

Spring 2015

Chemistry Ph.D. Student Experiences

Aubrie L. Pfirman
Clemson University

Julie P. Martin
Clemson University

Follow this and additional works at: https://tigerprints.clemson.edu/grads_symposium

Recommended Citation

Pfirman, Aubrie L. and Martin, Julie P., "Chemistry Ph.D. Student Experiences" (2015). *Graduate Research and Discovery Symposium (GRADS)*. 152.
https://tigerprints.clemson.edu/grads_symposium/152

This Poster is brought to you for free and open access by the Research and Innovation Month at TigerPrints. It has been accepted for inclusion in Graduate Research and Discovery Symposium (GRADS) by an authorized administrator of TigerPrints. For more information, please contact kokeefe@clemson.edu.

Science Ph.D. Graduate Student Experiences



Aubrie L. Pfirman

Department of Engineering and Science Education
Clemson University, Clemson, South Carolina
aubriep@g.clemson.edu



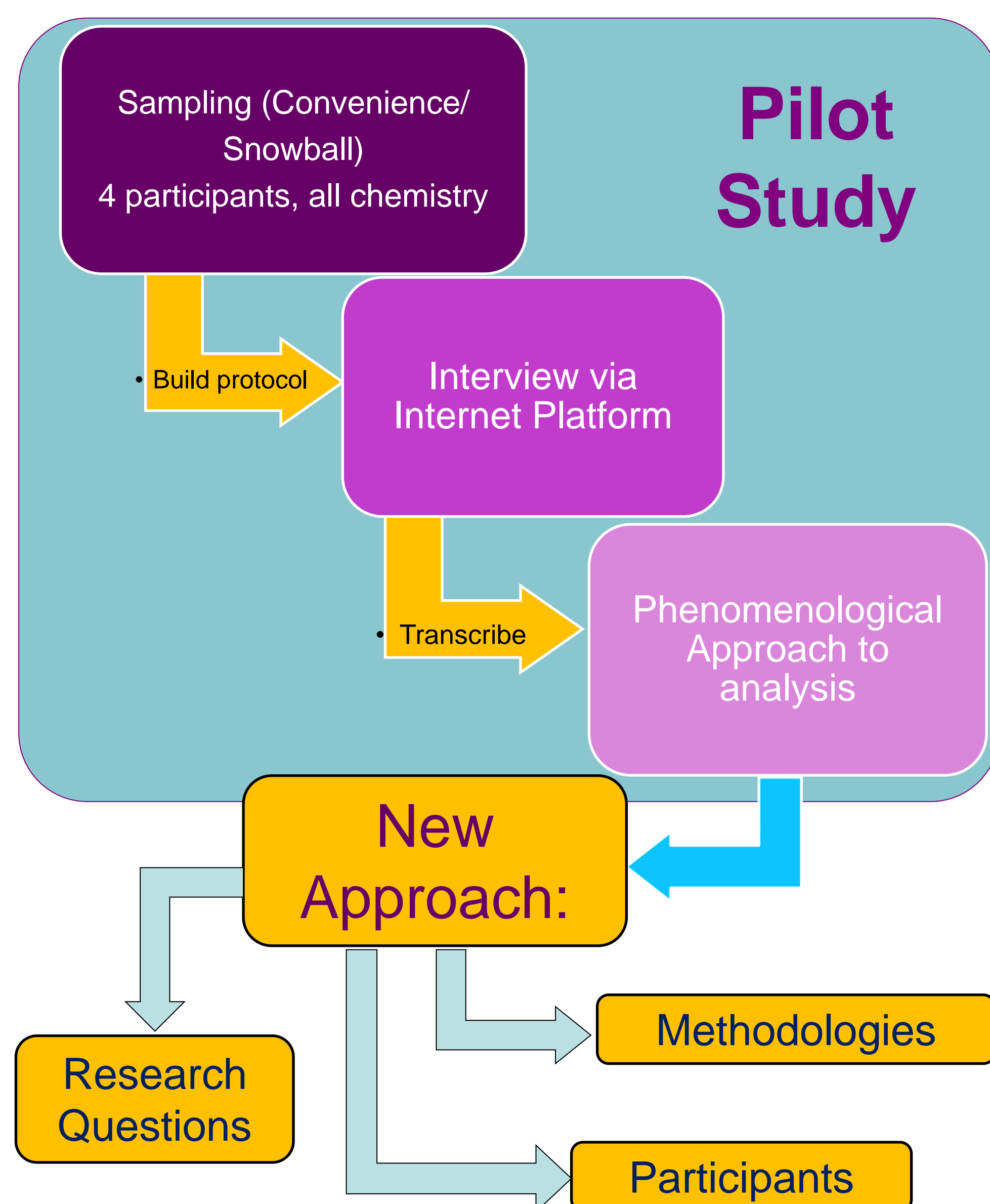
Motivation for Study

- Personal experiences as a Ph.D. student and interest in understanding more of phenomena of the experience
- Attrition rates in the U.S. have held steady at 50% for over 40 years
 - Damages to students
 - Damages to university
- Lack of studies in the literature following noncompleters with exit interviews to find reasons for leaving (lack of understanding)

Research Questions

1. What are the experiences of science graduate students as they obtain their Ph.D.?
2. What are the various ways that the culture/climate of graduate school and the chemistry department affect the student and have an impact on their success?
3. What are the expectations of the faculty advisors for the success of their students? And what are the students expectations for their success?

Methods



Preliminary Pilot Findings:

Advisor-student relationship importance

Positive: Open door, laid back, daily presence in lab, suggesting research ideas in the beginning stages of study, trusting, helpful with goal-setting
Negative: demanding 12+ hour work days, instilling fear for data, mistrust, absence from the lab, authoritarian

Consistency of Departmental Operations and Written Requirements (Adherence to Requirements)

Effects departmental morale and respect of department
Lack of authority in departments and setting low standards
Inconsistency of adherence to requirements frustrating to many students who strive to meet deadlines (while others slide)

Incoming Goals for Obtaining Ph.D.

