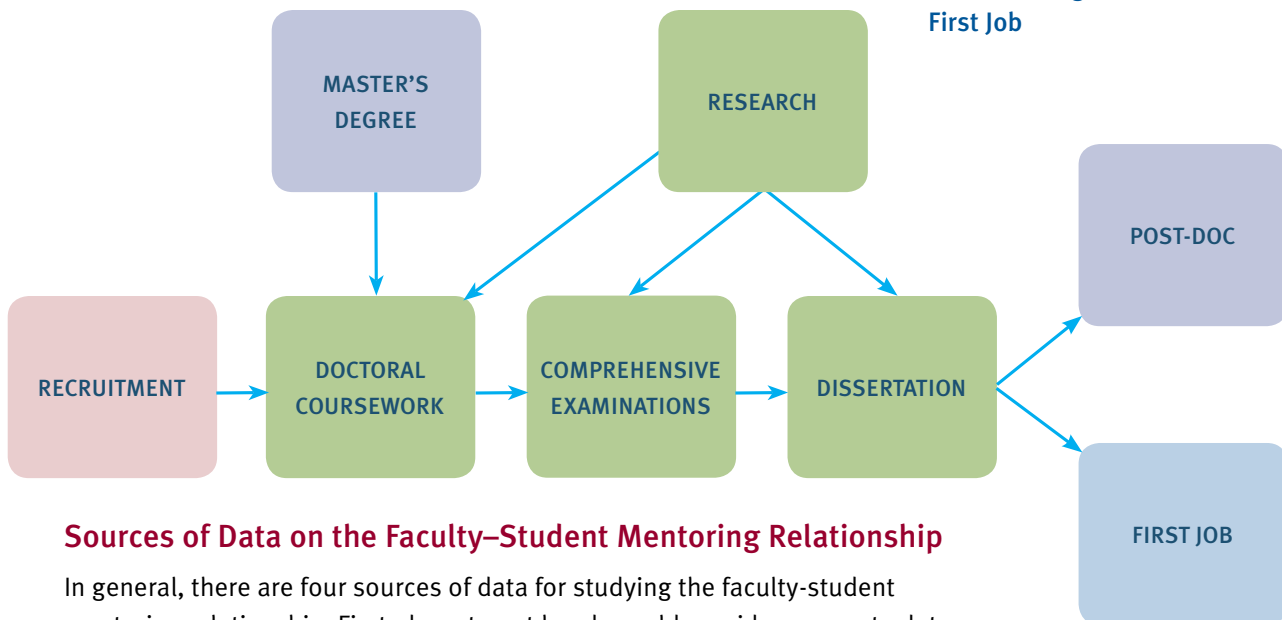


Figure 5-1:

A Model of Student Flow through Doctoral Programs to a Post-Doc or First Job



### Sources of Data on the Faculty–Student Mentoring Relationship

In general, there are four sources of data for studying the faculty-student mentoring relationship. First, department heads could provide aggregate data on various aspects of faculty interactions with students. Second, faculty themselves are a natural source of data on student mentoring. Third, database systems may be useful in monitoring graduate students’ mentoring and progress through a doctoral program and early career. Although such databases are not, at this point, in widespread use at the graduate school level, these systems hold forth some promise for better understanding the ways in which students move into the professoriate. Fourth, graduate students themselves are a source of data, providing valuable qualitative insights.

The method by which data are collected should be determined by the evaluator based on available institutional sources. Questions the evaluator may consider include the following:

- Should data be collected via institutional online records or surveys?
- When are interviews and focus groups appropriate?
- What are the cost implications for programs that are related to methodological questions?

Surveys and other quantitative institutional data can be useful when general information about large groups is desired. In some cases, information about some of the mentoring relationship issues—especially those about the quality and perceived effectiveness of mentoring—may be obtained more efficiently through focus groups or individual interviews than by quantitative means.

Qualitative interviews of both faculty and students may be useful for learning how faculty deal with difficult situations during mentoring. Surveys, interviews, and focus groups involve possible selection biases and responses from students and faculty that are designed to “please” the researcher. Therefore, whenever possible, institutional records should be used as additional, unobtrusive indicators of the extent and quality of mentoring.

