AC 2012-4472: ENHANCING THE GRADUATE EXPERIENCE: A CONFERENCE FOR GRADUATE STUDENT PUT ON BY GRADUATE STUDENTS

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Enhancing the Graduate Experience: A Conference for Graduate Student Put on by Graduate Students

Abstract

The Graduate Student Council at Louisiana Tech University set a goal to enhance the graduate experience for all graduate students. To achieve this goal, the council needed to understand what graduate students felt would make their experience better. The feedback received was simple, graduate students wanted to have an opportunity to meet other students (which provides an enhanced community feeling and atmosphere) and to know what sort of research is being done by their peers. Instead of a simple mixer, the council decided a college wide conference could fill the void while providing additional benefits to graduate students.

The conference allowed all graduate students in the College of Engineering and Science to have an opportunity to showcase their research and build their network of peers. Providing an atmosphere where students can expand their network invites opportunity for collaboration. The conference used the NSF style of review. An intensive peer review provided a mechanism for mirroring professional organization/society paper and proposal process.

This paper will chronicle the experience of putting on a conference for graduate students by graduate students. It will discuss the lessons learned by the graduate students who organized the conference for the first time and provide advice to other universities that might want to provide a similar service to their graduate students. Survey data from graduate student experiences with the process as well as the conference will be presented.

Introduction

The life of a graduate student is like none other. Graduate students are in a transitional time between being a student and becoming a professional. In many cases graduate students simply focus only on '*their work*' and are less concerned with the goings on of their institution. Focusing on work has great merit and will obviously lead to the completion of the desired degree. However, ignoring the cohorts around you could lead to missed opportunities for collaboration as well as a loss in making social connections with others in a similar life stage. Having a connection with fellow graduate students is important because a support system can be developed. Graduate students can gain a network of peers that they can lean on when the research gets difficult or motivation gets low[1].

 At Louisiana Tech University, the College of Engineering and Science Graduate Student Council (GSC) noticed a '*disconnect*' between the graduate students throughout the college. The GSC saw an opportunity for cross collaboration as well as creating a more united community of cohorts within its graduate programs. The GSC wanted to provide an opportunity for growth within the graduate student community. After a meeting with the dean in January of 2011, it was decided that providing a college wide conference for the graduate students to present their research would yield great benefits for not only the graduate students, but also the university. Students would profit from improved presentation skills for their future professional careers[2] as

well as reflect positively on their university. The conference would allow graduate students to practice presenting their research as well as gain exposure to other research conducted at the university. The conference would also provide an atmosphere for socializing or networking with other students as well as faculty outside the confinement of the classroom or lab walls. Creating an atmosphere of a social nature has been shown to increase collaboration and quality of work[3]. Additionally, having a college wide conference could provide an opportunity to show new graduate students the wide range of research being conducted. Typically new graduate students do not have the knowledge of what research they are interested in[1], by having a conference the students could be exposed to various topics. This exposure could make the decision of research or research group easier.

The GSC decided to take the lead on developing the conference. To begin the GSC members set a main goal for the conference – provide an environment for professional growth within the community of cohorts. Achieving this goal, would provide a professional atmosphere during the conference while allowing students to practice presenting their research as well as gaining exposure to the processes of submitting to a conference. In order to achieve this goal students had to abide by certain abstract submission criteria and a strict review process. Additionally, the conference layout was designed to include a key note speaker and breakout sessions where the students presented.

Developing the Conference
The graduate student council utilized its nine members, which represented the various graduate programs within the college of engineering and science, to help develop the conference. Initially, in April 2011 the four members of the GSC executive council developed a timeline for the conference set tentative deadlines and a conference date. The executive council decided on a preliminary abstract submission deadline of mid August for priority students (those graduating within the next year) and a secondary deadline of mid September for any graduate student regardless of graduation date to submit. The executive council also narrowed down the date of the conference to late October. Once the general timeline was set, the GSC discussed what requirements should be expected from potential presenters (i.e. a full paper or just an abstract). The GSC executive council ultimately decided that an abstract submission would be sufficient for the conference. A smaller committee within the GSC was tasked with developing the criteria that would be given to the students prior to their submissions. The abstract guidelines given to the students were broken up into two sections, listed below, one being content and the other additional syntax related guidelines.

Content Guidelines:
1. Research Need - A clear research need should be presented and research should be original.
2. Approach - Explain the methodology associated with your research process.
3. Outcomes - Research results or findings to date should be included.
4. Benefits - Purpose/Applications should be mentioned. If applicable, any commercialization/feasibility should be considered.

