we think that the cost of poor teaching, at least in the beginning, is not that great? Or is it both?

Good teaching is not easy and the cost of doing it poorly is high. By actually teaching part, or in selected cases all, of a course as a graduate student or postdoc you will be better prepared and have greater confidence when you start teaching as a professor. But doesn't such an approach create an obvious problem? If one of the arguments for obtaining teaching experience while a graduate student or postdoc is that the students you first teach as a professor will be better off because of it, then what about the students you

teach before you become a professor? Aren't they being short-changed by being your first students? Not necessarily. We just touched on the medical training model in which the resident surgeon does his or her work under the direct supervision of an experienced physician with many other physicians observing and with plenty of feedback from everyone after the operation. A similar process takes place in the training of high school and elementary school teachers. Here, "student teachers" teach one or two classes under the direct supervision of a master teacher. The student teacher often goes over the lesson in advance with the master teacher and there is considerable review of the teaching, homework assignments, and examinations, by the master teacher.

A similar system could be used in the preparation of professors. It might involve a multi-step approach beginning with teaching assistantships, followed by guest lectures and/or the teaching of class modules in courses in which the regular professor is present. These experiences might then be followed by team teaching with an experienced professor, and/or the teaching of a special course such as one taught through a university extension, in a field in which the graduate student or postdoc has clear subject-matter expertise. Finally, under certain circumstances, and still under the mentorship of an experienced professor, an advanced graduate student or post-doc could take full responsibility for teaching an entire course.

Some schools have begun to take steps in this direction. One example is a pilot program at North Carolina State University called, "Preparing the Professoriate." In focus-group discussions it was found that doctoral students wanted, "opportunities to prepare more fully for the academic life of a professor...to learn to teach in the same way that they learn to do research in a significant and extensive advising atmosphere." [2] According to North Carolina State:

The program uses 'mentoring pairs,' each of which teams a doctoral candidate with a current or emeritus professor. Throughout an academic year, the mentors work with their graduate students ('teaching associates') to develop individualized plans for substantive teaching experiences; these range from course preparation and planning to final course evaluation. [3]

Another example is a project sponsored jointly by the Association of American Colleges and Universities and the Council of Graduate Schools. Known as Preparing Future Faculty, it has awarded 17 doctoral institutions a total of \$1.8 million from the Pew Charitable Trusts to create special teaching programs for future academics. Says, Bianca L. Bernstein, dean of the graduate college of Arizona State University, one of the participating schools; "For too long, the only skills that doctoral programs have sought to

impart involve research. Too many Ph.D.'s wind up learning teaching skills on their first faculty job." The Preparing Future Faculty program seeks to change this situation through mentoring programs, and seminars, and by providing opportunities for students to explore all aspects of teaching, including developing a course from scratch. [4]

Giving you a significant leg up on your competition in your search for an academic position.

You can bet your Ph.D. that evidence of teaching experience will be looked for in your application for an academic position. You can also be sure that you will be asked about such experiences, or lack thereof, during your job talk and campus interview. In fact, having such experiences can go a long way toward determining if you are one of the three or four, out of perhaps hundreds of applicants, who even gets a job interview. Remember also that getting a job offer from a school you are interested in is only the start. You want to be able to negotiate the best possible set of initial conditions in terms of teaching, research, type of position, and available resources. To do so you need to be the most competitive, and teaching experience is one thing that can help make you this way.

We will discuss this matter in greater detail in Part II, Finding and Getting the Best Possible Academic Position. The point to note here is that in spite of statements about research expectations you see in academic advertisements, the main reason for hiring new faculty is to have them teach classes. Positions usually become available because a professor has left the department and a replacement is needed to teach his or her classes. On more rare occasions, a position opens up because the department is expanding into new areas. In both cases, the primary need is to fill teaching slots and search committees will want to know how you can help to do so.

Over the last few years there has been a shift in the statements about teaching experience in academic job announcements for assistant professors in science and engineering. A few years ago most announcements sought, "outstanding *potential* for excellence in teaching and research." Today, many more announcements seek, "*demonstrated skills* in teaching and research", and a number clearly want, "*evidence* of teaching excellence," accompanied by a statement of teaching philosophy and the presentation of a teaching portfolio. Here is an example of an advertisement for a beginning assistant professor position that appeared recently in the Chronicle of Higher Education.