## Faculty Background Data

Collecting data on faculty race/ethnicity and citizenship, as well as sex and disability status, is important. Other data, such as faculty rank, tenure status, doctoral degree-granting institution, and the year faculty members earned their degree, will provide an opportunity for a more nuanced analysis of faculty mentoring. These analyses may be useful for faculty development programs.

In addition to faculty background characteristics, learning about a faculty member's own mentoring experience may be insightful. Are faculty modeling good (or not so good) mentoring practices from their doctoral training? Have they participated in any campus-based mentor training workshops? Why or why not? Are there any campus-based mentoring training workshops? How do faculty feel about mentoring? Is mentoring normative within the faculty member's department?

## Student Recruitment and Faculty Mentoring

The faculty mentoring relationship can be set in motion as early as recruitment to graduate school. At this stage, faculty and students are checking each other out. Both parties want to know if the mentoring spark will ignite. Are there indications that a fruitful intellectual relationship will develop if a graduate program admits a student and, in turn, does the student see the potential for a beneficial relationship with a faculty member or members? Early in the recruitment process, faculty can set the tone for a prospective student's experiences in graduate school, which can then have implications for whether or not that student pursues a career in the professoriate or a career outside academia.

The overarching question for the relationship of mentoring to recruitment is "who owns recruitment?" Is it the academic department, the graduate school, and/or the provost's office? Determining the answer to this question provides a context for answers to other important questions about the student recruitment process.

Who recruits? Is it faculty and/or administrators from the academic department or the graduate school? Who decides which faculty members participate in student recruitment? Is it the graduate dean, the chair, or the department? How are faculty selected or identified to do recruitment? Is it self-selection or a rotating assignment? Do faculty travel for recruitment trips or are they only part of the annual on-campus recruitment effort? Are faculty recruiters trained to discuss recruitment issues, such as financial aid, time-to-degree, and Ph.D. completion rates?

If faculty have training, how is it done (given a program recruitment handbook, attended a workshop, provided with a program fact book)? If faculty participate in recruitment, what are the rewards or recognitions? Do the same faculty who do recruitment actually supervise dissertations or are these processes not connected? Do the recruiting faculty receive financial compensation, course release, letters of thanks for their personnel file, or are they expected/required to do this as part of their service to their department?

For junior faculty, it is important to know if their involvement in recruiting will help at tenure review and if it reduces their productivity.

Finally, where do faculty recruit graduate students? Do faculty discuss graduate school opportunities in their undergraduate classes as well as in advising sessions with undergraduates? Do graduate faculty participate in undergraduate research opportunity programs on their own campus? Do they contact their colleagues at other colleges and universities to ask about promising students and their plans for attending graduate school?

### Aspects of the Mentoring Role

Table 5-1 presents three different aspects of the faculty mentoring role: (a) confidence with mentoring; (b) cross-cultural mentoring; and (c) mentoring practices. Following the table is a discussion of each of these areas.

**Table 5-1**

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#### INDICATORS FOR STEM FACULTY GRADUATE STUDENT MENTORING

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##### Confidence with Mentoring

Confidence with advising students on:

- Types of departmental financial aid
  - Non-departmental sources of financial aid
  - Careers in science by career type
  - Preparation of papers, posters, and oral presentations
  - Grant writing
  - Teaching
  - Family-related issues
  - Preparation for teaching
  - Research ethics
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##### Cross-Cultural Mentoring

Comfort with advising and sensitivity to students who are African Americans, Hispanics, American Indians, Alaskan Natives, Native Hawaiians or other Pacific Islanders, foreign nationals, female, or physically disabled.

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##### Mentoring Practices

- Frequency of office hours
  - Frequency of student progress reports or evaluation
  - Number of hours per week spent advising graduate students
  - Number of graduate student/postdoctoral/faculty social events attended last academic year
  - Number of graduate student/postdoctoral/faculty social events sponsored at a faculty member's home during the last academic year
  - Number of times a faculty member assisted graduate students with family issues last academic year
  - Number of papers published or patents with graduate students in the last three years
  - Number of graduate students provided with travel funds from faculty grants for conferences or skill-building activities last academic year
  - Evaluation of mentoring relationship on an annual basis
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