Additional Guidelines:
1. Clearly convey research such that a person who does not have any knowledge of your research field understand the problem you are addressing.
2. Abstract should not be fewer than 350 words and should not exceed 550 words.
3. Use proper grammar.

Various portals were discussed to be used as the collection format for the abstracts. A look at Google docs and creating a website for submissions was discussed. The GSC ultimately decided on using surveymonkey.com, a web-based survey collection site[4], to collect the abstracts. Using Survey Monkey allowed the GSC to customize the "survey" that prompted the students to submit their abstracts. The GSC was able to collect more information in addition to the abstract. Students were prompted to answer questions in the "survey" that would help in creating the program booklet as well as the logistics of dividing into breakout sessions for the conference. Submitters were asked the following additional information: full name, advisor's name, degree program, expected graduation date, what Engineering Grand Challenges are associated with research, presentation title, and associated key words.

Advertising
The GSC knew that in order to make the conference successful a great deal of advertising would be necessary to encourage presenters to submit as well as students to attend. A subcommittee within the GSC got together with the college's graphic designer to develop an eye catching poster that identified the key deadlines for the conference as well as listed some benefits for the student participation. In June, the posters were distributed amongst the GSC members to post in key areas within the various College of Engineering and Science buildings. Additionally, miniature versions of the poster were printed and given to the GSC members to hand out personally to fellow graduate students. This personal touch helped to make the potential presenters feel more invited to the conference. In addition to the poster the president of the GSC sporadically from June until the submission deadlines emailed all College of Engineering and Science graduate students encouraging them all to submit to the conference. The GSC president also emailed the graduate students to encourage them to attend regardless of whether or not they were presenting. In the background, the dean of the college emailed all graduate student advisors encouraging them to promote the conference to their students and persuade them to submit. This email helped in legitimizing the conference by showing it had the support from the college's administration. Since this was the first year of the conference, it was helpful to show the conference had administration support. GSC representatives were encouraged to promote the conference at other forums specific to graduate students. During new student orientation in late August, new students were informed about the conference and were encouraged to attend. In early September during the annual Ph.D. seminar class the dean of graduate school for engineering and science advocated for the conference.

Submissions & Review Process

Through the lengthy promotion campaign for the conference the GSC received 43 initial abstract submissions. The college has approximately 150 doctoral graduate students, so the GSC was thrilled with the large number of submissions for a first time conference. Since the number of submissions far exceeded expectations, the GSC employed help from the three members of the Institute for Micro-manufacturing Graduate Student Council (IfM GSC) executive council for the review process. The submissions were taken from survey monkey and compiled into word documents. Names and identifying information were removed so that the review process would be done blindly. The blind abstracts were uploaded onto Google docs for easy access to review. Prior to reviewing the abstracts the GSC executive committee met with the GSC faculty sponsor to help develop a professional review process. The GSC executive council decided on an NSF based review process where the abstracts would be divided amongst the twelve reviewers such that there were four roles associated with the abstracts assigned: Reviewer, Scribe, Reader, Nothing. If assigned as the "Reviewer" the member with this role had to read the abstract and fill out a form developed by a GSC member that identified each guideline the abstract was to follow (research need, approach, outcomes, benefits, clarity, and grammar). The "Reviewer" ranked how well the abstract followed each guideline using a 5 point Likert Scale with 0 being poor to 4 being excellent. The "Scribe" role was assigned to one member per abstract. The "Scribe" responsibilities included reading the abstract, reviewing the abstract (as mentioned previously), and compiling the overall review of the abstract during the abstract review meeting. The "Reader" role was assigned to certain abstracts such that the only responsibility was to read the abstract. The "Reader" after having read the abstract contributed to the discussion during the formal review meeting. Finally the "Nothing" role was assigned to some abstracts such that the reviewers can have break in the review process. The divisions worked out such that each abstract had three "Reviewers", one "Scribe," three "Readers," and five "Nothings."

The reviewing and reading process was completed over a two week period once the abstract submissions were closed. This allowed the "Reviewer" and "Readers" to read the abstracts at their leisure. A member of the GSC compiled all the reviews and averaged the abstracts reviews. The averaging of the reviews allowed for a ranking of worst reviewed abstracts to the best reviewed abstracts. Once the abstracts were ranked, the twelve reviewers got together and held the official abstract review meeting. Starting with the worst reviewed abstract and ending with the best review abstract the reviewers went through each of the 43 abstracts and made a decision on whether it was accepted, accepted with suggestions, accepted with minor changes, or accepted conditionally (meaning there were major changes needed). The "Scribes" for each abstract wrote a summary of the reviews as well as its accepted status. This information was divided amongst the GSC executive council who emailed submitters their review. Each submitter was asked to make the necessary changes, if required, as mentioned in the reviews and resubmit to the GSC

presidents' email. Resubmitting to one email helped in keeping all abstracts in one place. Students were given approximately two weeks to resubmit their abstracts. If the necessary changes were made the abstract was accepted.

