

A CONVERSATION ABOUT MENTORING: TRENDS AND MODELS



COUNCIL OF GRADUATE SCHOOLS

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UNIVERSITY OF CALIFORNIA, BERKELEY: BEYOND TRADITIONAL MODES OF MENTORING

Annually, approximately 9,000 graduate students attend the University of California, Berkeley, in 101 graduate programs and 91 doctoral programs. About 5,500 of the 9,000 are doctoral students. One of the Graduate Division's goals in dealing with such a large graduate student population is attempting to socialize graduate students to become professionals in their fields by developing alternative mentoring programs.

In "A Second Look at Mentoring: Some Provocative Thoughts,"¹¹ Maresi Nerad, Director of Graduate Research in the Graduate Division at UC Berkeley, argues that traditional mentoring depends on personalities, i.e., the "right chemistry" between two people. Traditional mentoring, like friendship, cannot be forced upon students and faculty; if students are unsuccessful in finding a mentor, some students may be left unattended. In current discussions of mentoring, Nerad makes a distinction between an adviser and a mentor. She says that an adviser is responsible for assisting students in selecting programs of study and for making sure that students make adequate progress toward the degree and fulfill all university requirements. A mentor (as defined in most current literature) is a person who takes a novice under his or her wing. The mentor helps the protégé set goals and standards and develop skills; protects the protégé from others in a way that allows room for risk and failure; facilitates the protégé's successful entrance into academic and professional circles; and ultimately passes on his or her work to the protégé.¹² Since the responsibility for mentoring, sponsoring, protecting, challenging, role modeling, counseling, and being a friend to a large number of graduate students can be burdensome for a single faculty member, Berkeley's Graduate Division has committed itself to helping departments rethink the advising/mentoring process. Assisting faculty in becoming good advisers and helping departments structure the mentoring process in such a way that mentoring becomes a collective effort for which the entire department, rather than individual faculty members, will be held responsible are key components of the Graduate Division's advising/mentoring model. In such a model, all faculty members advise, but the individual faculty member does not have to shoulder alone the additional burden of individually mentoring a large number of students. Instead, mentoring is an acknowledged responsibility in which everyone participates. Departmental seminars and workshops, rather than an individual faculty mentor, provide all students with the formal and informal knowledge they need to become professionals in their fields.

Strategies developed by the Graduate Division at UC Berkeley to foster both the advising of students by all faculty members and departmental mentoring of graduate students fall into four categories: (1) assist those in the department who provide advising to graduate students and who develop mentoring programs for them; (2) educate graduate students to seek guidance and advice; (3) monitor departmental advising and mentoring; (4) offer support programs for graduate students addressing common needs and targeting special constituents.

Assist Those Who Guide and Advise Graduate Students

Faculty Graduate Advisers. Each faculty graduate adviser receives the *Graduate Adviser's Handbook*, which is prepared and regularly updated by the Graduate Division. This veritable encyclopedia provides information about issues from the beginning to the end of a graduate student's career. Topics covered are admissions; affirmative action; registration, course work, and grading; degrees; petitions; probation and dismissal; financial assistance; academic appointments; exchange programs and study abroad; and campus services for graduate students.

The Graduate Division also holds a graduate advisers meeting each semester to discuss common concerns and responsibilities. Graduate advisers are responsible for assisting students in selecting programs of study, acting on petitions for changing study lists, and maintaining records of their advisees. In addition, the Graduate Division recommends that graduate advisers and other faculty review annually the records of all graduate students in the department and inform the Graduate Division, in writing, if a student is not making adequate progress toward a degree.

Faculty Dissertation Advisers. Annually the Graduate Division invites faculty members and graduate students to a disciplinary forum, e.g., "The View from the Other Side of the Desk" for humanities and social science students. The Graduate Division helps students prepare questions to ask the faculty concerning their advising and mentoring roles, and both students and faculty benefit from the exchange.