Industrial/Systems Engineering: The Industrial and Systems Engineering Department (ISE) at Virginia Polytechnic Institute and State University (Virginia Tech) seeks an entry-level tenure-track person to continue advancing the program in Systems Engineering with an emphasis on Systems Life-Cycle Engineering, the Systems Engineering Process, Economic Analysis, Design, Evaluation, and Logistics Engineering. This position will be available in the Fall, and requires teaching in ISE at both the graduate and undergraduate levels. Candidates must demonstrate a potential for creative research and the capacity for significant contributions with the Systems Engineering Design Laboratory. *Demonstrated teaching excellence is expected.* Preference will be given to applicants with the ability to lecture via distance learning media, to collaborate

across disciplines, to interface with systems oriented agencies and firms, and to publish. At least one degree must be in Industrial and Systems Engineering (Ph.D. preferred), with a preference for all degrees in engineering. Salary is commensurate with qualifications and experience. Applicants should send a complete resume including personal data, education, publications, research, and professional experience, together with names of at least three references to(italics added). [5]

References

[2] Committee on Science, Engineering, and Public Policy, Reshaping the Graduate Education of Scientists and Engineers, Washington, DC: National Academy Press, 1996, pp. 3-5.

[3] Ibid., pp. 3-5, © copyright 1996 by The National Academy of Sciences, courtesy of The National Academy Press, Washington, D.C., reprinted with permission.

[4] M.C. Cage, "Learning to teach," The Chronicle of Higher Education, vol. XLII, no. 22, February 9, 1996, p. A19.

[5] The Chronicle of Higher Education, vol. XLI, no. 28, p. B12, February 10, 1995

• Reis, Richard, Chapter 6, Teaching Experiences Prior to Becoming a Professor, in Tomorrow's Professor: Preparing for Academic Careers in Science and Engineering, IEEE Press, 445 Hose Lane, PO Box 1331, Piscataway, NJ 0885- 1331. ©1997 The Institute of Electrical and Electronics Engineers, Inc. All rights reserved. Reprinted with

2. Finding Teaching Experiences During Your Postdoc

Siribhinya (Sinya) Benyajati University of Oklahoma Health Sciences Center*
The American Physiological Society (APS)
© 2016 The American Physiological Society
9650 Rockville Pike | Bethesda, MD | 20814-3991 | Main: 301.634.7164 | Fax:
301.634.7241

Do Postdoctoral Fellows Need Teaching Experience?

Today graduates and postdoctoral fellows are presented with a range of career options: academic research scientists, scientists in industry, science teachers, science writers, science legal consultants, and science policy professionals. Yet, according to the 2001 National Science Foundation Survey of Doctoral Recipients, approximately 50% of biological and health sciences doctoral recipients are employed in academia. A more recent survey by The Scientist (vol. 21(3), 2007) found that 40% of the 2,555 surveyed postdoctoral fellows are planning on an academic position. Since the vast majority of academic careers require a person to be able to teach, whether in a formal classroom or in some other format, having teaching skills and experience will therefore help most postdoctoral fellows to obtain a job in academia, especially at four-year colleges and liberal arts institutions. In addition, many research universities now acknowledge the

importance of university teaching and the value of faculty teaching skills. It was reported that recent graduates from the University of Colorado were offered higher base salaries for faculty jobs because they had specialized classroom training (<http://www.nagps.org/files/tatraining.pdf?PHPSESSID=dcb7a205236ab775c3340406ddadb71f>). A national survey of newly hired faculty and their chairpersons agreed that graduate programs did not adequately focus on preparation for college teaching (Adams, 2002: What Colleges and Universities Want in New Faculty, http://www.aacu.org/pff/PFFpublications/what_colleges_want/index.cfm), which makes the acquisition of teaching experiences during postdoctoral training even more desirable. Furthermore, teaching skills (see below) are skills that everyone, regardless of career choice, can use in the workplace (e.g., in seminars, coaching employees, developing audio-visual materials for presentations, and publications).

What Type of Teaching Skills Do Postdoctoral Fellows Need?

