Surviving Graduate School and Beyond

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Doctoral Education

• KU among the top 50 universities in the granting of doctorates, conferring over 300 research doctorates each year for the last 3 years.


• 488,133 master’s degrees in 2007-2008.

• But how are we doing at doctoral education?
Challenges in Graduate Education

• Mean number of years to completion of a research doctoral degree in the United States is 7 years.

• Same as the national average for mathematics PhD degrees.

• Mathematics at KU average time to degree ranges from 5.9 to 6.9 years.
Completion & Time to Degree

• CGS Completion Project

  » Among students who started doctoral programs during 1992-95, fewer than 57% received a degree within 10 years.
  » About 31% of those students had dropped out within 10 years, most of them after just 5 years.
  » …leaving a large number still enrolled after 10 years.
Completion & Time to Degree

- Completion & attrition are bigger problems in the humanities than in engineering
  - Engineering students finish doctorates at nearly twice the rate of students in the humanities & social sciences.
- “Training” model in the humanities & some social sciences:
  - “Give the student 300 books to read and tell them to return when they’ve found a problem to solve.”
- Model in the sciences:
  - student works with a professor for a couple of years on a few well-defined projects. The thesis or dissertation draws on those projects.
Graduate Training Models

- What is the model in Mathematics?
  » Apprenticeship
Graduate Research in the Sciences

• In the sciences, students are joined at the hip to their major professor.
  » You are a member of the “Sue Lunte Lab,” an affiliation that’s often stronger than being in the Department of Chemistry.
  » You are handed a research topic, and you then work closely with a professor and other graduate students.
Graduate Training Models

• Or solitary?
Mentoring: A Key to Graduate Training

• Outside of the science model,

• Graduate students can wander for years in the academic wilderness if no one mentors them effectively.
Graduate Education: Sink or Swim?
Graduate Student Superstars

• Bloom and Bell (1979: 231) on the most successful psychology graduate students.

  » "These are the few who proceed through the program with the minimum amount of difficulty and a maximum amount of quality performance. They are respected by the faculty, they receive the best financial assistance, they receive accolades, and as a group, they end up with the best employment."

• The graduate school “superstars”
Nobody Likes a Superstar

...unless they are one
Graduate Student Superstars

- **Visibility**
  - The best students were physically present in the department—a lot.

- **Willingness to Work Hard**
  - The best students were perceived as hard-working because faculty saw them working hard.

- **Reflection of Program Values**
  - The best students recognized the value of having contact with broad areas of their discipline.

- **Development of Relationship with a Mentor**
  - The best graduate students had close working relationships with faculty.
Graduate Student Superstars

• Aside from hard work the best thing for your graduate career is to get the mentoring you need.
What is a Mentor?

- **Advisor**
  - people with career experience willing to share their knowledge
- **Supporter**
  - people who give emotional and moral encouragement
- **Teacher/Tutor**
  - people who give specific feedback on one’s performance
- **Master**
  - to whom one is apprenticed
- **Source**
  - of information, aid in obtaining opportunities
- **Role model**
  - of what it means to be an academic
Mentoring

• Develop a mentoring team

» A group of people you can get advice from
» Not necessarily that they will work together, but you’ll get different sorts of help for different sorts of people.
» Not just your advisor
» Many different people can be your mentors
Mentoring

• Identify potential mentors
  » Familiarize yourself with professors’ work
  » Immerse yourself in departmental academic and social activities
  » Enroll in classes taught by faculty who interest you the most. Attend their public presentations
  » Ask advanced graduate students about their advisors and mentors
Why is the mentor important?

