

Mentoring: Lessons Learned and Research Questions

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Mentoring has become the popular national “cure-all” for recruitment, retention and advancement of people from underrepresented groups in science and engineering in both the academic and corporate sectors. Until recently, the literature did not provide concrete guidelines on how to train people to be mentors or mentees, on how to transfer training across different disciplines or environments, nor on how to deal with special issues of concern in mentoring relationships. Perhaps more importantly, there is very little research on the effectiveness of mentoring and on its impact on graduation and career outcomes. Finally, the literature has a limited number of evaluation studies measuring the effectiveness of specific types of mentoring programs and mentoring relationships.

The purpose of this paper is to describe general lessons learned about implementing mentoring programs, the challenges in measuring the effectiveness of mentoring programs as well as other retention programs, and research questions about mentoring that need to be addressed.

General Lessons Learned

1. A large body of literature exists on theories of mentoring. Yet, there is no accepted definition of mentoring. Further, there is a great deal of “magical thinking” about what happens when mentors and mentees do come together (Wunsch, 1994). Mentoring skills are thought by many to be intrinsic and naturally done; yet, in many cases, what passes for mentoring is not mentoring at all.
2. Past experience has revealed a lack of and a definitive need for extensive training of mentors, mentees and administrators of mentoring programs in order to have an effective mentoring program (Bird, 1993; Brainard, 1994, Faddis, 1988; Gaskill, 1993; Henry, 1994). Simply matching a mentor and mentee is not enough. The mentor and mentee need to understand their goals and responsibilities and have an awareness of the climate issues at their institution. Further, mentors and mentees need to have a way to measure the relationship's success.
3. Multiple mentors can assist students. Advisors serve as the professional and institutional authority that students will first depend upon for navigating their academic career. A student's research, publications, and entry into a field may be linked with the advisor for years, continuing even after the student graduates. As such, the advisor is an immediate and powerful authority figure. Choosing the right advisor is critically important to a successful graduate school experience (Feibelman, 1993; Zuccarelli, 1993; Walbot, 1993). Even if the advisor can offer some mentoring, it is rare for him or her to have all the qualities and characteristics that a graduate student expects. Choosing advisors is particularly difficult for individuals from underrepresented groups for they often lack the confidence not to be intimidated.
4. Anecdotal studies of cross-gender and cross-racial mentoring exist, but little if any research exists on the effectiveness of cross-gender and cross-racial mentoring.

Challenges of Evaluating Mentoring

1. Evaluations of mentoring programs tend to assess student perceptions of the effectiveness of a program or student satisfaction with a mentor. Very few studies examine the impact of a mentoring program or the mentoring relationship on graduation and career outcomes (Brainard, 1998, 1995).

2. Surveys of student perceptions of climate provide some information, but without multiple levels of analyses (faculty, staff, department chairs, and administrators), many unanswered questions remain (Brainard, 2002; Huang, 2002).
3. Surveys alone reveal the need for more in-depth analyses; focused interviews would be particularly helpful when small sample sizes of different ethnic groups are all that can be obtained (Brainard, 1999, 2002; Huang, 2002).
4. The quality of items on different survey instruments often proves disappointing during analyses, even when validity and reliability tests are administered (Brainard, 2002; Huang, 2002).
5. Longitudinal tracking is labor intensive and time consuming. Retention rates are rarely collected by institutions, which is the only "full-proof" method (Brainard, 1998) of measuring retention. Most often institutions report cohort data as retention, which does not provide the same information as individual tracking.
6. Human Subjects Clearance processes at each institution are slightly different. For example, the University of Washington uses the Medical School Model of Patient Risk for all research, which is not totally adaptable to social science research. Hence, the process of clearance is time consuming, unpredictable, and requires an inordinate amount of scrutiny.

Research Questions on Mentoring

1. Are there definitions of mentoring that are commonly accepted? Most faculty appear to believe that mentoring and advising are synonymous.
2. Can mentoring be taught? What are the personality types of individuals who are successful mentors? Who are not successful mentors? How do we identify successful and unsuccessful characteristics of mentors?
3. Is cross-gender mentoring effective? Is cross-racial mentoring effective? Does each have an impact (positive or negative) on academic retention and career outcomes?
4. Is mentoring more effective for majority groups than for underrepresented groups? Are different types of mentoring more appropriate for specific levels (e.g., undergraduate, graduate or post-docs)?
5. What types of mentoring or mentoring programs have an impact on academic retention and career outcomes of students?

Lessons Learned References

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