Faculty Seminar on Graduate Education. The Graduate Division invites faculty members from selected departments, including the chair and head faculty graduate adviser, graduate students, and administrators, to a monthly invitation research seminar on graduate education. Participants in this seminar discuss the results of the Graduate Division's research on graduate education, and the graduate dean solicits suggestions for further programmatic improvements.

Administrative Staff for Graduate Programs (Graduate Assistants). Graduate Assistants, administrative staff members in the departments who are responsible for serving as liaison between their students and the campus bureaucracy, are among the Graduate Division's most valuable allies in assuring that advising and departmental mentoring take place. For example, the Graduate Division relies on administrative staff to encourage annual meetings between Ph.D. candidates and at least two members of their dissertation committee to review the students' progress before filling out required annual reports on their progress in candidacy.

The Graduate Assistant Advisory Group, which comprises fifteen graduate assistants from a cross section of campus departments, meets monthly with the Graduate Division's director of graduate research. They discuss changes in Graduate Division policy, share departmental concerns, and exchange ideas and resources for effective depart-

mental mentoring programs, and offer suggestions to facilitate cooperation between the Graduate Division and departments.

Members of the Advisory Group also hold “satellite group” meetings, which reach out to all graduate assistants on campus. Representatives from the Advisory Group meet with graduate assistants from a similar campus location to communicate new information, share resources, and solicit for the Graduate Division feedback and ideas from other graduate departments and groups.

To acknowledge and honor the work of the graduate assistants, the Graduate Division has hosted a special celebration—Graduate Assistant Day.

Educate Graduate Students to Seek Advice and Guidance

Graduate students at Berkeley cannot be passive. The Graduate Division encourages students to be informed members of the graduate education community so that they can be their own best advocates, learn how to pace their progress through graduate school in order to finish in a timely fashion, and be creative forces for change in their departments.

Orientation for New Graduate Students. “Nuts and Bolts: Planning Ahead is Good for You” is the title of this session. Graduate Division administrators give new students essential information about graduate education at Berkeley, informing them of ways they can be proactive on their own behalf. In addition, they encourage students to develop a network of mentors (or multiple mentors) and peer mentoring systems. The network mentoring model encourages students to look for several faculty members who can help with different aspects of their development. Students can work with someone as an adviser and also develop a relationship with a faculty member whom they respect as a teacher and with one whom they respect as a researcher. In the peer mentoring model, peers, graduate assistants, and postdoctoral scholars act as mentors to new students and to each other. Sharing information, strategies, and skills, they serve as sounding boards and support networks for one another.

The Graduate: A Newsletter. Articles in this publication for graduate students cover everything students need to know to progress smoothly through graduate school. A piece entitled “The Agenda for First Year Students” has these subtitles: Read, Read, Read; Have Confidence; A Marathon Not a Sprint; The Coursework Crunch; Choosing a Lab; Getting Used to Being a Graduate Student. Other articles are entitled “Choosing Your Major Adviser,” “What You Can Expect from Your Graduate Adviser,” and “Gearing up for the Qualifying Exam.”

Easing the Way: A Guide to Departmental Activities in Support of Graduate Students. As part of the Graduate Division's three-year study of the graduate experience at Berkeley, graduate students in interviews and focus groups mentioned special departmental activities that supported them at various stages of their doctoral programs. Students whose departments did not offer such activities inquired how their departments might adopt similar activities. From this exchange of ideas and a systematic investigation of successful activities, the Graduate Division developed this guide. It contains descriptions of existing activities at all stages of the doctoral program, beginning with recruitment and orientation and ending with dissertation writing and the job search.

Often the activities described in the guide cost little or nothing in staff time or supplies. Included is information on how to go about choosing a dissertation adviser, how to set up mock orals exams, how to organize dissertation writing groups, and how to offer a workshop on presenting a research paper. Through such activities, departments express involvement in and concern for their students' progress and professional goals, i.e., they carry out mentoring activities. The Graduate Division distributes the guide to all departmental graduate student associations, graduate secretaries, and department chairs.

Focus Groups. Monthly meetings with student focus groups provide a forum for Graduate Division administrators to discuss students' concerns and the Division's research findings. Participants in the focus groups have helped the Graduate Division develop many new programs. In addition, the groups serve as interdepartmental peer advising groups.

