

WIP - 360 Coaching to Support Whole-Student Advising in the First-Year

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Work in Progress: 360 Coaching to Support Whole-Student Advising in the First-Year

This Work in Progress paper will describe efforts to integrate wellness and career advising into the academic advising model for first-year engineering students at a medium-sized private university, a whole-student advising initiative we have termed 360 Coaching. This effort builds on previously reported efforts to implement a learner-centered approach for first-year advising, Advising-as-Teaching, at Northwestern University's McCormick School of Engineering and Applied Science, in which the first-year engineering program instructors are also the first-year advisors (Freeman, Gentry, and Goldberg, 2016 ASEE Annual Conference). Like the Advising-as-Teaching model at Northwestern University, we are leveraging the community that naturally develops in our first-year engineering design course by creating the student cohorts within sections of the course. Unlike the Advising-as-Teaching model at Northwestern University, our 360 Coaches are drawn from all engineering faculty rather than only the instructors for our first-year design course, and places every first-year engineering student in a cohort of 12-14 peers with layered support to mentor them and guide them to broader university support when warranted. We will evaluate the efficacy of our 360 Coaching program by surveying first-year students at the conclusion of the academic year to gauge their satisfaction with this layered mentorship approach to advising as well as the degree to which they believe they have developed engineering self-efficacy, self-efficacy for self-regulated learning, and resilience – attributes that will help them become self-reliant, self-actuating, resilient engineers. Within the first year of its implementation, we are observing that the 360 Coaching program is providing the intended benefits for our first-year students – community developed with the 360 cohorts and 360 Coaches knowing their first-year advisees prior to the conventional mid-semester advising meeting for spring course selections. Most importantly, our 360 Coaches have reported that they have been well-positioned to support students who were facing challenges that commonly arise while transitioning to university life and students who may have been uncertain as to where or from whom to seek support under our previous traditional advising model had an ally in their 360 Coach under our new 360 Coaching program.

Motivation and Background

This Work in Progress paper will describe efforts to integrate wellness and career advising into the academic advising model for first-year engineering students at a medium-sized private university, a whole-student advising initiative we have termed 360 Coaching. While traditional curricular advising is critical, it may not capture a large portion of the student experience, especially for first-year students who are transitioning to university life. Our 360 Coaching program is designed to support the entire student condition and experience, rather than focusing advising on specific coursework or curricular questions and concerns. By supporting and guiding students as they face life issues that may have the potential to impact their academic success, we are providing mentorship that goes beyond the logistics of successfully completing a degree to the holistic goals of whole-student growth and discovery of a path to lifelong personal fulfillment.

Studies have shown that diverse array of factors may impact a student's adjustment to college and their academic success, including self-efficacy and sense of belonging and community [1,2]. We set out to create an advising framework that by design supports students as they develop self-efficacy and places students in cohorts to support community building and sense of belonging. This advising effort builds on previously reported efforts to implement a learner-centered approach for first-year advising, Advising-as-Teaching, at Northwestern University's McCormick School of Engineering and Applied Science, in which the first-year engineering program instructors are also the first-year advisors [3]. Like the Advising-as-Teaching model at Northwestern University, we are leveraging the community that naturally develops in our first-year engineering design course by creating advising cohorts within sections of the course. Unlike the Advising-as-Teaching model at Northwestern University, our 360 Coaches are drawn from all engineering faculty, rather than only the instructors for our first-year design course. In addition to course instructors, our first-year design course is supported by additional faculty who serve as technical mentors. Technical mentors advise a project team on technical aspects of the proposed design ideas and design prototypes, but do not serve as an instructor or the course. Some 360 Coaches are instructors for our first-year design course and others are technical mentors for design teams in the first-year design course, while the remainder are not involved in the first-year design course.

Implementation

Our 360 Coaching program places every first-year engineering student in a cohort of 12-14 peers with layered support to mentor them and guide them to broader university support when warranted – a 360 Coach, an academic dean, and an E-Team (Engineering Team) peer mentor – helpful humans to serve as guides to university life. To support their roles as whole-student mentors and advisors, every 360 Coach and E-Teamer (E-Team peer mentor) in the layered support model has participated in training on relationship building with students, interconnected dimensions of wellness, building inclusive communities, and the specialized support services provided by various offices across the university such as career services and academic support programs. We opened the year with orientations for the faculty advisors and peer mentors, in which we introduced them to leaders from several key student support offices on campus who provided an overview of the support their offices provide and when advisors should reach out to them. We have continued provide information and support for our 360 Coaches throughout the year through bi-weekly meetings. Many meetings have featured a focused conversation with leadership from a campus support office, such as career services, mental health services, disability services, academic support services, student conduct/honor code office, residential life, fraternity/sorority life, and offices that support students with concurrent student-“other” roles, such as athletics for student-athletes and ROTC for student-cadets and student-midshipmen.