Quality teaching not only includes well-structured lectures but also the ability to utilize new instructional methods or pedagogies (e.g., use of technology, active learning, collaborative learning, field-based learning, simulations) and creative techniques that effectively engage diverse students and support learning. Trainees need more than just the experience of teaching classes; they should also develop skills in working with students that include problem solving and advising.

The American Physiological Society and the Association of Chairs of Department of Physiology (APS/ACDP List of Professional Skills for Physiologists and Trainees, 2003: <http://www.the-aps.org/education/skills.htm>) recommend that trainees should develop the following teaching skills:

- Effective classroom teaching to varied audiences in terms of subject matter
- Effective classroom teaching in terms of pedagogy
- Ability to convey the competence in subject matter and confidence in one's ability to teach
- Ability to develop course curriculum and individual lessons
- Effective use of common instructional aids, including audiovisual techniques
- Ability to help students understand the general principles and concepts underlying a particular lesson
- Ability to explain both basic and difficult concepts clearly
- Ability to put a specific lesson into larger context (clinical relevance, prior material)
- Ability to ask good questions (testing, study, case histories)
- Ability to provide feedback to students
- Awareness of the strengths and limitations of various means for evaluating teaching performance
- Ability to adjust lesson plan based on information garnered from student questions
- Ability to foster an effective learning environment including showing respect for the student, encouraging their intellectual growth and providing a role model for scholarship and intellectual vigor.

How Do Postdoctoral Fellows Find Teaching Experience?

Obtaining teaching experience while completing a postdoctoral appointment can sometimes be difficult. Even postdoctoral fellows who have a strong desire to teach may struggle to find time for both research and teaching activities. Postdoctoral fellows mainly receive teaching opportunities/trainings provided by their institutions, departments, and advisors. Most teaching opportunities are found at academic institutions. However, postdoctoral fellows in industry laboratories can still find teaching opportunities through networking and seeking out mentors at academic institutions in nearby locations.

Mentors as Resources. To obtain a teaching opportunity, the postdoctoral fellow must take a proactive approach, expressing interest and seeking advice from the mentor. Most importantly, the postdoctoral fellow needs to have a mentor/advisor that supports his/her career development and will allow more flexibility in incorporating training opportunities with research. With the approval of the mentor, the postdoctoral fellow can, as a start, arrange to observe a faculty-taught class session in the department and then meet with the instructor to talk about his/her approaches to teaching. The mentor/advisor could also arrange for a supervised teaching session within the department [leading a discussion session, teaching a lab, guest lecturing, teaching a small portion of a course on an adjunct basis (at your own or another institution)], after which the advisor or other faculty could provide constructive feedback about the fellow's teaching performance (what went well, what could be improved, what was gleaned from the experience). The advisor could also help set up other types of teaching arrangements for the postdoctoral fellow, such as individual tutoring or facilitating review or help sessions for students.

Institutional Resources. Many institutions now provide resources to improve teaching skills by establishing "centers for teaching and learning." These centers sponsor workshops, seminars, and brown-bag lunch events and provide a library of resources to help graduate students, professional students, postdoctoral fellows, and faculty members learn and improve their teaching techniques. Interested postdoctoral fellows should check out the resources at their institutions and take advantage of the help that such a resource center can provide.

A number of institutions offer courses related to education to trainees. These institutions are members of the national Preparing Future Faculty (PFF) Program that provide graduate students and postdoctoral fellows with opportunities to observe and experience faculty responsibilities that include teaching, research, and service (<http://www.preparing-faculty.org/>). Although the exact curricula of the PFF Programs vary among institutions, the core features are the same. For example, at the University of Oklahoma Health Sciences Center, the PFF Program is a one-year interdisciplinary program offered to graduate students and postdoctoral fellows as a two-course sequence. The first two-credit hour course provides a didactic background in instructional methods. Upon completion of the course, fellows will have assembled individual teaching portfolios comprised of teaching philosophy, lesson plans, instructional objectives, instructional media, self-assessment tools, and structured peer evaluation tools. The

second two- to three-credit hour course provides discipline-specific teaching experience in university classrooms under the supervision of assigned faculty mentor. Fellows who are interested in gaining skills in teaching and learning should check whether a similar PFF Program is available at their institution. Admission to such program usually requires a letter of permission from the mentor or supervisor.

