Graduate Student Professional Development:
Planning, Programs, and Partnerships

Barbara A. Knuth, Vice Provost and Dean
Cornell University
Planning for Professional Development

• What should we provide, and for whom?

• What can we provide?
  • Staff & expertise
  • Resources
    • Internal funding
    • External funding

• What can others provide?
  • What exists already?
  • What can we enhance?
  • What can we help create?
Planning for Professional Development

• Formative evaluation ➔ design
  • Experience & Exit surveys
  • Alumni career outcomes surveys
  • Core competencies & transferable skills

• Process evaluation ➔ implementation
  • ID card scanning to track participation, demographics
  • Event evaluations

• Summative evaluation ➔ outcomes
  • Pre-post assessment
  • ID card scanning enables comparison of outcomes
  • Experience, Exit, Alumni surveys
Planning for Professional Development

• Formative evaluation → design
  • Experience & Exit surveys
  • Alumni career outcomes surveys
  • Core competencies & transferable skills

• Process evaluation → implementation
  • ID card scanning to track participation, demographics
  • Event evaluations

• Summative evaluation → outcomes
  • Pre-post assessment
  • ID card scanning enables comparison of outcomes
  • Experience, Exit, Alumni surveys
Planning for Professional Development

- Needs identified through student exit survey.

### Student Exit Survey by Field Continued

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Field</th>
<th>Survey Year</th>
<th>Degree Type</th>
<th>View Results by</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>Doctoral</td>
<td>All Values</td>
</tr>
</tbody>
</table>

#### Learning Outcomes

<table>
<thead>
<tr>
<th>Skill</th>
<th>Not at All(1)</th>
<th>Very Much(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectively engage in community outreach</td>
<td>10.6%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Understand/articulate impact of research</td>
<td>11.7%</td>
<td>32.3%</td>
</tr>
<tr>
<td>Explore interconnections among contexts</td>
<td>10.4%</td>
<td>26.1%</td>
</tr>
<tr>
<td>Respect research of other disciplines</td>
<td>6.4%</td>
<td>38.2%</td>
</tr>
<tr>
<td>Think originally/independently</td>
<td>14.5%</td>
<td>47.2%</td>
</tr>
<tr>
<td>Identifying new research opportunities</td>
<td>4.5%</td>
<td>32.3%</td>
</tr>
<tr>
<td>Identify/access appropriate resources/information</td>
<td>18.9%</td>
<td>37.0%</td>
</tr>
<tr>
<td>Analyze/evaluate research findings</td>
<td>10.9%</td>
<td>49.5%</td>
</tr>
<tr>
<td>Synthesize existing knowledge</td>
<td>14.5%</td>
<td>43.4%</td>
</tr>
<tr>
<td>Master existing methodologies/techniques/skills</td>
<td>18.0%</td>
<td>37.1%</td>
</tr>
<tr>
<td>Communicate appropriate to your discipline</td>
<td>16.9%</td>
<td>39.8%</td>
</tr>
<tr>
<td>Keep abreast of current advances</td>
<td>19.3%</td>
<td>36.7%</td>
</tr>
<tr>
<td>Show commitment to development through engagement</td>
<td>7.3%</td>
<td>37.0%</td>
</tr>
<tr>
<td>Show commitment to learning environment</td>
<td>8.8%</td>
<td>36.3%</td>
</tr>
<tr>
<td>Adhere to ethical standards in the discipline</td>
<td>4.7%</td>
<td>36.3%</td>
</tr>
<tr>
<td>Listen/give/receive feedback</td>
<td>4.9%</td>
<td>35.4%</td>
</tr>
</tbody>
</table>
Planning for Professional Development

- Needs identified through alumni surveys.