Creating Break Out Rooms

Once the abstracts were resubmitted, the conference had a total of 38 graduate student presenters consisting of both Master's students and Ph.D. students in the College of Engineering and Science. The task for the GSC now was to divide the presenters into breakout rooms. From the information provided in the initial abstract submission the GSC members had a few areas to look at in dividing the presentations such as: by advisor, by degree program, by key words, or by the Engineering Grand Challenges. One of the goals of the conference was to link different programs together and to introduce students to potential collaborations. So the GSC decided that creating rooms based on the Engineering Grand Challenges would yield the best opportunity for intermingling disciplines. The presentations could be divided into nine of the fourteen Engineering Grand Challenges: Advancing Health and Informatics, Engineering Better Medicines, Engineering the Tools for Scientific Discovery, Making Solar Energy Economical, Providing Access to Clean Water, Restoring and Improving Urban Infrastructure, Securing Cyberspace, Developing Carbon Sequestration Methods, and Reverse Engineering the Brain. Seven breakout rooms each containing 5 to 6 presenters were created. The presenters were given eighteen minutes for presentation and two minutes for question and answer. Each presentation was followed by a ten minute break such that attendees could move throughout the conference to the various other breakout rooms. Each room was lead by two session chairs. The session chairs were comprised of members form the GSC, the IfM GSC as well as a few graduate student volunteers. The session chairs monitored the time of each presentation, facilitated the questions following the presentations, as well as introduced each presenter and their presentation topic.

Logistics/Day of Conference

The conference was held in the afternoon of October 27, 2010 in a centrally located building for all the College of Engineering and Science graduate programs. Prior to the start of the conference a GSC member took on the task of being the IT coordinator by making sure each room had a projector and a computer for the presentations. The conference began at 1:00PM with a key note address given the by College of Engineering and Science Dean of Graduate Research. The key note address used examples from the research being conducted at the university and linking the research to current industry. Following the forty minute key note address attendees and presenters were invited to a reception of drinks and cookies. This reception allowed for some mingling between students, faculty, and families. The presentations then began promptly at 2:00PM. Each attendee and presenter was given a program booklet that contained a page with the breakout session and the presenters in each of those rooms as well as a page dedicated to each presentation including the presentation title, name of the presenters, presenter's degree program, presenter's advisor, and the abstract itself. Also found inserted into the program was a survey for attendees to fill out that asked questions on the quality of the conference. The conference was

well attended by students, faculty, and some family of presenters. Overall throughout the conference there were approximately 150 attendees.

Survey Results

As mention earlier, each attendee was given a survey to fill out that evaluated the conference. Attendees were prompted to answer ten questions which included six questions based on a 5 point Likert scale ranging from 1 to 5, strongly agree to strongly disagree, respectively. In addition to the 1 to 5 scale an additional box, represented by a 0, was added that was identified as cannot judge for those attendees that felt they could not judge the question. Following these six questions were three open ended questions about the conference and one questions identifying what group the attendee represented (undergraduate student, graduate student, faculty, etc). Forty one attendees responded by filling out the survey. An overwhelmingly positive response to the conference was shown throughout the surveys. Table 1 below shows the six Likert scale basked questions and their response frequency.

Table 1. Table of 6 Likert Scale based Questions

Question	Response Frequency					
	1	**2**	**3**	**4**	**5**	**0**
This conference provided useful information regarding graduate research.	23	15	2	0	0	1
The presentations were well organized.	18	16	5	0	0	1
The technical difficulty of the presentations was appropriate for graduate students.	18	19	2	0	0	1
The presentations addressed real world issues.	18	18	4	0	0	1
The presentations conveyed the information addressed in the abstracts.	22	16	1	0	0	2
The overall format of the conference was appropriate.	25	12	3	0	0	1

As shown in Table 1 the attendees responded most frequently in a positive manner regarding the conference. When asked if the conference provided useful information regarding graduate research 56% of attendees that attended the conference responded in the most positive way. When looking at the overall format of the conference 61% of responders strongly agreed that it was appropriate. For all the questions no responder felt like they strongly disagreed or even disagreed for that matter. Specifically, the quality of the presentations was rated highly by participants. This reflects well on the graduate students' ability to present their research on an

understandable level. For future years the graduate student council intends on hosting presentation skills workshops to help enhance the level of presentations for the conference as well as to better develop the graduate students' skills.

