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Work in Progress: Development of an Innovative Undergraduate Engineering Academic Advising Model

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Work in Progress: Development of an innovative undergraduate engineering academic advising model

This work in progress describes the re-imagination and re-design of the Pennsylvania State University's College of Engineering undergraduate academic advising model. Currently, the majority of in-major students are advised exclusively by faculty members. To improve support for students while also better supporting and engaging faculty with academic advising responsibilities, the authors of this paper propose a new academic advising model that assigns students to both a professional academic adviser and a faculty adviser, capitalizing equally and more effectively on the strengths and skillsets of both. Currently in a pilot phase involving two academic departments, this model will continue to be refined from lessons learned in the pilot, and ultimately rolled out across all departments in the College of Engineering.

Purpose of Academic Advising

Academic advisers play a significant role in student success in college [1]. Just as innovations in teaching and classroom pedagogy are considered to enhance student learning, so must the design of intentional educational interventions such as academic advising. Advisers are one thread in the comprehensive network of support a student uses to identify, articulate, and achieve their educational, personal, and professional goals.

Quality academic advising is intentional, and those serving in this capacity should have the necessary support to fulfill this role. NACADA's [2] Concept of Academic Advising states:

> *Academic advising is integral to fulfilling the teaching and learning mission of higher education. Through academic advising, students learn to become members of their higher education community, to think critically about their roles and responsibilities as students, and to prepare to be educated citizens of a democratic society and a global community. Academic advising engages students beyond their own world views, while acknowledging their individual characteristics, values, and motivations as they enter, move through, and exit the institution.*

The CAS Standards [3] echo the importance of academic advising affirming, "academic advising is integral to student success, persistence, retention, and completion." Academic advising is a developmental process like the application of pedagogical principles in the classroom [4]; however, a perception persists that the function of an academic adviser is to aid in course selection. This perspective does not align with advising best practices, or with the Penn State University's advising policies. In fact, it discourages engagement beyond the perceived advising practice (i.e., course selection). This perspective does not make appropriate use of faculty adviser expertise or strengths. Recent empirical evidence illustrates what advisers have known for decades: there exists a link between quality academic advising and student success (which is generally inclusive of persistence, retention, and degree completion) [5]. Additionally, academic advising is the only known predictor of academic success that is under institutional control; the other two being completion of Advanced Placement courses and math preparation [5]. While academic advising can take many forms [5], the core underpinning of its function is teaching. Academic advising is teaching [6], and faculty offer considerable contributions in this space.

Critical Role of Faculty in Academic Advising

As content experts, faculty advisers offer invaluable insight and guidance to undergraduate students pursuing their field, extending their influence on students beyond the classroom and into

advising relationships. Undergraduate students benefit from the unique perspective faculty advisers offer [7], particularly when faculty advisers engage students around topics within their discipline, related career fields, and advanced educational opportunities and research. A tangible example of where these strengthened relationships are unfurled is the drafting of stronger reference letters, where faculty are able to provide a more holistic and comprehensive description of the student as a unique individual.

It is critical for students to develop connections to faculty outside of class throughout their undergraduate careers. Faculty are well-positioned by their background and interests to help students select targeted discipline-specific electives, discover impactful co-curricular experiences such as research, internships, study abroad, and professional networking, and explore relevant career opportunities or further study through graduate/professional programs. Additionally, developing relationships with faculty and other members of the campus community builds a stronger sense of belonging to the institution [8] which also impacts rates of student persistence.

Faculty who engage with students outside the classroom also develop a better understanding of student needs. Such interactions help inform faculty of student interests and expectations [8] which also influences the teaching and learning process. These connections are critical opportunities for students to learn how to develop relationships with adults who are not members of their family [9]. Such skills are essential for students to successfully navigate complex institutions and pursue future professional opportunities.

Academic advisers help students understand the curriculum, the relationship and relevance of requirements, and the nuanced structure of their degree [6]. Faculty advisers, many of whom may have contributed to the curriculum's design, can assist students with making meaning of the curriculum. It is critical for students to recognize and understand the relationship between the components of their degree, the intent behind course sequencing, and how they are developing the necessary breadth and depth to be proficient in their future professional realms.

Need for a Shared Advising Model

Faculty are one of the best resources for advising on topics related to their discipline and the technical curriculum. Most faculty do not have a background in student development theories, educational psychology, and/or experience in student affairs settings, making them ill-positioned (and often not comfortable) in helping students navigate the social and emotional landscape of college life, reflect on personal development as they transition into adulthood, explore the non-technical aspects of their undergraduate experience, and interpret university policies. It takes time to be prepared for these types of transformative advising conversations. For faculty to spend appropriate time developing this knowledge and skill detracts from their higher priority research, and teaching responsibilities. This time does not align with the skill set for which faculty were hired nor is it aligned with the metrics on which faculty are evaluated and rewarded.

Professional academic advisers are needed to provide these supports to students. Professional advisers, often limited in their deep knowledge of the student's major discipline, are not well suited to have conversations about technical courses, research, graduate school, or the engineering profession. Both positions offer invaluable benefits to undergraduate students' learning, development, and experience at the institution. Reflecting on the adage "many hands make for light work," when students are dual assigned to two advisers (one a faculty, the other a professional academic adviser), they are provided a comprehensive network of support that plays to each advisers' assets. Many existing advising programs are designed with one role designated

as the ‘primary’ assigned adviser, and the other seen as a secondary ‘support’ or ‘mentor’ role. The authors are promoting a new advising model that assigns students to both an academic adviser and a faculty adviser, capitalizing equally on the strengths and skillsets of both.

