The Challenge of Returning: Transitioning from an Engineering Career to Graduate School

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Abstract
While many graduate students have progressed directly from their undergraduate education to graduate school with little or no time passing in between, other graduate students have not followed this pathway. Because of these experiences, “returning” students are different in many ways from “direct-pathway” students, and these differences can enrich the graduate experience both for the returning students and for their fellow students. However, these returning students also face certain challenges that direct-pathway students do not. There are many unanswered questions, particularly in regard to returning students in engineering and other STEM fields. This study addresses some of these questions.

Purpose and Methodology
Graduate students who fit the profile described above were asked to participate in an interview covering three main areas:

- Preparations to return to school
- Perceived similarities and differences, compared to direct-pathway graduate students
- Obstacles to success and resources used to overcome those obstacles

The interview data was then analyzed, using a constant comparative method, to find themes for each student and among the study population. Thus far, three interviews have been completed and analyzed. Additional interviews are being carried out, analyzed, and planned.

Research Questions
- How do returning students experience graduate school?
- What factors hinder or facilitate the success of returning students in graduate school?
- What similarities and differences do returning students perceive between themselves and direct-pathway students?

Participants

<table>
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<tr>
<th>Pseudonym</th>
<th>Gender</th>
<th>Age</th>
<th>Years in workforce</th>
<th>Current Status</th>
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</thead>
<tbody>
<tr>
<td>Andrew</td>
<td>Male</td>
<td>33</td>
<td>7</td>
<td>Third year Ph.D. student</td>
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<tr>
<td>Brenda</td>
<td>Female</td>
<td>38</td>
<td>5</td>
<td>Post-doctoral researcher</td>
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<tr>
<td>Catherine</td>
<td>Female</td>
<td>41</td>
<td>18</td>
<td>First year Ph.D. student</td>
</tr>
</tbody>
</table>

Research Findings: Common Themes
- Definite Goal For Graduate Education
  - All participants had some definite goal, though goals were different
  - Goal contributed to a feeling of engagement with the program and increased focus
- People-Focused Decision Process
  - All participants focused on talking to people
  - Choosing the advisor as much as, or more than, the program
- Significance of Research
  - All participants saw their research as being important, not just a means to get the degree
- Challenges with Group Projects
  - Direct-pathway students may have a different outlook and different priorities
  - Constraints on where/when students who are parents are able to work with groups
- Common Ground with Direct-Pathway Students
  - All participants found common ground in the intellectual content of being a student
  - Life Outside of School
  - More friends outside of the university
  - Student parents have significant commitments outside of school

Themes as Aspects of Identity
- Identity as a Student
  - Preparations to return to school
  - Commonalities with Direct-Pathway Students
- Identity as a Scholar
  - Significance of research
  - Challenges with group projects
- Identity as a Community of Nobles
  - Pertinent decision processes
  - Choosing advisors
- Identity as a Whole Person
  - Constraints on work
  - Work experience

Example Data Excerpts

- I asked questions about who these people were. And one of my decisions was, who are these advisors? How do they treat their students? Are they — do they respectfully engage them, and can I grow with this person, can I work with this person?
- I spent a lot of work researching, like doing reading on my research topic that I wanted to research, because that was what was important to me. I wasn’t just working, I was using more of my time to expand my horizons and to grow personally, and it is that opened doors professionally, that was icing on the cake.
- I think in general the commonality is the overall enthusiasm for doing things that most of the world thinks is boring. That’s a good commonality... most people go into it because they’re interested in it... most people have some sort of spark of inspiration, and so that – especially if you can focus discussions around the spark of – of inspiration then you can find a lot in common with young people because young people often are very easily inspired, and they will spend a lot of time on research projects that they’re inspired by.
- It is all about my family, and helping them and helping us grow together and be healthy, and the community and the church and the broader society overall. Very different perspectives... I’m much more mature, I’m much more concerned about what’s happening around me, not just what’s happening with me.