The open ended questions yield great encouragement of things the GSC did well and also provided some excellent feedback for things that could be done better. The open ended questions asked what did you find most helpful and/or interesting and for contrast, what did you find least helpful and/or interesting. Closing out the open ended problems was a space allowing for additional comments, suggestions, or feedback. Some of the highlighted responses for each of these questions are shown in Table 2.

Table 2. Highlighted Responses to open ended questions

Which aspect of the conference did you find most helpful and/or interesting?
"Open chance to gather research suggestions."
"It helped me to know about different research work going on in LA Tech"
"Collaboration"
"Very good organization"
"Variety, Application to grand Challenges…"
"Research from across campus I don't normally hear about."
"Management and Organization of the Sessions"
"Key note speaker was highly informative."
Which aspect of the conference did you find least helpful and/or interesting?
"Small group, thus less questions and flow of diverse opinions"
"Participation was less"
"Not well Advertised, not enough people involved, didn't see many undergraduates"
Do you have other comments, suggestions, or feedback?
"The conference can possibly be open to the wider public, if it had not already been considered."
"Great Job"
"A microphone should be used. I cannot clearly hear the keynote speaker"
"Divide sessions by major"
"Maybe have a common room discussion tome half way through where presenters and attendees can discuss the topics."

The first questions regarding what the attendees most liked about the conference showed that the GSC achieved their goal of creating an atmosphere for possible collaborations. Many of these responses included something about collaboration, or better awareness of research being conducted at the university. Also, this question showed many responses of people commenting on who well the conference was organized and managed. This feedback proved very encouraging for the GSC. The responses regarding what attendees least liked about the conference mainly dealt with the low number of attendees. Additionally, many of the survey responders felt the conference need to be better advertised. Being that it was the first year the conference was held the number of attendees was on par with what the GSC expected. As the conference is conducted each year, the hope is that it will grow in participants. Different areas of advertising should be explored for future years such as advertising in the social media realm. The additional comments yield some interesting suggestions of which the GSC will take into account for next year. Although not all attendees responded by filling out the survey, the responses did help to validate the work put into the conference and encouraged the GSC to continue the trend into next year.

Lessons Learned/Future Goals
The GSC learned many lessons throughout the process of organizing and conducting a Conference. The GSC members themselves grew as a group and as professionals. They developed better leadership skills, an attribute most desirable by future employers[2]. Having the knowledge of the interworking of a conference will prove very beneficial to each of the GSC members. They developed skills they will be able to take into their professional lives, skills ranging from the review process to understanding what goes into the logistics of a conference. That being said, this inaugural year made evident some things that will be done differently for the conference in the future. Some of which are big changes and others are small. For instance, better advertising will be necessary. Advertising earlier would be preferable. Advertising for this years' conference started in June. It would be better to start advertising in April so that students know about the conference before leaving for summer break. The deadlines left little margin for error in creating the program booklet, and not to mention a feeling of urgency during the review process, thus moving up the deadlines would help ease some tension and allow some breathing room for both the program booklet and review process. The students were allotted a word limit of 350-550 words. This allowed for some lengthy abstracts making the review process a bit longer than expected. Next years' abstracts will be restricted to a smaller word limit of around 300 words. Although many people liked the layout of the conference, decreasing the time between presentations from ten to five minutes will allow the layout to stay similar, but also decrease some downtown noticed during the conference. Small changes are also in the works for next year. An oversight in the abstract submission form provided unnecessary work for some GSC members. The form created mistakenly forgot to put a section for the submitters email address causing GSC members to go into the email system and find all the addresses. This was not too much extra work, but something that could be avoided for next year. Also, the auditorium room used for the key note speaker had less than desirable acoustics causing attendees in the

back of the room to not hear very well. Next year, a microphone will be provided to avoid such an occurrence.

Conclusion

The conference not only allowed for all graduate students in the College of Engineering and Science to have an opportunity to showcase their research, but also build their network of peers. Providing an atmosphere where students can expand their network invites opportunity for cross collaborations on work not only while graduate students but after graduate school as professionals. Students also benefited from the professional nature of the conference. Additionally, GSC members grew their skills and confidence by organizing and managing the conference. The first year of the conference overall was a success. Through the feedback it was shown that the goal of providing an atmosphere to encourage collaboration and socialization was achieved. The GSC will take the feedback and their experiences of this first conference to grow next year's event to be bigger and better.

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