

Lessons Learned: Strategies for Creating and Mentoring Diverse Graduate Student Communities

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Introduction

As both professional societies and university campuses take more active measures to promote diversity awareness and competency, graduate student inclusion is often a secondary focus after undergraduate and faculty enrichment. Many campus diversity offices are already overburdened with increased demands for programming, leaving graduate students to form their own support communities, which can suffer from lack of guidance or cohesion. While it can be tempting to encourage graduate students to attend undergraduate organizations or nominally include them in faculty mixers, neither proposition promotes the discussions graduate students require for personal or professional development. Herein is an introduction to graduate communities, a presentation of four unique graduate-led student communities, a discussion of common difficulties student-led communities experience, and suggestions for successful practices for all graduate communities.

Graduate communities can be comprised of communities of practice, focusing mainly on professional development (e.g. ASEE, National Society of Professional Engineers), identity-focused communities providing shared experiences and community (e.g. the National Organization of Gay and Lesbian Scientists and Technical Professionals, Women in Science and Engineering), or a combination of identity and focused professional development (e.g. Society of Women Engineers, National Society of Black Engineers). Of course, identity-focused groups can incorporate professional development and professional development organizations also involve communities based in shared professional identities. Graduate students in the field of engineering education have recognized the need for professional development and community, creating ASEE Student Chapters unified through the national Student Division.¹ The purpose and effectiveness of these Student Chapters have been reviewed every few years by students involved in these Chapters.¹⁻⁵ Further discussion of professional development communities in the broader field of discipline-based educational research (DBER) have also been discussed within the engineering education community, specifically for those who would like a graduate community focused on professional development but are not at an institution with others who are interested in engineering education.⁶ This paper takes a broader look at graduate communities, sharing experiences from graduate students who have developed and led graduate communities focused around identity, professional development, and mixed groups.

Methods

Leaders from four graduate communities have come together to describe their experiences in uniting the diverse graduate community under unifying goals. Communities were chosen through an open call to graduate communities through the American Society for Engineering Education Student Division. This document is composed of narratives composed by these student leaders in each organization. These narratives describe their organizations and their perceived successes and failures, and the narratives were then organized to highlight common themes of funding and recruitment. Graduate students from Tulane University's Women+ in Science and Engineering, Virginia Tech's Disability and Accessibility Caucus, Purdue's Student ASEE Chapter, and Georgia Institute of Technology's Lean In Chapter will present their ideas on what helps create a successful graduate community. The common findings of all organizations are consolidated into

categories of funding, recruitment, evaluation of success, and best practices for graduate student organizations.

Tulane University: Women+ in Science and Engineering

Background and Development

Tulane University's Women+ in Science and Engineering (WISE), a graduate student and postdoctoral fellow initiative, will conclude its first full year in June 2017. At the ASEE 2016 conference, two graduate students and a Tulane Assistant Professor identified a critical need for graduate student and postdoctoral peer development and began the first steps to unify these groups. The organization's focus is nurturing young academics in STEM fields, but membership is open to all gender identities and disciplines. Speciality committees that focus on personal and professional growth of WISE members have formed within the organization. These speciality committees include those interested in academia, industry, or government careers; mental and physical wellness; international interests; LGBT; and social networking.

Funding

Without the support of university administration, WISE would not have been possible. While many resources are available for graduate students and postdocs around the university, unifying these resources under a single heading and also tailoring them for what WISE members most need is one reason why individuals keep requesting membership. WISE is able to utilize different services from the university, whether it be meeting space, experts to lead specific events, or simple attendance incentives such as refreshments. Individual departments, colleges, student government, and student affair resources have all proven successful. This diverse spread of resources allows WISE to not depend too heavy on already depleted support services for graduate students.

Recruitment and Organization Structure

In its time as an organization, WISE has attracted close to 80 grad students (about 20% of the School of Science and Engineering graduate students), twelve active postdocs, and several faculty and staff who are interested in either grad student development or women in STEM. Recruitment utilized both advertisement to the university as a whole and through individual membership recruitment. Organization leaders were given permission to email the entire graduate and postdoc body periodically throughout the academic year in order to advertise events anticipated to be of high interest to the majority of the potential membership. Additionally, individuals in the organization are continually encouraged to invite friends and colleagues to events either in person or through Facebook. Although social media has been very useful for creating event calendars, the most successful on-going communication strategy has involved creating a Google Account for the organization to combine email, contacts, calendar, and files under an easily-accessible online platform.