Funding Resources. There are also government-sponsored, as well as institutional- and private foundation-sponsored, “Postdoctoral Teaching Fellowships” available to help overcome the difficulty postdoctoral fellows encounter with balancing time between research and teaching activities. However, these fellowships are generally available to postdoctoral fellows at specific institutions. With this type of fellowship, the fellow is required to spend a portion of training time learning how to be an educator of the future, similar to that described for the PFF program. Similar to the PFF Program, the commitment and contribution of the mentor is critical in the participation of the fellow in this type of fellowship. Some programs will recommend that a second independent mentor be appointed as the teaching mentor to the postdoctoral fellow. For the postdoctoral fellows who know early on that they want to teach, this type of fellowship is invaluable. Information on postdoctoral teaching fellowships can be found on several databases, such as PostdocJobs

(<http://www.postdocjobs.com/jobseekers/fellowships.shtml>) and GrantsNet (http://www.grantsnet.com/search/srch_menu.cfm).

Other Resources. Other ways to develop and refine teaching skills during postdoctoral training are to utilize excellent teaching resources available both as hardcopies and online resources (see examples below) and attending training conferences.

- American Physiological Society. Careers in Physiology Web Site (<http://www.the-aps.org/careers/careers1/Postdoc/pteach.htm>)
- James Austin (2004) The Academic Scientists’ Toolkit (http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/0000/the_academic_scientists_toolkit)
- Ken Bain (2004) What the Best College Teachers Do. Harvard University Press
- Barbara Gross Davis (1993) Tools for Teaching. Jossey-Bass Publishers
- Barbara Gross Davis (2008) Tools for Teaching. Second edition. John Wiley & Sons
- Honolulu Community College. Faculty Development: Teaching Tips Index (<http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/teachtip.htm>)
- Robin Wright (2001) The Art of Teaching (http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/0910/art_of_teaching and [http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/0980/the art of teaching_session_2_using_portfolios_to_improve_and_evaluate_teaching](http://sciencecareers.sciencemag.org/career_development/previous_issues/articles/0980/the_art_of_teaching_session_2_using_portfolios_to_improve_and_evaluate_teaching))

Tips for Getting Teaching Experience

- Discuss your interest in getting teaching experience with your mentor early, ideally during your interview for the postdoctoral position, so that training opportunities can be accommodated during the postdoctoral training period.
- If the research mentor cannot commit their time to the teaching development, with his/her permission, find an independent teaching mentor who can be involved in the training process.
- Attend classes, workshops, or seminars on teaching that are offered at your institution, particularly courses that offer in-depth preparation for teaching and professional development as a future faculty (PFF Program).
- Explore teaching publications and online resources to learn about teaching techniques and best practices.
- Arrange to observe a faculty-taught class session in your department and discuss with the instructor about his/her approaches to teaching.
- Arrange for a supervised teaching and feedback session with a faculty mentor.

Teach! Try a variety of teaching experiences (leading lab or discussion sessions, review sessions, lectures, individual tutoring, team teaching).

* Siribhinya (Sinya) Benyajati, Ph.D., is an Associate Professor in the Department of Physiology at the University of Oklahoma Health Science Center. She teaches Renal Physiology to medical, dental, pharmacy, physician assistant and graduate students. She shares her passion for teaching and mentoring with local high school seniors, advises biology students in community colleges and has served as Director of the Summer Undergraduate Research Experience Program and Coordinator for the other three NIH-sponsored undergraduate research programs (INBRE, NARCH, UBEP) at the Oklahoma Health Sciences Center campus.

In 2007, Benyajati received the 24th annual Stanton L. Young Master Teacher Award, one of the largest awards in the nation for medical teaching excellence.

3. Postdoctoral Teaching: Savvy Career Move or Distraction From Research?

By Meghan Guinee, Science, May 12, 2006*

"Research potential is the dominant factor in the Biology Department when we are recruiting new faculty." --Daniel Bush, chair of the Biology Department at Colorado State University

Sigma Xi's recent postdoc survey showed that more than 40% of science postdocs have an interest in learning how to teach. Yet 64% of science postdocs report receiving no training on how to teach, and a mere 5% have attended workshops or done formal coursework on teaching skills. A number of organizations and universities are addressing this discrepancy through programs that support teaching and mentoring skills at the postdoctoral level. But is it a good idea for postdocs to take advantage of these opportunities? On its face, it seems like a no-brainer; this kind of training provides critical skills that faculty members will need to do their jobs well. But it's not that simple. Not every hiring committee is likely to value such training; when it comes to hiring, even some teaching-focused colleges put research first.

