Workshop on Engineering First-Year Holistic Support to Succeed Model

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2023 FYEE Conference Theme Expanding Student Success: Multifaceted Approaches for Student Success in Today's "New Normal"

Title: Workshop on Engineering First-Year Holistic Support to Succeed Model

Abstract

First year engineering students need not persevere through a multitude of barriers alone while pursuing their degree. At the University of Virginia, we teach engineering undergraduates to consult with experts to solve difficult and complex problems as engineers; this includes experts in mental health and accessible education. While our institution has a variety of "consultants" in place through Academic and Student Affairs faculty and staff, students often have physical and knowledge barriers to accessing them. Our unique embedded model offers an ecosystem of readily available consultants specific and located in proximity to engineering students. Through this workshop we aim to 1) define an expanded philosophy of student success, 2) share important logistical and financial considerations in forming such a team approach, and 3) review our methods in researching the outcome of an embedded position. Our philosophy of student success extends beyond offering the typical supports of academic coaching and tutoring and takes a team approach of expert consultants, namely our Center for Diversity in Engineering, embedded Assistant Dean of Student Safety and Support, 2 embedded counselors from our Counseling and Psychological Services (CAPS) Office, an Accessibility Specialist from our Student Disability Access Center (SDAC), and Engineering Undergraduate Programs Office. This workshop is geared toward decision makers in engineering who drive students' success, advising, retention, diversity, equity, inclusion, and justice efforts.

Context, History and Team Approach

First, we will outline the context of our engineering school and first year program within our broader institutional context. Our incoming engineering population consists of around 700 first time, first-years and 70 external transfer engineering students. Retention, disaggregated by demographic group, was one factor behind this embedded model as we were not retaining all of our students close to our average retention rate. In aggregate our first year retention rate has been above 90% for the last decade, even before the embedded model. More importantly than first year retention was student success of academic performance and wellness. To achieve this holistic goal, we started by embedding a Dean of Students, who served on call for the university within Student Affairs. Over almost a decade, our team has evolved to include additional experts embedded physically in our engineering buildings and weekly meetings to improve our students' holistic success:

1. Associate Dean for Diversity, Equity and Inclusion, Director and Assistant Director of the Center for Diversity in Engineering, Clark Scholars Director (4)

2. Accessibility Specialist, Assistant Dean of Student Safety and Support, 2 Counselors (4)

3. Associate and Assistant Dean for Undergraduate Affairs, Director of Undergraduate Success, Engineering Undergraduate Registrar and Office Manager (5)

After describing the context and our team, we will provide multiple reflective prompts for audience members to think through ways to identify researched student barriers in the first year and more specific to first year engineering, followed by four case studies. Our case study include barriers well documented in literature which first year face: financial, racial minoritization, disability, and veteran barriers. We will break audience members up and give them 20 minutes to read, discuss and form an action plan based on their institutional resources. They will report back an example of how a student facing these barriers would get support at their institution, imagine if a growing population of engineering first years experienced the barrier and how their institution might respond, and think through whose expertise they could include within their school to systemically address that barrier. We will provide examples of how our team typically triage these case studies to demonstrate the value of our partnership and weekly meetings.

Important Logistical and Financial Considerations

Our model has required us to financially invest in people and resources. We acknowledge our staffing model addresses what we prioritize as our engineering undergraduates' most pressing barriers (inclusion and equity, disability, safety, crisis, and academic). Different barriers might be more salient for other first year engineering populations. While our staffing is not specific to first year engineers, it is important to note that of the undergraduates our team supports, first years make up approximately the same percentage as our first-year engineering undergraduate population (i.e. first years traditionally make up 26% of our student population and 20% of the students we support as a team). After explaining the history of the evolution of our team, we will provide memorandums of understanding (MOUs) for sharing the cost of our embedded staff with their primary units.

Methods to Research Student Success Outcomes

We have an established and published method for researching the outcomes using student record data comparing before and after embedding our Dean of Students. During the workshop, we will facilitate a brainstorming session around data collection and analysis methods for research as well as internal evaluation methods. We will mention the limitation of embedded counselors as access to student data is restricted by confidentiality laws.

Learning Objectives and Activities

Workshop participants will 1) understand our novel approach to partnering across academic and student affairs for an ecosystem of student support, 2) examine components of student barriers to success through case studies, 3) determine if efficiency can be gained through embedding resources and/or building partnerships across academic and student affairs units, and 4) outline a plan for internal evaluation and/or publishing research. We will utilize time to share our team approach for Student Success in Today's "New Normal" and engage participants in reflecting how they might consider this approach in their context.

Introduction to Holistic Support to Succeed Model (5 minutes, handout)

Reflective Prompts to Identify Student Barriers and Systemic Change Needs (5 minutes)

Case Studies (30 minutes: 20 minutes in group discussion, 2 minutes for at least 4 groups to report back)

Logistical and Financial Considerations (5 minutes, sign up for access to electronic MOUs)

Introduction to Established Methods (5 minutes)

Data Collection Considerations by Student Barrier and Limitations (5 minutes)

Brainstorm Data Collection (15 min: 10 min plus 5 min report back)

Total Structured Time: 70 minutes with pauses for questions and more in-depth conversation