### Doctoral Career Outcomes Survey Analysis by All Values

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Field</th>
<th>Survey Year 2014</th>
<th>Degree Year All</th>
<th>View Results By All Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>All</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In your opinion, how important are the following elements of doctoral education for students entering jobs in your field?</td>
<td>Very Important(1) to Not Important At All(3)</td>
<td>2014</td>
<td>Degree Year All</td>
<td>View Results By All Values</td>
</tr>
<tr>
<td>Experience gained through an internship</td>
<td>34.5%</td>
<td>39.2%</td>
<td>26.3%</td>
<td></td>
</tr>
<tr>
<td>Practice of academic or professional writing skills</td>
<td>80.8%</td>
<td></td>
<td>16.9%</td>
<td></td>
</tr>
<tr>
<td>Presentation of work at a professional conference</td>
<td>69.4%</td>
<td></td>
<td>27.4%</td>
<td></td>
</tr>
<tr>
<td>Public performance or exhibit of original creative work</td>
<td>31.8%</td>
<td>27.8%</td>
<td>40.3%</td>
<td></td>
</tr>
<tr>
<td>Knowledge of research methods in your field</td>
<td>78.9%</td>
<td></td>
<td>18.4%</td>
<td></td>
</tr>
<tr>
<td>Knowledge of formal analytic technique in your field</td>
<td>69.4%</td>
<td></td>
<td>26.7%</td>
<td></td>
</tr>
<tr>
<td>Opportunity to interact across disciplines</td>
<td>49.5%</td>
<td>43.9%</td>
<td>6.6%</td>
<td></td>
</tr>
<tr>
<td>Experience working collaboratively with colleagues</td>
<td>61.5%</td>
<td></td>
<td>34.6%</td>
<td></td>
</tr>
<tr>
<td>Experience working collaboratively with faculty on research projects</td>
<td>58.3%</td>
<td></td>
<td>34.2%</td>
<td></td>
</tr>
<tr>
<td>Experience as a Teaching Assistant</td>
<td>40.7%</td>
<td>41.2%</td>
<td>18.1%</td>
<td></td>
</tr>
<tr>
<td>Experience as a Research Assistant</td>
<td>47.0%</td>
<td></td>
<td>41.6%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Consideration of ethical dilemmas in your field</td>
<td>22.8%</td>
<td>46.1%</td>
<td>31.1%</td>
<td></td>
</tr>
</tbody>
</table>
Planning for Professional Development

• Core Competencies
• Transferable Skills
Norming: Multiple Career Paths Are Okay!

<table>
<thead>
<tr>
<th>Envisioned career with graduate degree by Doctoral</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Time Academic Faculty</td>
<td>47.3%</td>
</tr>
<tr>
<td>Part-Time Academic Faculty</td>
<td>0.7%</td>
</tr>
<tr>
<td>Academic Non-Faculty Research</td>
<td>2.5%</td>
</tr>
<tr>
<td>Industry/Corporate</td>
<td>16.2%</td>
</tr>
<tr>
<td>Government</td>
<td>2.7%</td>
</tr>
<tr>
<td>Non-Profit</td>
<td>1.0%</td>
</tr>
<tr>
<td>Further Education/Postdoc</td>
<td>6.7%</td>
</tr>
<tr>
<td>Do Not Know</td>
<td>13.4%</td>
</tr>
<tr>
<td>Other</td>
<td>0.7%</td>
</tr>
<tr>
<td>Refused/Not Answered</td>
<td>8.7%</td>
</tr>
</tbody>
</table>
Planning for Professional Development

- Where should we concentrate efforts?

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Student Exit Survey by Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical and Computer Engineering</td>
<td></td>
</tr>
<tr>
<td>Comparative Biomedical Sciences</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td></td>
</tr>
<tr>
<td>English Language and Literature</td>
<td></td>
</tr>
</tbody>
</table>

Advising and Mentoring

- Strongly Disagree (1) to Strongly Agree (5)

<table>
<thead>
<tr>
<th>Program prepared me for current career goals</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparative Biomedical Sciences</td>
<td>20.0%</td>
<td>60.0%</td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>15.6%</td>
<td>38.5%</td>
</tr>
<tr>
<td>Economics</td>
<td>11.1%</td>
<td>27.8%</td>
</tr>
<tr>
<td>English Language and Literature</td>
<td>5.3%</td>
<td>31.6%</td>
</tr>
</tbody>
</table>
Providing Professional Development

- **Graduate School Units**
  - **Associate Dean for Inclusion and Student Engagement**
    - Leadership Development, Communication and Conflict Resolution, Academic Success, Valuing Diversity/Multicultural Understanding

- **Associate Dean for Academic and Student Affairs**
  - Writing (thesis, dissertation, competitive fellowships), Responsible Conduct of Research

- **Assistant Dean for Student Life**
  - Health and Wellness, Time Management, Community Building

- **CU-CIRTL Director**
  - Future Faculty Development, Mentoring Skills, Learning through Diversity, Learning Communities

- **Director of Postdoctoral Studies**
  - Leadership and Management, Communication
Partnering for Professional Development

- **Partners with Graduate School funding**
  - English Language Support Office (via Knight Writing Institute)
  - Career Services (0.5FTE leverages additional services)

- **Partners with external grants through Graduate School**
  - Center for Teaching Excellence (grants from CGS, Teagle, NSF/CIRTL)

- **Partners with external grants**
  - BEST – Broadening Experiences in Scientific Training (grant from NIH)

- **Partners with own funding**
  - Human Resources
    - Organizational Development and Effectiveness
    - personal financial management
Engage Faculty and Graduate Programs
Example: Science Communication

• Kavli Institute at Cornell for Nanoscale Science
• Alan Alda Center for Communicating Science
Funded Faculty as Program Partners
Example: BEST Program

• Broadening Experiences in Scientific Training (NIH $$, PIs in veterinary medicine & biomedical engineering)

• “Liking” something is not a career!