Members are able to take on small loads of responsibility, such as committee meetings, or volunteering to write for our newsletter or be an officer. Graduate students have a large load of professional and personal commitments outside of WISE, and therefore an even distribution of small responsibilities have been voted as the best way to secure interest and to prevent over-commitment. The organizational structure of WISE focuses on spreading responsibility and ensuring that no one member is in charge of the success of the organization. Officers are elected

for each committee and they are in charge of scheduling a minimum of one event each semester in relation to the interest of their committee members. Three co-chairs (two graduate students and one postdoc) equally oversee scheduling of events and communication for the organization, along with stepping in for any other chair officer that requests assistance for their responsibilities.

Evaluation of Success

At this time, WISE measures success through both attendance at events and through survey feedback forms. Committees survey the WISE population to determine immediate and long term needs and work with university and community resources around those needs. Across committees, students report a desire to improve their communication skills, learn more about career options with their degrees, learn how to find and how to apply for fellowships and grants, and increased networking between disciplines for increased professional and social collaborative opportunities. Due to both the large number of members and committees, WISE is currently able to support one event a week. These events may be small, such as our Friday Coffee and Wellness Chat (with topics on how to ask for help and identifying your communication style), or larger events which have career development programming applicable to the whole membership.

Best Practices

Events that have had both high turnout (greater than 20% of the organization) and high feedback scores include workshops on creating an individual development plan, improving public speaking with theatrical improvisation, and fellowship opportunities with examples from successful applicants and peer review of applications. Additionally, WISE members, faculty, grad student-focused staff, and university administration have provided universal positive feedback on a monthly newsletter. The newsletter summarizes all scheduled events, gives academic and career tips, provides information on group and individual wellness activities, and highlights the accomplishments of nominated WISE members.

Virginia Tech: Disability Alliance and Caucus

Background and Development

At Virginia Tech there is a lack of focus on disabled individuals. A mindset of complacency is prevalent and the strive for going beyond compliance is minimal and localized to only a few individuals. The Disability Alliance and Caucus is two separate organizations that work jointly to make institutional and academic change happen throughout the university and provide support to all of the members of Virginia Tech as an inclusive environment to and to provide an environment at Virginia Tech that feels supportive and inclusive of all individuals, with or without a disability.

Recruitment

Relative to the population pool at Virginia Tech, the membership, especially the membership present at physical meetings, remains low. Recruitment is being explored through word of mouth, Facebook, and through the Services for Students with Disabilities (SSD) office. Unfortunately, the SSD office provides minimal assistance for advertising and encouraging the existence of the Disability Alliance and Caucus.

Funding

Currently, the funding comes from Dr. Ashley Shew and an award that she received. Further funding will come from asking the students, faculty, and staff alliances at the University. Funding can also come from other internal organizations, however these provide minimal funds. Additional funding comes from percentage nights from local food establishments.

Best Practices

Despite the difficulties with membership at meetings, the DAC has been successful in helping to bring in speakers and holding events. Further, the DAC has been included in diversity measures and organizations within the university. Finally, the DAC has spearheaded both physical and digital accessibility change projects within Virginia Tech and the surrounding community.

Purdue University: ASEE Student Chapter

Background and Development

Purdue University is the home of the first ASEE Student Chapter. Since the chapter began in 1993, it has seen the development of the School of Engineering Education, housing a graduate program in engineering education research and a certificate that focuses on developing the skills needed for engineering professors. However, not all who are interested in engineering education, whether the practical aspects of teaching, the scholarship of teaching and learning, or engineering education research, are a part of the School of Engineering Education. As such, the ASEE Student Chapter plays a role in bringing together students in traditional disciplinary engineering departments with an interest in teaching and those in other colleges, such as the College of Education or the Polytechnic Institute, who are interested in engineering education.

Funding

The ASEE Student Chapter receives funding from a variety of resources. Typically, the chapter's general operating budget is funded primarily through a yearly competitive grant from the Purdue Graduate Student Government. These grants are not guaranteed; however, they have been commonly received in the past. The organization also partners with other groups to fund larger events and has been awarded event-specific grants from the College of Engineering Office of Graduate Education, the School of Engineering Education, the Center for Instructional Excellence, and the Purdue Graduate Student Government for large-scale events that benefit the wider Purdue graduate student community.

Recruitment and Organization Structure

Purdue is one of the few universities with an engineering education PhD program. Many members of the ASEE Student Chapter come from the School of Engineering Education itself. However, the organization strives to be a home for all students interested in engineering education, including those in traditional engineering departments who are interested in academia or outreach and those in other colleges like the Polytechnic Institute and the College of Education who study engineering education at the precollege level. Some recruitment is done through courses taught out of the School of Engineering Education that are open to all engineering graduate students and through additional graduate student networking.