Monthly Coffee Hour. Not every initiative undertaken by the Graduate Division has been a resounding success. An experimental program of monthly coffee hours for graduate students with the Graduate Division Deans, for example, did not draw large numbers of students.

Monitor Academic Advising and Departmental Mentoring

Annual Report on Progress in Candidacy. To fulfill its responsibilities, the Graduate Division has several vehicles for monitoring academic advising and mentoring. All doctoral students who have advanced to candidacy must meet annually with at least two members of their dissertation committees. This annual review is part of the Graduate Council's efforts to improve the doctoral completion rate and shorten the time it takes to obtain a doctorate. The "Annual Report on Progress in Candidacy in the Doctoral Program" is the form used for the review. It includes sections to be completed by the student before and after meeting with committee members, and sections to be completed by the chair of the dissertation committee. Through this report, the Graduate Division learns from both students and their committees about the student's progress on the dissertation

during the past year, the student's objectives for the next year, the student's timetable for completing the dissertation, and whether the student is making adequate academic progress.

Exit Surveys. Every student receiving a doctoral degree at Berkeley must complete a four-page "Survey of Doctoral Students' Opinion." The Graduate Division conducts an ongoing evaluation of the exit questionnaire's specific questions on advising and mentoring. Students are asked to assess the experience they had with their departments and advisers, as well as their general university experience. The graduate dean then sends a letter to the department reporting on the findings and asking that action be taken in problem areas.

Statistical Analyses. Also conducted by the Graduate Division on an ongoing basis are analyses of completion rates, times-to-degree, and job placement outcomes. These analyses reveal whether students in certain departments consistently have long times-to-degree or high attrition rates, whether they are successful in obtaining professional employment, and whether they received departmental assistance in their job search.

Offer Support Programs for Graduate Students Addressing Common Needs and Special Constituents

Dissertation Writing Workshops. "Practical Strategies for Writing a Dissertation" is the title of a four-hour workshop scheduled several times in the fall semester for doctoral students in the humanities and social sciences and in the spring semester for those in the biological sciences, physical sciences, and professional schools. These workshops, which are limited to 25 participants per session, with spaces assigned on a first-come, first-served basis, are led by a professional writing consultant who received a Ph.D. from Berkeley.

Topics covered in the workshops include where to begin and how to keep going; how to move from research to writing to revising to finishing; practical advice on organizing, outlining, setting practical goals and tasks; showing sections to your adviser. Of all the programs designed to address common needs and special constituents, the dissertation writing workshops are the most important and most helpful for students, as well as the most well attended of the Graduate Division sponsored programs.

Grant Proposal Writing Workshops. The Grant Proposal Advising and Outreach Program offers grant writing workshops and individual grant proposal consultations to graduate students. Among subjects of workshops offered throughout the academic year are how to write a grant proposal, grant writing workshops for women, funding available for students of color, and how to write a grant proposal for dissertation funding.

Placement Workshops. An academic placement counselor in the Career Planning and Placement Center holds an academic job search workshop series for students in all disciplines. These workshops cover topics such as the academic job search; writing curriculum vitae and letters of application; teaching and research at American colleges and universities; preparing for on-campus interviews; and interviewing: making the most of a national convention.

Interdisciplinary Research Retreats. Building on an earlier model from the Social Science Research Council, the Graduate Division and International and Area Studies at UC Berkeley have developed interdisciplinary dissertation workshops. A dozen students who are writing dissertations on related issues but in different disciplines in the social sciences, humanities, and professional schools meet together with three to four faculty members for a three-day, off-campus workshop. Topics chosen for the workshops are intentionally broad and inclusive.

The workshops help young researchers set their work in larger intellectual contexts, recognize the value of previously unfamiliar disciplines, contribute constructively to each other's work, and acknowledge the value of comparative approaches. They relieve the often lonely, isolated experience of the dissertation writing process and, in most cases, create continuing interdisciplinary communities on campus. Graduate students involved have expressed great enthusiasm for these workshops.