With a shift to a more clearly defined role faculty have in advising, faculty gain the bandwidth to build stronger relationships with students around discipline-specific engagement that will be more fulfilling to the faculty and more meaningful to the students. This shared structure, where professional academic advisers will have enough capacity to work more intentionally and proactively, will enhance the management of traditionally large advising rosters.

With traditional advising responsibilities shifted to the academic adviser, discipline-specific guidance from their faculty adviser more appropriately leverages the strengths and experience of the faculty member. These conversations are more directly tied to the core aspects of their primary faculty responsibilities. When undergraduate students have regular advising contact with faculty, they are the recipients of the shared wisdom and experience of the professional and scholar, and faculty time is freed to invest energy in other activities [10] rather than learning university requirements, advising policy, and administrative procedures.

Navigating the landscape of higher education can be complex. The expectation for faculty advisers to develop the knowledge of and remain current on the vast and continually evolving array of institutional policies necessary to be an effective adviser, particularly when undergraduate advising is a small fraction of their overall responsibilities, is unreasonable. By, introducing a parallel academic adviser, who has a professional background in areas like student development theories and advising best practices, can focus their attention on the policies, processes, university requirements, and how to navigate delicate transitions, advising efficiency and efficacy are improved. Students are better supported, and faculty are less burdened.

Implementation Challenges

To launch such a change, it was important to first lay critical groundwork. The authors began by first demonstrating to faculty and academic leaders that this advising model aligns with institutional policy, is rooted in professional advising standards, promotes student learning, and offers benefits to faculty advisers. It is the authors’ position that when faculty in the pilot departments recognized the opportunities presented by this change, they embraced connecting with students in this more defined and intentional way. Three key elements identified to help facilitate this change are a clear articulation of the faculty adviser’s responsibilities, the development of faculty adviser training, and the creation of a faculty adviser network. Through these, faculty advisers will feel supported, and their advising work valued, in addition to providing a space that exemplifies and promotes the benefits for faculty advisers, professional advisers, and their students.

In the realm of faculty adviser training, the expectation and understanding of this must be articulated as early as new faculty orientation. This will vary depending on their appointment and institution or units’ demands; however, the expectation of advising students should not be a surprise that undermines a new faculty’s prioritized work. Faculty adviser training will largely rely on the sharing and discussion of the institution’s academic advising policy, and the connection advising has to student learning. Communication and documentation are critical for successful and high-quality academic advising. Faculty advisers will be expected to use the institution’s advising platform to document interactions with students- especially when specific recommendations or next steps are discussed.

While largely autonomous by nature, faculty cannot expect to navigate advising in isolation. By developing a community and network of faculty advisers, idea sharing of best practices, lessons learned, or synergistic collaboration is possible. Academic advisers tend to be social by nature and are often inclined to seek connection with others. Faculty advisers may find comfort in knowing their colleagues are sharing similar experiences or challenges even though their traditional responsibilities require them to work more independently. For this shared model to succeed, champions within the faculty ranks will be critical to help guide and shepherd the process. Faculty input will be essential to the design and development of the framework for this faculty adviser/academic adviser shared model. While a foundational understanding of the institution's advising policy and minimal expectations are articulated, it is the authors' expectations that how this shared model is executed in each academic department will reflect the character, culture, and nuance of that community.

Change of any measure is bound to generate resistance, and the authors recognize there are limitations and challenges to building this new advising model. While many faculty may welcome the change in advising expectations, others may be resistant to abdicating any of their advising responsibilities. Conversely, individual faculty advisers may see the inclusion of professional academic advisers as an indication they have no further role or hand in advising undergraduate students [11]. Additionally, there exists the reality of funding and resources available to create the necessary number of positions within all academic departments to provide professional advising support to all students with an equitable adviser-to-student ratio; and thus, create an equitable set of expectations for faculty advisers. Lastly, depending on institutional priorities and mission, the authors acknowledge advising undergraduate students likely will never be identified as a priority for faculty compared to energies put toward teaching, research, and service.

Pilot Implementation

The authors successfully created two new professional advising positions for a pilot implementation in two departments of this new innovative advising model where undergraduate engineering students are assigned to both a faculty adviser and an academic adviser intended to leverage the skills of professional advisers who have backgrounds in student development AND the experiences of faculty who have discipline-specific expertise. A team comprised of both faculty advisers and advising professionals are developing the framework to clearly define and communicate the role of each adviser, developing support materials for the faculty advisers which will be implemented with faculty in the pilot departments in the coming term. With this change, student needs will be more fully supported, while also bringing the expectations on faculty more in-line with their strengths and prioritized responsibilities. This, in turn, will provide faculty advisers with the bandwidth to form stronger relationships with students around discipline-specific engagement that will be more fulfilling to the faculty and more meaningful to the students. This proposed model also supports the development of a comprehensive network for students where academic and faculty advisers have defined roles, both shared and independent from one another, that capitalize on the individual's expertise and skillset, which the student ultimately benefits.

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