Every 360 Coach engages with their first-year mentees regularly through some combination of individual meetings and group outings. Thus, even though not all of our 360 Coaches are involved in our first-year engineering design course, all of our 360 Coaches are developing relationships with their mentees through regular meaningful contact beyond that which would typically occur within a traditional academic advisor-advisee relationship. Examples of the types

of activities in which 360 Coaching cohorts may engage are meeting for a tasty treat at a local coffee shop or dessert bar, taking a walk or hike in a nearby park or nature preserve, visiting sites or attractions on campus that are accessible only when accompanied by a faculty sponsor, and meeting for a meal at the on-campus faculty dining facility. We anticipate once Covid-19 has abated the activities will likely expand to include enjoying a performance at the local performing arts center, attending a local sporting event, or dining at a local restaurant.

Our 360 Coaching model has not increased the number of faculty advisors for our undergraduate engineering programs, but instead has redistributed them. Rather than every advisor advising first-year students through seniors, a subset of advisors focus on our first-year students while the remainder focus on sophomores through seniors who either have declared or intend to declare a major in their department. Modest funding was provided to support group outings that involve financial cost, such as admission tickets or meal expenses, but we found that a relatively small portion of the available funding was utilized because most gatherings made use of the wide variety of event and activity options available on campus. The undergraduate E-Team peer mentors are considered to serve in a para-professional role and are compensated on an hourly basis. The 360 Coaches are provided with a small stipend at the conclusion of the academic year to recognize the importance of their role in directly supporting our first-year students and the value the engineering school places on this contribution to our undergraduate student experience. While the time investment on the part of the E-Teamers and 360 Coaches varied across cohorts, an E-Teamer and 360 Coach would spend, on average, a few hours per month with their 360 cohort. This advising model required no investments in additional space.

Assessment

We will evaluate the efficacy of our 360 Coaching program by surveying first-year students at the conclusion of the academic year to gauge their satisfaction with this layered mentorship approach to advising as well as the degree to which they believe they have developed engineering self-efficacy, self-efficacy for self-regulated learning, and resilience – attributes that will help them become self-reliant, self-actuating, resilient engineers. Since our 360 Coaches are not restricted to those faculty who are instructors for the first-year engineering design course, we will also evaluate the impact of the 360 Coach's role in the first-year engineering design course (instructor, technical mentor, none) on the efficacy of the mentor-mentee relationship.

Our planned assessment focuses on three questions:

- 1) Is the advising provided by 360 Coaching providing what students want from advising – do students like 360 Coaching?
- 2) Is the advising provided by 360 Coaching effective in supporting students as they develop self-efficacy for self-regulated learning, engineering self-efficacy, and resilience – is 360 Coaching working?
- 3) Is the advising provided by 30 Coaching dependent on the 360 Coach's involvement in the first-year engineering design course?

We are leveraging four validated survey instruments that support answering the first two assessment questions. A few of the original survey questions/statements have been adapted slightly to better align them with our engineering program. The adaptations are noted below, along with the original text that was removed or altered.

To assess how well 360 Coaching provides what students want from advising we are using the survey of 12 essential advising functions proposed by Smith and Allen [4]. This survey asks two questions for each advising function – “How important is this advising function to you?” and “How satisfied are you with the advising you receive on this function?” – with response options on a 6-point Likert scale from “not important” or “not satisfied” to “very important” or “very satisfied.” The 12 essential advising functions probed by the survey are:

- 1) Advising that helps students connect their academic, career, and life goals.
- 2) Advising that helps students choose among courses in the major that connect their academic, career, and life goals.
- 3) Advising that assists students with choosing among the various general education options (e.g., choice of major, concentration, courses within concentration) that connect their academic, career, and life goals.
- 4) Advising that assists students with deciding which engineering major to pursue to connect their academic, career, and life goals.
- 5) Advising that assists students with choosing out-of-class activities (e.g., part-time employment, internships or practicum, participation in clubs or organizations) that connect their academic, career, and life goals.
- 6) When students need it, referral to campus resources that address academic problems (e.g., math or science tutoring, writing, disability accommodation, testing anxiety).
- 7) When students need it, referral to campus resources that address nonacademic problems (e.g., family responsibilities, financial, physical and mental health).
- 8) Assisting students with understanding how things work at this university (understanding time lines, policies, and procedures with regard to registration, financial aid, grading, graduation, petitions, and appeals, etc.).
- 9) Ability to give students accurate information about degree requirements.
- 10) Taking into account students’ skills, abilities, and interests in helping them choose courses.
- 11) Knowing the student as an individual.
- 12) Encouraging students to assume responsibility for their education by helping them develop planning, problem-solving, and decision-making skill.

Question 3 was adapted from the original survey to align terminology with that used within our engineering school – “major” and “concentration” replaced “capstone” and “cluster.” Question 4 was adapted from the original survey to ask, “which engineering major to pursue,” rather than more generally, “what kind of degree to pursue (bachelor of science, bachelor of arts, bachelor of music),” and question 7 was adapted to ask about, “family responsibilities,” rather than specifically “child care.”