- Undergraduate goal: to **obtain** knowledge
- Graduate goal: to **contribute** to a field of knowledge.
- Making that shift isn’t always obvious or easy. Needs to be modeled; preferably by a mentor.
- Students who have appropriate mentoring relationships have
  » higher productivity levels
  » higher level of involvement with departments
  » greater satisfaction with their programs
Mentoring

• Preliminary results of CGS Ph.D. Completion Project
• Improvements in mentoring outnumber any other area of activity and innovation in increasing completion rates
  » Quality of mentoring
  » Frequency of mentoring
  » Uniformity of mentoring
• Appropriate mentoring may increase Ph.D. completion
Preparing Future Faculty

• How are we preparing our Ph.D. students for faculty positions?

• “At Cross Purposes: What the experiences of today’s doctoral students reveal about doctoral education”
  » Chris M. Golde & Timothy M. Dore
  » A Survey Initiated by the Pew Charitable Trusts
The survey was designed to answer the following questions:

» Why are doctoral students pursuing the Ph.D.?
» How well do doctoral programs prepare students to be faculty members?
» Do students understand what doctoral study entails before they enroll and once they begin their studies?
» Do students understand what is expected of them during their programs and how to meet those expectations?
» Are the day-to-day processes of doctoral programs sufficiently clear so that students can concentrate on developing knowledge and skills?
Preparing Future Faculty

Major Findings:

• The training doctoral students receive is not always what they want.
  » It does not always prepare them for the jobs they take.

• Many students do not clearly understand what doctoral study entails, how the process works and how to navigate it effectively.
Preparing Future Faculty

• 63% of students entering Ph.D. program want a career as faculty member.

• WHY?
  » 83.2% because they enjoy teaching
  » 79.9% because they enjoy research

• And what do the other 37% want?
  » We are training you for non-academic professions, too
Where do Faculty Work?

- In 2001 there are nearly one million faculty members working in U.S. colleges and universities.
- The number of faculty, combining full- and part-time faculty, is steadily growing.
- Among all faculty, 57% are full-time and 43% are part-time.
Where do Faculty Work?

• Among all faculty, 31% work in two-year colleges.
• Of full-time faculty, 20% are in non-tenure-track appointments.
• Part-time faculty usually work at community colleges (44%); the remainder are evenly spread across other institutional types.
• Full-time faculty are employed across the range of institutional types:
  » 27% at research universities
  » 15% at doctoral granting universities
  » 25% at comprehensive universities
  » 7% at liberal arts colleges
  » 20% at community colleges
What do Faculty Do?

- Teaching occupies most of a faculty member’s time.

  » Faculty members spend an average of 29 hours a week in teaching activities:
    - 5-12 hours a week teaching in the classroom,
    - 10-20 hours a week on preparation and grading, and
    - 1-4 hours a week advising students.
What do Faculty Do?

- Service, administration, and governance also take time.
  - Faculty members give an average of 11 hours a week to service and administration.
  - Most faculty members spend these hours on committee work and meetings, community or public service, and other administrative tasks.
What do Faculty Do?

• Research absorbs very little faculty time.

» Faculty members spend an average of 9 hours a week in research and scholarly activities.
» 33% report spending 1-4 hours per week on research and scholarly writing,
» 25% report spending no time at all.
Preparing Future Faculty

• Most students (65%) felt that their programs adequately trained them to do research.
  » Only 27% felt prepared to collaborate in interdisciplinary research
  » Students reported varied levels of understanding of responsible conduct of research/scholarship
Preparing Future Faculty

• Some students felt that their programs adequately trained them to teach.
  » 51.2% had specific training on teaching in their fields
  » 36.1% reported that they were prepared to teach a lecture course

• Few students reported being prepared for advising.
Preparing Future Faculty

• Very few students felt prepared for university or community service.

  » 19.1% prepared to serve the profession (review papers, etc.)
  » 12.7% prepared to serve on department and university committees
  » 13.8% prepared for community service
Conclusion

• Take control of your own education:
  » Get the mentoring that you need
  » Think about why you are here
  » Think about what you want to do when you finish
  » Prepare an IDP to help you get from where you are now to where you want to be
Be a Graduate School Superstar!
If you need us:

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