Learning to Teach

Traditional research-only postdocs may receive teaching training or locate part-time teaching positions with the assistance of a number of organizations aimed at science faculty-in-training. In the New York area, Future Science Educators (FSE), founded in 2003 by postdocs and graduate students at New York University School of Medicine, holds workshops and seminars on college teaching and provides resources for people interested in part- or full-time teaching positions.

Through the Wisconsin Program for Scientific Teaching (WPST), postdocs can take classes on teaching, gain experience in the classroom, and mentor undergraduate researchers. The program was founded in 2002 when Jo Handelsman of the University of Wisconsin, Madison, received a Howard Hughes Medical Institute Professor award, an award given to a select few professors who are both top-notch researchers and world-class educators; the award is intended to support innovative undergraduate science teaching. Organizations such as FSE and WPST address a perceived need for teacher training at the college level. "Postdocs are generally not trained for the myriad responsibilities that characterize a faculty position—especially in teaching and mentoring," the directors of WPST wrote in a joint statement.

Teaching Postdocs

The most intensive teacher training postdocs can experience is probably the "teaching postdoc," a relatively recent phenomenon in which postdocs are trained in both the laboratory and the classroom, often in approximately equal measure. The National Institutes of Health-funded Institutional Research and Academic Career Development Award (IRACDA), launched in 1998, supports postdoctoral teaching programs at a number of institutions, such as the Fellowships in Research and Science Teaching (FIRST) program at five Georgia institutions, including Emory University. Programs like FIRST offer obvious advantages for academia-bound scientists. FIRST fellows carry out research while learning to teach by means of formal courses, mentorship, and classroom experience. Postdocs like these "more closely resemble the realities of science careers, where you are expected to give up time at the bench to become supervisors, teachers, committee members, grant writers, and advisers, along with being productive scientists,"

says Andrea Morris, a past FIRST fellow and now a faculty member at Haverford College in Pennsylvania.

But Do They Work?

Most people would assume that teacher training would be an advantage in the job search for people who are seeking jobs that involve teaching--and almost all faculty positions involve teaching. Yet postdocs who aspire to faculty jobs at top universities are often advised to focus exclusively on research. Which approach makes the most sense?

The Camille and Henry Dreyfus Foundation recently ended its Scholar/Fellow Program for Undergraduate Institutions, a mentored teaching-postdoc program, because postdocs taking part in the program were not doing as much research in the faculty positions they landed in as the foundation had expected. As Mark Cardillo, executive director of the Dreyfus Foundation, says, "The primary purpose of the Scholar/Fellow program was to prepare new faculty for a teaching and research career at ... PUIs [primarily undergraduate institutions], where significant research with undergraduates could be carried out." "Although the program did have some stars, it was eventually discontinued, as we found an insufficient number of fellows attained positions at PUIs where they continued to do significant research with undergraduates." Many of the Dreyfus Fellows ended up in teaching-only positions, and about a third dropped out of academia altogether.

The FIRST program has fared better. By the traditional measure of postdoctoral achievement--first-author publications in high-impact journals--postdocs in the FIRST program perform as well as research-only postdocs, despite spending 25% of their time outside the lab. Of the 17 scientists who had completed the FIRST program as of 2005, all continued on as scientists and educators, finding jobs on college faculties (10 people), in further postdoc training (6), or in industry (1). But most of the ones who took faculty positions chose--or were chosen by--small, teaching-oriented colleges, not top research institutions.

Haverford's Morris entered the FIRST program because she wanted a career that emphasized both teaching and research. It was a good career move. "I found that my experience as a FIRST postdoc gave me a huge advantage during the job search and as a junior faculty member because I entered the position with research ideas, courses in place, and resources to turn to for continuous motivation and success," she says.