• Wide variety of career options requiring or benefiting from advanced scientific training:
  • industrial R&D, science communication, science policy, science advocacy, regulatory affairs, entrepreneurship

• BESTernship in a chosen (or possible) career path.

• NIH focus on life sciences/biomedical researchers; additional support from Graduate School and four colleges to include STEM students and postdocs - diversity enriches programs!
Engage Campus Partners
Example: Policy & Advocacy

- Cornell Office of Governmental Affairs
Engage Faculty and Campus Partners

Example: Leadership Development Course

• Faculty instructor, offered in academic department.

• Human Resources partner - Organizational Development and Effectiveness.

• Non-credit option offered for postdocs.

• Content:
  • Competencies & values required for effective leadership.
  • Theoretical perspectives and processes of leadership.
  • Leadership approaches and tools (leading groups, coaching individuals and teams, resolving conflict, leading change).
  • Apply & critique in context of lab group, community group.
  • Develop e-portfolio skills.
Develop Comprehensive Programs
Example: Writing Skills

- Led by Associate Dean for Academic Affairs (Jan Allen).

- Proposal, Thesis, and Dissertation Writing Boot Camps
- Writing Competitive Fellowship Application Workshops
- Graduate School Write-Ins

- Productive Writer Listserve

- Partnership with Knight Institute for Writing in the Disciplines
  - Graduate Writing Consultation Service
  - English Language Support Office
Offer Just-in-Time Programs
Example: Signature Series

- Led by Assistant Dean for Graduate Student Life (Janna Lamey).
  - Perspectives on Health and Wellness
  - Transitions for New Students
  - Financial Literacy & Personal Financial Management
Offer Targeted Programs

Example: For Women Students

• In partnership with President’s Council of Cornell Women.
Future Faculty Preparation
Example: CU-CIRTL & Center for Teaching Excellence
Consider Credentialing

COMMUNICATION CERTIFICATE PROGRAM

As a professional you will need to communicate effectively in many different ways: from writing a press release, to blogging, to presenting your research at national conferences!

The Office of Inclusion and Professional Development at the Cornell Graduate School has organized multiple seminars designed to enhance your communication skills. Students and postdocs who attend 4 or more of these seminars within a two-year period will receive a Graduate School certificate of participation. Program attendance will be tracked and the OIPD office will contact eligible students.

Programs Include:
- Preparing for a Career Fair Visit
- Expanding Your Job Search Skills
- Writing for the Academic Journal
- Creating Effective Presentations
- Approaching Your A Exam Ready to Succeed
- Making Social Media Work for You
- How to Tell Your Story – Public Speaking

For a complete list of communication seminars please follow the link below: http://www.gradschool.cornell.edu/professional-development-events

The Art of Effective Communication For Graduate Students

Thursday, March 28th and Thursday, April 4th
(2 Part Series)
from 4:30 to 6 pm
106 Corson Mudd Hall (dinner is provided)

Listening and communicating effectively are essential life skills, whether interacting with professors, TA’s, students, spouses, partners or friends. This workshop offers direct experience with best communication practices for interacting in a meaningful manner both in and out of the campus environment. These techniques can be applied when answering questions in class, talking one-on-one with students during office hours, or helping out a friend in need.

This workshop uses hands-on exercises, plenty of interaction, and chances to practice new approaches, to develop important communication skills for teaching and for other professional and personal interactions. Presenter: Dr. Jayasi Srinivasan and the EARS Graduate Student Outreach Team

REGISTER SOON – Space is Limited: http://www.gradschool.cornell.edu/events
Helping Students Convey Transferable Skills

• **Assessment Tools**
  - SkillScan, Myers Briggs Type Indicator, StrengthsQuest

• **Analyze & Portray Graduate Experience**
  - **Research and Analytic Skills**
    - Locate and assimilate information
    - Synthesize complex information
    - Defend conclusions
    - Analyze and solve problems
  - **Communication Skills**
    - Write clearly
    - Edit and proofread
    - Speak with large groups
    - Convey complex information to non-expert audiences
  - **Interpersonal Skills**
    - Diplomacy
    - Ability to accept criticism
    - Ability to cope with and manage different personalities
    - Consensus-building skills
  - **Organization and Management**
    - Manage a project
    - Maintain records
    - Organize and plan events
    - Motivate others to participate
    - Meet deadlines
  - **Supervision Skills**
    - Manage people
  - **Entrepreneurial Skills**
    - Work independently
    - Acquire funding
    - Manage a budget
  - **Personal Qualities**
    - Leadership
    - Intellectual strength
    - Perform under pressure
    - Focus, tenacity, stamina, discipline
Graduate School programs and partnerships provide and leverage benefits for graduate students and postdocs toward broad professional development, and build relationships across the university.