“I have no clear-cut goals when I came in to be a Ph.D. student.”
“I knew I wanted to try something else, but I wasn’t sure what...you know, it was so foreign that I wasn’t really sure. I wanted to be able to find something I could make a career out of. I wanted to find something I would find fulfilling and make me not have to feel like I was missing out on something.”
“It’s going to be industry or government, just get out of here and get my Ph.D. and find a really nice high paying job and just support a family.”

Factors Determining Success to Graduation

Fate rides on the committee in terms of passing milestones
Research itself depends upon advisor’s *ability* to get grant funding
Should be based upon personal drive
Departmental resources for TA positions and attitude towards students (accepting more students so positions run out and student lose funding)
Successfully obtaining Ph.D. in the end is a gray area based upon advisor’s judgment call

Challenges in Graduate Research

“I knew it would be a hard road. I just didn’t know what hard entailed here. I figured the research would be hard. The hours. Just trying to do, make your boss happy with data. I kind of knew that. I didn’t anticipate for all the, I guess, the little things, like day-to-day . . . I just anticipated the larger macros scale of things but on the micro scale. I didn’t know what to expect there so I kind of learned there, all the little hardships.”
Initial transitions are hard due to learning a new role and how to fit into this new role
Ambiguities of the process and things like how to handle banking and healthcare/insurance
Initial isolation

New Directions

Research Questions:
Original Q’s too vague, so new focus on:

1. Why did they choose to leave? (Or to stay?)
2. Where are noncompleters going?
3. What are some of the disconnects between students’ goals and advisor’s goals?

Methodological Framework:
Original framework of phenomenography maybe not true to purpose →
Autoethnography
Phenomenology
Interpretive phenomenology

Participants:
Originally all chemistry students, but will branch out to science students in general (and possibly engineering due to commonalities.)
Selection will vary according to mode of sampling.

References:

- (1) Nettles, M. T., & Millett, C. M. (2006). Three magic letters: Getting to Ph. D. JHU Press.
- (2) Lovitts, B. E. (2001). Leaving the ivory tower: The causes and consequences of departure from doctoral study. Rowman & Littlefield.