Fostering Institutional Innovation through an Engineering Education Ideas Forum

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Abstract

In this project, a town hall meeting was conducted where faculty from all departments in a college of engineering were asked to collaborate in teams of 10-12. They generated ideas involving collaborative exchange among faculty, staff, and students to better support student success, retention and progression. The purpose of the town hall format was to intentionally initiate change within the college from the grass roots level instead of top down mandates. Dozens of ideas were generated as a result of this effort. The ideas were qualitatively sorted into common themes and ranked in terms of frequency of appearance in the group discussion results, anticipated cost of implementation, and perceived impact. The top few ideas were then presented to the administration for consideration. Some of these ideas are in the process of being implemented.

Keywords

town hall, education ideas, retention, student success, interdisciplinary collaboration

Introduction

This research project was inspired by the ASEE's Interdivisional Town Hall Meeting held at the National Conference in 2017[1]. A local version of a similar town hall was held in Spring 2019 during an engineering college-wide meeting which all faculty and staff attend at the beginning of each semester. Data were gathered about ways to improve college-wide collaboration efforts to support student success through this forum. This data, and subsequent discussion about the resulting analysis, is used to address our research question: *What types of change can be produced through a town hall approach to leverage college-wide expertise in support of student success?*

Often, faculty and staff community members feel like they are not directly connected to making meaningful change. A mechanism, based on the ASEE Interdivisional Town Hall, is proposed for the local community to respond to prompts eliciting ideas and/or potential solutions to engineering education issues by generating potential action plans to improve the college while also introducing faculty and staff to valuable research-based information. In this way, participants learned about important engineering education research areas and also contributed ideas supporting its adoption.

The overall structure of the town hall and subsequent decision process aligns with the 3-step model for shared governance outlined in a comprehensive study by Vanderbilt[2]. They recommend the following shared governance strategy:
- Early-stage discussion between faculty and university/school leaders with the objective of encouraging the free-flow of ideas at this early stage.

- Decision process communicated by leaders to faculty with clarity around expected processes of decision making. For example, which groups are active participants in the decision-making process? Which groups will be consulted and will serve in an advisory capacity? What will the feedback loop look like after the decision is made?
- Follow-up report after decision making provided by leaders to faculty to explain the rationale for the decision(s) made.

Further, the idea of town hall is grounded in the principles of shared governance as they pertain to both process (mechanisms for communication and decision making) and outcomes (measurable results such as retention, quality of student experience, student participation in research or other extracurricular activities, etc). Each of these components are frequently cited as having important and unique contributions to successful shared governance[3]. Sharing good ideas helps generate even more good ideas. What works well for one group could also work well for another. Bringing faculty together provides a platform where they can share ideas that they implemented and that resulted in student success. The motivation of this work is based on the principle of student success being integrally connected to the success of the faculty and staff, and therefore the entire institution. Also, students who use available resources are more likely to succeed[4,5,6]. Sharing ideas, in a town hall setting, that promote collaboration among faculty, staff, and students is likely to promote student use of these resources. Our job is to figure out how to best collaborate to make students aware of these resources and to help them access and use those resources effectively.

Our town hall was embedded within a college wide meeting where we randomly assigned faculty and staff to tables for discussion. Out of several possible research questions adapted from the ASEE 2017 Town Hall, we adapted the following single question: *"How can our engineering college foster and promote collaborative exchanges about student success, retention, and progression (including both teaching and support) that most benefits students; promotes faculty and staff development; and leverages the expertise of many?"*

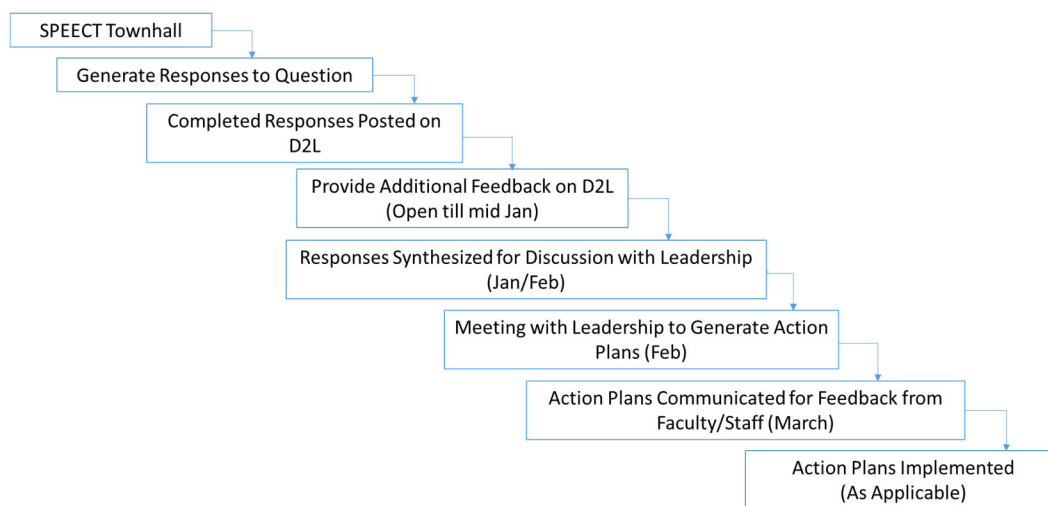The timeline for the shared governance process is as follows:

Figure 1: Town Hall Project Process

Methodology

As people entered the room, they were given table numbers to randomize the composition of each table rather than having departments sitting mostly together. At each table, role cards and the discussion prompt were placed at each seat. After a brief introduction to the town hall origins, format, and purpose, each group was given 8-10 minutes to discuss the topic and come up with ideas. Participants were reminded of their assigned roles, which were designed to create accountability across all participants to generate for quality outcomes for their table. These roles were contributor (several per table), moderator (one per table), and recorder (one per table). Descriptions of the roles were printed on cards for the participants. After group discussions, all groups were invited to report their most impactful ideas to the larger group, and these contributions were taken as long as time allowed (approximately 7 minutes). All group results were collected at the end of the meeting. Groups were also allowed to submit their ideas during the live meeting online using the local learning management system (DL2), or to submit additional ideas online during a two-week window after the meeting. The dean of the college sent out a thank you for contributions during meeting along with a reminder before the end of the two-week window.

Attendees at each table were divided into three categories: 1) Moderator: To keep everyone on time, on track and on task; 2) Recorder: To capture and record all ideas in a way that others can understand and 3) Contributor: To be positive and keep comments on topic. In the end one person on each table was asked to share the key ideas generated. Recorders either recorded the generated ideas directly online or on printed handouts, which were then collected by the session leaders.

Ideas generated from each group were analyzed using open coding in a grounded theory approach to generate themes. Responses assigned to each theme were then summarized for discussion with the leadership from the Dean's office. Each theme was ranked based on frequency, estimated cost of implementation, and potential impact. A summary of the results was presented to the faculty and staff community at the beginning of the fall semester, and the two areas selected by the Dean's office for implementation were revealed. The implication of this institutional innovation process is that it is a novel, low-cost way to foster tangible change that comes from a grass-roots level. This approach helped establish communication between the faculty/staff community, and provided administrators an easy way to make changes that are most desirable coming from bottom up.

Results and Discussion

After all the ideas were recorded, they were compiled and sorted into themes, as shown in Table 1. The themes are sorted in terms of their frequency.

Table 1: Summary of Responses

Suggested Action Items – sorted into themes	Frequency
Create centralized web portal specifically for engineering	11
Create college-wide engineering student forum	8
Mentoring system for new faculty	8
Student Design Project information exchange	8
College research seminar series	6
Create culture centered around regular student-staff-faculty communication	6

Provide collaboration space for students	6
Value teaching-related efforts including research	5
Student Competitions	4
Expand Student Recognition Opportunities	3
Reinvigorate Teaching Partners Program	3
Strengthen ENGR Course Coordination	3
Expand Staff and Faculty Recognition Opportunities	2
Strengthen Inclusivity for Staff	2
Other incentives for collaboration	11*

After all the ideas were gathered, a meeting was held with the engineering dean to discuss the ideas, their potential impacts and the cost of their implementation. Ideas that were determined to have the highest rank are shown in Table 2. Ideas that are ranked highly were among those that were selected for implementation.

Table 2: Consolidated Ranked Results

Themes Rank = frequency*impact/cost	Rank
Value teaching-related efforts including research	1
College research seminar series	2
Create culture centered around regular student-staff-faculty communication	3
Expand Student Recognition Opportunities	4
Create centralized web portal specifically for engineering	5
Mentoring system for new faculty	6

Two ideas were selected for implementation and announced at the college-wide meeting at the beginning of the subsequent semester. These were:

- College research seminar series
- Expand student recognition opportunities

The reason for selecting these ideas was several-fold: (1) they align with the current strategic plan of the university (2) they could be implemented with small teams (3) they generate easily communicable results. They are currently in the very early stages of implementation.

Conclusions

Investing as little as 15 minutes to generate ideas supporting student success during a college-wide faculty and staff meeting can result in actionable ideas supported by administration. In order to facilitate this success, discussion should be based on current evidence-based approaches emerging from the engineering education literature. An easy way to accomplish this was to use the ASEE Town Hall Meeting format used at the 2017 ASEE National Conference.

References

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