Workshops can be organized by the Graduate Division, International and Area Studies, or by different research centers or units throughout the academic year. The workshops also provide a basis for new inter-university collaborations.

Graduate Student Instructor Teaching and Resource Center. The Graduate Division's Graduate Student Instructor (GSI) Teaching and Resource Center oversees the training, supervision, and evaluation of GSIs in all disciplines. To fulfill its mission, the center provides a wide variety of services to train GSIs in effective teaching techniques and classroom management.

Insights

In developing new policies or programs, administrators of the Graduate Division at UC Berkeley consult with their constituents—faculty, students, and staff—and consider their interests and concerns. In addition, the Graduate Division always employs a three-pronged approach when developing new policies or programs. Three critical questions are asked in relation to every policy and program: (1) What do students require for academic success? (2) What support does the faculty need in order to advise well and to mentor collectively? (3) How is the staff to carry out the new policies and programs?

Among the Graduate Division's most successful programs are the dissertation writing workshops, interdisciplinary research retreats, graduate assistant's advisory group, focus groups, placement workshops, and GSI training. As noted above, the monthly coffee hour for graduate students with the deans was less successful. Poor faculty attendance by the end of the semester also limited the effectiveness of the monthly invitational faculty, graduate student, and staff research seminars.

Graduate Division administrators at UC Berkeley foresee greater improvements in faculty mentoring if mentoring and advising should become part of the tenure and promotion evaluation system. The time-consuming duties of teaching, publishing, securing grants, serving in campus administrative positions and in the professional community permit faculty members to be effective advisers and mentors to only a few students. Berkeley's strategy, therefore, has been to supplement the traditional individual mentor model with departmental and Graduate Division activities, seminars, and workshops designed to provide mentoring to all students and to socialize them into their professions.

IN BALANCE PROGRAM: MENTORING IN A CHANGING CULTURE

The Center for Particle Astrophysics, an NSF Science and Technology Center at UC Berkeley, provides an example of how the culture of an organization can be altered to foster mentoring in a changing milieu. At the heart of the center's In Balance Program is a comprehensive approach to creating a conducive work environment for a diverse constituency. Physics and astronomy—the physical sciences in general—are fields dominated by white males. By the late 1980s there were very few women and virtually no minorities at the Center for Particle Astrophysics. Retention of younger male scientists was becoming a problem as they evaluated the lifestyles of their advisers and found a 60-hour work week in the laboratory narrow and unappealing.

Mentors typically model the system in which they were educated, and mentoring usually perpetuates the perspective of the dominant culture. In a culture dominated by traditionally educated white males, others—women, people of color, international students, students from rural communities,— i.e., anyone outside the cultural mainstream, face an unspoken but pervasive demand to assimilate. The need to conform to the imperatives of mainstream cultural dominance—"mono-culturalism"—not only can cause personal pain and stress on women and minorities entering the scientific community but effectively undermines a primary benefit of diversity: the creativity and inspiration that develop out of different ways of thinking.

If the underlying intent is to reap the benefits of diversity and enrich science, there is a need to introduce a broader perspective into mentoring programs in the sciences. An objective of the Center for Particle Astrophysics is that the community itself will reflect a broader educational perspective. Setting and maintaining a tone of cultural inclusiveness is one way to help bring this about. The center's efforts to address the issues of "mono-culturalism," sexual and racial stereotyping, low self-esteem, unhealthy

levels of competition, and concerns about combining career and family take place under the umbrella of the In Balance Program.

Developed in response to the "chilly climate" in science for women and minorities, the In Balance Program seeks to create a supportive environment, keep young scientists in the field, retain and attract women and minorities, and build an inclusive community. Goals of the program are to raise the level of consciousness with regard to the issues; teach useful skills such as collaborative leadership, conflict resolution, communication, and team building; and develop a useful model for reshaping the culture.

The Education/Outreach component of the Center for Particle Astrophysics is the hub of the In Balance Program and has a range of activities and responsibilities. They produce In Balance community meetings, workshops, retreats, and skills training; supply planning support for participants' projects, speakers, and a reference library; participate in special projects, e.g., a conference on The Changing Culture in Science, and community generated projects; and are responsible for securing funding, participating in the development of content, maintaining quality, and expanding the program.

