

## Responses to Guiding Questions for Faculty

### Workshop on Education Research Positions in STEM Disciplinary Departments

From Mark Guzdial, College of Computing, Georgia Institute of Technology

#### A. Personal responses:

1. What motivated you to specialize in discipline-specific education research? What did/do you hope to achieve?

2. What are your responsibilities for teaching, research, and service? (e.g., teaching loads, courses, coaching/mentoring roles, types of research, liaison roles with education department)?

I teach the normal 2-3 courses/year. I have a heavier service load because I typically get service jobs associated with the undergraduate curriculum. Currently, I'm our College's undergraduate curriculum committee chair, an elected member of the institute's undergraduate curriculum committee, co-chair of an undergraduate curriculum reform effort going on in the College, and the institute's representative to a state university system committee on computing disciplines.

I am currently being encouraged by my administration to broaden my focus beyond computing education research, because of the lack of funding in that area.

3. In what ways (if any) do your responsibilities differ from your non-education focused colleagues?

None, other than a focus on undergraduate education in service.

4. What positions have you held and do you currently hold in your department?

I am a full Professor in the College of Computing.

5. In what ways (if any) do your current position and your career prospects differ from your non-education focused colleagues? (e.g., title and rank, paths to tenure, resource issues, joint appointments with other departments)

My path to tenure and promotion was through education research.

- My work as an assistant professor was focused on engineering and computing education. I studied how students came to understand design and how that could be supported with technology, through modeling software and through case based design laboratories. I also developed and studied use of tools for supporting collaborative learning.

- My work as an associate professor was focused primarily on computing education. I focused on collaboration in computer science courses, and developed a new kind of computing pedagogy that is more successful with non-CS majors.

6. To what extent and how does your department, school or university support your position and your research? (e.g., financial support, cultural support, etc.)

The university is very supportive, with press coverage in university publications and with nominations for awards for my teaching and use of technology in education.

The College is also supportive, but only to the extent of supporting any faculty member. If I have an idea that solves a College problem (like the course that helps more non-CS majors be successful), then the College makes sure that the course happens and is well supported. Other ideas, even if successful, are left to me to support. For example, the collaboration tool we developed, CoWeb, is now used with dozens of classes each term in the College, but I support that tool (e.g., administrative support, servers, etc.) on my own.

B. Response from Mike Clancy, Electrical Engineering and Computer Science,  
University of California at Berkeley

Educational research isn't in my job description. I'm paid to be a teaching faculty. The University of California has a bunch of tenurable Lecturers, e.g. David Kay at Irvine and Paul Kube at UCSD, whose responsibilities only include teaching and service (committees etc.). My research activities probably help me keep getting raises in the face of suboptimal teaching ratings, though.

Almost all the educational research that goes on here happens in the School of Education. Our grants through the Ed School got me summer salary; since our work directly related to the courses I was teaching, it didn't seem like an overload. The EECS department has not until recently supported much of my research, other than providing a bit of staff support for photocopying etc. I also get a bit of teaching credit for co-teaching Education courses with Marcia Linn.

Our recent work on lab-based instruction has been partially funded through the CITRIS project, an EECS-administered multidisciplinary umbrella for work that relates to applying computing technology to society. It has also gotten me some release time to design lab-based curricula