The two most successful recruitment methods are sending mass e-mails to all engineering graduate students using lists from the registrar's office and having departmental ambassadors. The ambassadors are graduate students who are excited about the organization and can advertise

events within their departments as well as forward e-mails with their own recommendations added. Relying on departmental secretaries or graduate student organizations to forward impersonal e-mails has been mostly ineffective—these e-mails were often deleted due to overload from the sender or sometimes not ever forwarded to the respective graduate students. To combat e-mail overload, we have found physical flyers posted throughout engineering buildings to effectively attract a diverse cross-section of the graduate community who might not otherwise be reached. We found that departmental ambassadors sharing personal recommendations and talking to others in their department to be one of the most effective recruitment methods.

Beyond general member recruiting, one thing to always keep in mind is future leadership recruiting and development. A lack of leadership contributed to the decline of the student chapter in the past and was a worry for the leadership team that revived the chapter. Inviting members to take on roles like running one event or assisting with smaller tasks within the organization are great ways to introduce newer members to the workings of the group and become comfortable with the idea of stepping into a leadership position. A great organization can only flourish in the long term if it continues to have engaged leaders. This is especially true for graduate student organizations as graduate students are a fairly transient group with many demands on their time.

Evaluation of Success

There are many possible metrics for success. One of the most successful programs has been bringing the Making Academic Change Happen workshop to Purdue to focus on issues for graduate students. This program was a day-long series of events led by the MACH team from the Rose-Hulman Institute of Technology, funded in part by the Graduate Student Government and the School of Engineering Education. Events included a talk during the Engineering Education weekly seminar course, an extended discussion following the seminar, and workshops for teams to plan how to implement their change projects in an academic environment. This was successful in terms of funds raised, involvement from a sizable and broad cross-section of students on campus, and recognition of the organization across campus for bringing such an event to Purdue University. Additionally, recent efforts to attract more students from all engineering departments, such as holding events in different buildings and providing meals, have resulted in events with a respectable average number of attendees from multiple departments. Still, we have struggled to maintain consistent or enthusiastic involvement from individuals inside or outside of the School of Engineering Education, leaving a sense that there is considerable room for improvement.

Best Practices

Successful programs have been those that have panels of speakers and topics that are directly relevant across departments. For example, “Learning from Experience,” a panel of three veteran professors on stories from the classroom and how to handle students and situations as an instructor or “Making the Most of Your TA Experience,” with a panel of former teaching assistants and instructional experts, were very popular. Seminars discussing how to deal with teaching-related documents for academic jobs were also well-attended. Topics like how to ethically do research on your engineering students and international experiences, a panel discussing both how to teach international students and the benefits of studying abroad, were not well attended, despite being specifically requested by students. Further, we have found surveys seeking student interest in various event topics to be mostly ineffective.

Purdue's ASEE Student Chapter aims to bring graduate students across campus together through a shared interest in engineering education. As the first such Student Chapter, Purdue's organization has seen many changes over the years with each new group of student leaders redefining what they believe are the needs and interests of the community they serve. By providing events that speak to the shared interest of engineering education, the ASEE Student Chapter creates a community for graduate students across Purdue University.

Georgia Institute of Technology: Lean In at GT

Background and Development

The Lean In Chapter at the Georgia Institute of Technology (Georgia Tech), Lean In at GT, was founded through LeanIn.org. LeanIn.org was established as a response to the best-selling book, *Lean In* by Sheryl Sandberg, which provides practical advice to women on battling gender stereotypes and having the confidence to pursue limitless goals. Lean In at GT hosts monthly meetings with small peer groups covering an array of topics such as leadership, communication, and confidence. These meetings regularly evolve into discussions about graduate school experiences and difficult situations that arise with regards to gender bias. Through these conversations, our members work together to find professional and impactful solutions to increase awareness of gender bias, combat these biases, and initiate change. Most importantly though, this organization provides a diverse support system that empowers participants to succeed in their pursuits on and off Georgia Tech's campus.

Funding

Lean In at GT receives most of its financial support from various academic departments at Georgia Tech. The organization reaches students across all schools on campus; therefore, at the beginning of the fall semesters leaders meet with many academic department chairs to discuss the goals and needs of Lean In at GT. Through these meetings, academic departments with funding support the organization through financial contributions; however, this funding is not necessarily guaranteed or consistent each year. Funds pay for snacks at monthly meetings and end of semester awards for perfect attendance to encourage consistent participation.

Recruitment and Organization Structure

Lean In at GT was originally brought to the Georgia Tech campus specifically for graduate women. The founding members had prior experience with successful graduate student organizations on campus but found that a particular need was not being met through these other organizations: an active, thriving, and diverse community for female students dealing with the demands of graduate school, regardless of academic discipline. LeanIn.org seemed a good fit to fulfill this need with a mission to offer women inspiration and support. A focus on diversity in terms of academic discipline and ethnicity is added to the LeanIn.org mission because Lean In at GT leaders believe it is key for personal and professional growth. Learning from people with different backgrounds and experiences in a genuine and honest setting helps participants to become more empathetic and compassionate and therefore equips them with skills to work with and lead diverse teams.