Using a combination of informal discussions, workshops, retreats, community meetings and events, scientists and staff in the center are exploring issues, problems, or topics of interest. A first step has been to develop an environment that supports open discussion of problems. Issues are discussed within the framework of the community, and people do not regularly separate into special groups. In addition, the center encourages multi-culturalism in a variety of ways: exhibits in the center conference room feature photographs, art, crafts, scientific overheads created by people in the center and the physics department; the observance of various cultural traditions; the development of a planetarium show that presents a multi-cultural view of the search for dark matter; the presentation of a public lecture series that they hope will make astrophysics more accessible to the general public. These efforts are part of the initiative to broaden the educational perspective.

Changes

Since the inception of the In Balance Program there is more open discussion of the culture at all levels of the community. These discussions have heightened awareness of cultural sensitivities and the differing perspectives on the "chilly climate" issues.

Although the larger number of women now present in the Center may not be a result of the In Balance Program (it may be a statistical fluctuation), junior and senior people alike are much more aware and supportive of the need to increase the participation of women and minorities.

In some research groups and among some members of the Center there is a softening of the traditional hierarchical barriers.

Through its summer program the Center has recruited both African-American and Native American students.

There appears to be a quiet pride among some Center members that they are

involved in a community that values people and, however awkwardly, is addressing fundamental human needs.

The goal of having people, particularly women and minorities, pursue their educational and professional goals without added stress has prompted the appointment of an ombudsperson to assure open communication and access to senior scientists and administrators while preserving anonymity.

Continuing Challenges

Ownership by the community is essential to the continuation and success of the In Balance Program. People in the culture must guide its evolution; ideas and solutions cannot be imposed from outside. The exploration and questioning of deeply rooted, often unconscious behaviors and traditions, and the successful harmonizing of conflicting views require commitment and flexibility. Being sensitive and responsive to the level of stress and polarization present in the community has also been very important. Two primary tasks have been to encourage people to express their views and to respond so that they know they are being heard and their opinions considered. Another aspect of the challenge is to include conflicting views about the program, its direction and efficacy, as strategies are developed to change those practices that obstruct the educational and professional goals of Center members.

The In Balance Program is not intended to provide a template for a set of proper responses to a static group of issues, but to function as an evolutionary process to help identify and implement positive responses to changing issues, needs and questions. In addition, the program is an experiment, that so far, has provided some valuable insights for achieving the goal of a diverse, healthy, and productive scientific community.

There are, of course, many problems involved in attempting to change a culture to create a conducive work environment and a diverse constituency. A few of the more easily identified are:

- Translating processes and techniques developed outside the scientific environment that help people recognize and talk about their feelings into language that is familiar and acceptable to those trained in the scientific method is both important and difficult.
- Keeping the momentum going in a voluntary program with meetings scheduled during the normal work day is a challenge. It is hard to fit meetings and workshops into the frenetic pace. Also skills learned in a workshop need to be reinforced by follow-up meetings, or they will not be integrated into life in the laboratory or office.
- A natural aversion to change impedes the program. Critics accuse it of being exclusive, elite, or "touchy-feely." There is also criticism of its

funding in a period of budget cuts. Participants in the In Balance Program work to include both the critics and the issues they raise in community discussions. The goal is to use the information emerging from these interactions to help determine the direction and focus of the program.

Insights

The objectives of the In Balance Program are highly compatible with the need to provide a multi-cultural perspective in the mentoring process. Improving the culture in science—a central goal of the program—is thought to be a key element in attracting and retaining a diverse group of students and providing them with a more fertile ground for success, which is a central goal of mentoring.

The guiding principles of an inclusive community—soften hierarchical boundaries, encourage communication, offer equal involvement to all members of the group in decision making, foster interconnectedness among the groups, replace unhealthy competition with collaboration, and avoid adversarial framing of the issues—also provide a healthy environment for mentoring.