That postdocs who do a lot of teaching often end up working at teaching-oriented colleges is not surprising; they have, after all, demonstrated an interest in teaching by the choices they've made during training. Brinda Prasad, co-founder and vice-chair of FSE, says that "FSE members have received more job offers at both PUIs and smaller Ph.D.-granting institutes ... because of having teaching experience and being part of FSE, as it demonstrates a long-term interest in teaching. These members did not want jobs at high-end research institutes; their goal was to obtain a position that had a large teaching component."

What about postdocs who want careers at top research institutions; does teaching

experience help them? Not much, probably. David Holtzclaw, a postdoc with NASA's Bioastronautics and Fundamental Space Biology Postdoctoral Research Program and a past FIRST fellow, warns that when it comes to top research institutions, "you see a lot of search advertisements saying that they want candidates with a commitment to teaching, but from my experience that is just lip service. The established science community seems to have accepted the model that you either teach or do research, but not both." On the other hand, his teaching postdoc has helped him land interviews at teaching-oriented colleges: "[PUIs] respond very positive[ly] to my FIRST experience. They love to see candidates who not only have teaching experience, publications, and pedagogical training, but also who genuinely enjoy and respect teaching."

Demonstrated research potential is what research institutions look for when they hire; teaching experience comes in second place at best. But this doesn't mean they ignore teaching entirely; some institutions look for research-related qualities that they believe demonstrate teaching potential. "Prior teaching experience is not something that makes or breaks a hire," says Dan Rubenstein, chair of Princeton's Department of Ecology and Evolutionary Biology. Rubenstein suggests that postdocs seeking faculty positions at institutions like Princeton should "do some really exciting research and go to meetings and give plenty of talks. That is the best way to learn how to emphasize important points and organize the material to be presented clearly and succinctly."

"Research potential is the dominant factor in the Biology Department when we are recruiting new faculty," says Daniel Bush, chair of the Biology Department at Colorado State University in Fort Collins. "At the same time, the Biology Department places a high premium on teaching excellence. ... Those candidates that do an excellent job defining their research questions, results, and conclusions in a manner that all our faculty can appreciate are invariably very successful in the classroom as well." Bush cautions that scientists seeking faculty positions at top research institutions should consider teaching postdocs "only if the research productivity is competitive with those that do not include the teaching experience."

Even at teaching-focused colleges, research training is often emphasized over teaching. "Focus on research during the postdoc," suggests Paul Rablen, chair of the Department of Chemistry and Biochemistry at Swarthmore College in Pennsylvania. "In our hiring, we look for essentially the same credentials as a research university does, plus ... an indication of interest in and aptitude for teaching. If you can get some teaching experience without compromising research productivity, that is great. ... The most important thing we will look for in a postdoctoral stint, though, is a successful research experience."

But the Swarthmore model is not the only one out there; at some teaching-oriented colleges, teaching experience is almost a necessity. "Teaching experience is very important," says James Ebersole, co-chair of the Biology Department at Colorado

College in Colorado Springs. "While we have no hard-and-fast rules, we tend to look for someone who has experience in planning and teaching their own courses."

Gregory Wadsworth of the Biology Department at Buffalo State College in New York concurs. "Typically, we get plenty of applications with good research experience. So it is the teaching experience that often distinguishes who gets invited for an interview." Wadsworth says that even some part-time teaching at a community college could strengthen an applicant's CV. Still, he warns candidates not to put too much time into teaching. "While teaching experience is valued," he says, "we would not hire a candidate that seems to have given up on being an active scholar."

Postdocs Should Be Deliberate in Their Career Choices

Focusing on research during the postdoc is the safe choice, as all institutions, from the smallest teaching college to the largest research institution, expect beginning faculty to have a strong research background. But for those with an interest in teaching, working on teaching skills during the postdoc is probably not a bad idea, as long as it does not impact research productivity. For many, teaching is a passion; for them, teaching during the postdoc makes sense, even if it is not the safest choice.

Resources

You can learn more about the FIRST program, and other IRACDA programs, from the FIRST Web site.

You can find out more about FSE from its Web site and WPST from its Web site.

Meghan Guinnee has a Ph.D. in biology. She recently left academia for a job in the real world, but she continues to write science-related articles to keep in touch with her inner scientist. She can be contacted at Meghan.Guinnee@gmail.com .

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