To assess how well 360 Coaching supports students as they develop self-efficacy for self-regulated learning we are using 6 of the original 11 statements in the survey proposed by Zimmerman, et al. [5]. The selected statements focus on elements of self-regulated learning that are aligned with the goals of the advising provided by the 360 Coaching. The survey response options are on a 6-point Likert scale from “not well at all” to “very well” and the statements are:

- 1) I can finish assignments by deadlines.
- 2) I can study when there are other interesting things to do.
- 3) I can plan my schoolwork.
- 4) I can organize my schoolwork.
- 5) I can arrange a place to study without distractions.
- 6) I can motivate myself to do schoolwork.

The survey statements from the original survey proposed by Zimmerman, et al. not included in our survey are, “I can concentrate on school subjects. ...take notes of class instruction. ...use the library to get information for class assignments. ...remember information presented in class and textbooks. ...participate in class discussions.”

To assess how well 360 Coaching supports students as they develop engineering self-efficacy we are using the 6-statement general engineering self-efficacy survey proposed by Mamaril, et al. [6], with temporal reference to “this semester” removed from statements 1 and 4. The survey response options are on a 6-point Likert scale from “completely uncertain” to “completely certain” and the statements are:

- 1) I can master the content in the engineering-related courses.
- 2) I can master the content in even the most challenging engineering courses if I try.
- 3) I can do a good job on almost all my engineering coursework if I do not give up.
- 4) I can do an excellent job on engineering-related problems and tasks.
- 5) I can learn the content taught in my engineering-related courses.
- 6) I can earn a good grade in my engineering-related courses.

Finally, to assess how well 360 Coaching supports students as they develop resiliency we are using the 6-statement resiliency survey proposed by Smith, et al, that focus on resilience as, “the ability to bounce back or recover,” from challenges. [7] Half of the statements (numbers 2, 4, and 6) are reverse coded, and the survey response options are on a 5-point Likert scale from “strongly disagree” to “strongly agree.” The statements are:

- 1) I tend to bounce back quickly after hard times.
- 2) I have a hard time making it through stressful events.
- 3) It does not take me long to recover from a stressful event.
- 4) It is hard for me to snap back when something bad happens.
- 5) I usually come through difficult times with little trouble.
- 6) I tend to take a long time to get over set-backs in my life.

Our survey consists of a total of 42 questions/statements, all of which are presented on a 6-point Likert scale, as for the general engineering self-efficacy survey proposed by Mamaril, et al. and the advising satisfaction survey proposed by Smith and Allen. Although Zimmerman, et al. proposed their survey of self-efficacy for self-regulated learning on a 7-point Likert scale and Smith, et al. proposed their survey on a 5-point Likert scale, we have chosen to present all questions/statements on a 6-point Likert scale in our survey to unify the survey by placing all questions/statements on similar 6-point scales as well as to eliminate the “neutral” response option for the self-efficacy for self-regulated learning and resiliency statements. To assess growth in our students over the course of their first academic year, we will perform a post-pre-assessment by presenting each of the 12 statements related to self-efficacy and 6 statements related to resilience with respect to where the students recall being at the beginning of the academic year and where they believe they are at the end of the academic year when they complete the survey.

In addition to analyzing the survey responses to assess how well 360 Coaching supports students in developing their resiliency and self-efficacies for self-regulated learning and engineering and how well it provides students with what they want from advising, we will also assess how the 360 Coach’s involvement in the first-year engineering design course may have impacted the students’ perceptions of their advising experience by comparing survey results across three groups of students: students whose 360 Coach was also their first-year engineering design course instructor, students whose 360 Coach was also a technical mentor for their first-year engineering design course section but not necessarily the technical mentor for their design group, and students whose 360 Coach was not involved in their first-year engineering design course experience. Students are approximately evenly divided across the three groups. If the survey response rate supports evaluating student perceptions between demographic groups such as by gender identity or ethnicity without re-identification risk due to small sample sizes, we will also evaluate the survey responses by demographic group. We do not have a control group, for which 360 Coaching was not provided, because this new advising model was implemented at full-scale in its first year.

The survey instruments and survey procedure will be reviewed by Duke University’s Campus Institutional Review Board, and the survey presented to students will be approved by Duke University’s Campus Institutional Review Board prior to its dissemination.

Anticipated Results

Within the first year of its implementation, we are observing that the 360 Coaching program is providing the intended benefits for our first-year students – community developed with the 360 cohorts and 360 Coaches knowing their first-year advisees prior to the conventional mid-semester advising meeting in the fall for spring course selections. Most importantly, our 360 Coaches have reported that they have been well-positioned to support students who were facing challenges that commonly arise while transitioning to university life, such as time-management, stress-management, and imposter syndrome; students who may have been uncertain as to where

or from whom to seek support under our previous traditional advising model had an ally in their 360 Coach under our new 360 Coaching program.

We anticipate the student survey results will inform our continuous improvement of the 360 Coaching program, especially when considering the manner in which the 360 Coach is involved in their advisees' first-year design course experience.

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