When Lean In at GT was founded, the format of meetings and requirements for involvement were based on LeanIn.org supporting materials in addition to lessons learned from other student organizations. LeanIn.org provides meeting discussion guides designed to develop leadership

and communications skills, placing a particular emphasis on stepping outside of comfort zones for success. Lean In at GT leaders assign members to diverse peer groups of 10-15 members each called Lean In Circles. Given that graduate students typically have demanding and sometimes overwhelming schedules, Lean In at GT asks for a commitment of just one hour a month where participants attend their scheduled Lean In Circle's meeting. Lean In at GT currently has four active Circles. Members are recruited at on campus graduate expos and by email through academic departments at the beginning of each semester. Circle members and meeting times are set at these times to accommodate participants' schedules and give participants advanced notice to prioritize attending. Each Circle meets in the same week of each month and covers the same material, limiting meetings to one hour even if all content hasn't been covered.

Evaluation of Success

Leaders request feedback after each set of Circle meetings are completed. We ensure that the feedback is only reviewed by the President and Vice President with the goal that members feel they can be honest in their comments without repercussions in their respective Circles. To date, the feedback received has been entirely positive, most often containing requests to meet more often. Due to the demands of a graduate student's schedule however, Lean In at GT maintains its one hour per month time commitment. Leaders also evaluate attendance at the end of each semester to see the consistency of participation for members and determine if more or fewer Circles are required for the following semester. Currently, five or more members with consistent attendance for each Circle is deemed successful. At any given meeting, at least three other members can be expected to attend, offering discussions with diverse perspectives in a familiar and comfortable setting.

Best Practices

Rather than increasing the number of meetings per member feedback, Lean In at GT offers optional social events between meetings for participants to meet others outside their assigned Circles and to continue the conversations from their monthly meetings. We find that this is less intimidating and makes the organization more accessible to graduate students with their demanding schedules. The most successful events, determined as such by positive feedback and number of attendees, have included dinner at restaurants off-campus, potluck brunches at member's houses, and yoga sessions in local parks. Lean In at GT also rewards members that have perfect attendance each semester. Members with perfect attendance get to choose from a list of about five books on a range of empowering and motivating topics. Since implementing this rewards system, an increase in monthly Circle meeting participation has been observed.

Results

Funding

As was illustrated by our four cases, funding is a perennial concern for most organizations, including graduate communities. The most successful funding strategy has been to seek funding from multiple sources within the university, particularly through grants. Most university funding, however, is not guaranteed to be available the next year and organizations should also seek outside funding, such the grant made possibly by the faculty-group partnership at Virginia Tech.

Recruitment

The most successful recruitment methods center around personal representation and email communication. The ability to have graduate students go to various departments around campus and advocate for their organization to their peers is shown to be highly successful by the organizations represented here. Additionally, selective emails to the entire graduate community has a high success rate, although they must be tempered so as not to overwhelm the membership. Other recruitment strategies include physical flyers, social media, and referral by faculty or staff members. Regardless of the actual methods chosen, a variety of methods and continual advertisement of events and interest meetings seem to be needed throughout the year as graduate students do not often operate on an academic-year schedule.

Evaluation of Success

The primary method that all organizations rely on for feedback is post-event surveys, whether verbal or written. The obvious faults with this system include the dependence on whether respondents feel they can be honest, whether they are invested in improving the programming, and whether organization leaders are able to accurately evaluate the results. An alternative metric for success relates to number and diversity of attendees. Poor attendance, especially for graduate programming, can relate to both a disinterest in the programming or an inability to attend due to work/life commitments. Meanwhile, a lack of diverse attendees may signal that programming is not adequately meeting the needs of the entire target audience.

Best Practices

All organizations report high positive feedback when the organization mixes high-commitment professional development workshops or discussions with low-commitment social opportunities. Given the unique need of graduate students for professional development beyond research training and the opportunity to socialize with those beyond their research-area, these results are not surprising.

Particularly popular events include those where experienced individuals are invited to speak about their experiences, whether in funding their careers, teaching students, or personal and technical communication. Those organizations with strong faculty and administrative support may find these activities easier than those organizations that are primarily independent of administrative support.

Conclusion

Student-driven communities that nurture both the identity and professional development of graduate students have evolved at four institutions. Unlike similar efforts from administration to unite graduate students, this review focuses on those organizations that are graduate student-led and persist primarily through the efforts of the student membership. Regardless of leadership or the focus of the organization, difficulties in areas such as funding and recruitment are a universal problem. However, appropriate funding and faculty-administration support can ensure the longevity of an organization through multiple terms of student leadership.