

Work In Progress - Highlights and Challenges of a Student Driven Co-curricular Leadership Program

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Abstract - The Engineering Leadership Program is entering its fourth year as a co-curricular program at Iowa State University. It is a values-based learning community for engineering students passionate about contributing to their communities, locally or globally. As the program has grown from 15 to over 80 scholars, it has experienced creative challenges such as retaining a sense of community, succession planning, and student empowerment. Work is in progress to effectively assess the student learning outcomes within the constraints of a flexible and personalized co-curricular program. The program is generating campus-wide collaboration to better understand the continuum of student development in curricular, co-curricular and extra-curricular settings, and the optimal balance among them.

Index terms – Leadership model, competency, co-curricular program

INTRODUCTION

The College of Engineering at Iowa State University established its Engineering Leadership Program (ELP) with initial funding from 3M in 2006 to develop engineers with the characteristics outlined in the *Engineer of 2020* by the National Academy of Engineering [1,2,3].

The program goal is to develop future leaders who are active in public life, making social contributions above and beyond traditional engineering roles [2]. The program is informed by and collaborating with other leadership programs such as the Gordon Leadership Program, the Engineering Leadership Development Minor, and the Center for Engineering Leadership and Learning [4,5,6].

PROGRAM OVERVIEW

The ELP is currently entering its fourth year since the recruitment of the first scholar cohort in the fall of 2006. The scholars provide the central administrative leadership for program design and implementation, supported by a small group of staff and faculty.

During the first year of ELP, a competency based leadership model was crafted through an iterative collaborative process involving students, college and university staff, and faculty [7]. Learning outcome statements were articulated in a language akin to ABET [8], and nineteen competencies were mapped to those outcomes, with examples of key actions to support each competency.

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The first-year curriculum has emerged as a structured common learning experience for the incoming cohort. It includes a community building retreat for affirmation of leadership values, a common reading project, a required credit bearing seminar class, a weekly reflection journal, a service learning project, and networking opportunities.

Beyond the first year, scholars transition to a more flexible and personalized leadership development program. Scholars at this level must articulate their personal leadership goals and track their progress in developing the leadership competencies using an electronic portfolio system [9]. These scholars also submit proposals for long term Leadership Learning Projects with potential for significant societal impact that extend beyond their graduation. In addition, they continue to participate in community building activities and educational experiences of their choosing. The scholars have the opportunity to engage in, as well as propose and lead, seminars or book groups.

HIGHLIGHTS

Leadership Learning Projects have been one of the most successful leadership development tools for the ELP. Allowing scholars to follow their passions, whether in areas of engineering or areas outside of their studies, has led to the success of these projects. Leadership Learning Projects have also been an effective way of spreading leadership development to students outside ELP because many ELP scholars are conducting projects that engage other students. For example, two scholars created a leadership seminar series for students involved in the Women in Science and Engineering Program. This impacts leadership development of other students in the college and beyond.

To track their leadership development, students are using the online electronic portfolio system. This system allows students to post specific leadership development goals on competencies outlined in the ELP leadership model, upload artifacts that demonstrate progress on these goals, and reflect on their leadership experiences. This online system also allows program directors and faculty mentors to review scholar progress.

CHALLENGES

The ELP strives to allow students to personalize their leadership development. This flexibility is well received by the scholars and will hopefully provide for a more meaningful leadership development experience than

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engaging in program selected activities. This flexibility is part of what makes the program unique, but also makes the program's effectiveness hard to assess.

With the program being new and with only a handful of graduates thus far, it is challenging to determine if the program's mission of creating the leaders of the future is being realized. Also, tracking scholar development is difficult because each scholar takes a vastly different route with their leadership activities and projects, and making it difficult to quantify their leadership growth.

Another problem with the assessment and the coaching of these projects is the natural turnover in relationship to student leadership. The program has consistent staff support with a part-time program director, an advisor and a part-time program assistant, but many of the leadership duties are performed by a team of students. Each year a new student leadership team is formed after the previous members graduate, leave for internships or study abroad, or simply move on to other activities. This rotating leadership brings in many fresh ideas for program improvement, but presents challenges in consistency, knowledge transfer, and succession planning.

STAKEHOLDER FEEDBACK

To address concerns and to ensure scholar satisfaction with the program, the ELP holds focus groups each semester. These focus groups generate feedback about the activities and goals of the program. They are an effective way to get meaningful and unbiased feedback on the direction of the program. Through these focus groups many new ideas have been generated and new directions taken.

LESSONS LEARNED

Some strides have been taken to address these program challenges. One major improvement was the hiring an advisor to monitor and coach the scholars in their Leadership Learning Projects. This advisor will provide a consistent resource to scholars working on projects and will help evaluate the scholars' electronic portfolios.

Continuing efforts are being made to improve how a scholar's leadership development is being assessed. A team of ELP scholars and faculty are currently working to improve the use of the electronic portfolios and to create a consistent method of assessing each scholar's development.

IN PROGRESS

ELP is now focusing on developing an assessment process that accommodates learning assessment within such a flexible system. Faculty, staff and students from the college and beyond are engaging in a group process to craft an assessment model that is reasonable for both the student and the evaluator(s) and is developmental rather than judgmental. The goal is to generate a broader dialogue on the value of extra and co-curricular experiences in a student's overall campus experience and how to be strategic about seeking those experiences.

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