

Jump in the Shark Tank to Improve Your Teaching

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Abstract—This special session highlights the Entrepreneurial Mindset for Innovative Teaching (EMIT) initiative at Penn State where faculty are challenged to use entrepreneurial principles to improve and innovate with their teaching. The EMIT academy uses an adaptation of the Business Canvas Model, titled the Entrepreneurial Teaching Module to help guide faculty through this process. Upon completing the model, faculty participate in a “Shark Tank” like experience, which will be recreated as part of this special session.

Keywords—*entrepreneurial mindset, faculty development, innovative teaching,*

I. INTRODUCTION

This proposed special session draws on a faculty development initiative at Penn State entitled Entrepreneurial Mindset for Innovative Teaching (EMIT). This initiative, funded by the Mentorship 360 Project as part of the Kern Entrepreneurship Education Network (KEEN) is based on the premise that the skills and characteristics needed for quality teaching mirror those that entrepreneurs use in starting a venture. As part of EMIT, faculty attend a summer academy in which they critically reflected on a specific course using a revised version of the Business Canvas Model. In this revised model, which we term the Entrepreneurial Teaching Model (ETM), faculty were asked to identify the following: 1) key stakeholders of their course, 2) value propositions (or how the value their course has for the different stakeholders), 3) key instructional activities, and 4) relevant relationships. The EMIT Academy was developed by drawing from the literature on entrepreneurship education (i.e., [1]) as well as evidence-based practices for faculty development (i.e., [2-3]).

During the proposed special session, participants will engage in a sample of activities from the EMIT Academy, including a critical reflection using the ETM and a unique Shark Tank inspired competition.

II. SESSION GOALS

After participating in the session, attendees should be able to:

- Identify how entrepreneurial ideas and principles can be used to enhance their course,
- Critically reflect on a course by completing the Entrepreneurial Teaching Model, and
- Identify areas of opportunity for change in their courses to better meet the needs of their students.

The session would be appropriate for all engineering faculty who are teaching. It may be helpful for new faculty who have never engaged in a critical reflection of their course, as well as more senior faculty who would like to re-engage and reinvigorate their teaching. Another audience who may be interested in attending includes faculty developers. The session does not require that attendees have any expertise with entrepreneurship.

III. JUSTIFICATION OF NOVELTY

The special session is novel in that faculty development initiatives do not typically use entrepreneurship as a framework. The authors had led a special session at FIE 2020 [4] that explored the similarities of entrepreneurship to teaching. Since that session, the authors have continued to expand their work in faculty development relating to entrepreneurship. This special session builds upon the previous session, which was well received by the 2020 attendees, by allowing participants to actively use a model to critically reflect on teaching and revising a course. Using entrepreneurial principles can be helpful when considering the role and responsibility of faculty beyond just teaching. Using this framework may be an appropriate approach for future holistic faculty development [5](Sutherland, 2018).

IV. SESSION AGENDA

The special session will use a combination of short lecture with interactive engagement. The exact format of the engagement will be dependent upon whether the conference is held in-person or virtually. The speakers are well-versed in conducting workshops in either context and will adapt the activities to a remote format if circumstances require. Activities will include small-group discussions, reflections on their teaching, the development of an elevator pitch, and a fun and engaging activity modeled after the show Shark Tank, in which groups give a pitch and judges determine a winner. A more detailed agenda appears below:

(0:00-0:05) Introduction and Overview

(0:05-0:10) Icebreaker Exercise: Meet and network with your peers

(0:10-0:20) Short lecture: How are entrepreneurship and teaching similar? Introduction of Entrepreneurial Teaching Model

(0:20-0:35) Reflection: Participants complete the ETM individually

(0:35-0:55) Small group activity: Participants discuss model and identify possible course revisions. Participants

pick one course activity to revise and develop an elevator pitch for the group.

(0:55-1:15) Shark tank Activity: Groups take turns giving elevator pitches for course revision, while the audience serves as peer reviewers. The judges (the workshop facilitators) provide feedback on each course revision, then the overall group will vote on best elevator pitch for a prize!

(1:15 to 1:20) Debrief and large group discussion

In order to engage participants beyond the session, the facilitators will collect contact information. They will send a summary of the session, slides, and any handouts. The special session serves the basis of a larger faculty development initiative being conducted at Penn State.

V. SESSION FACILITATORS

Dr. Sarah Zappe is a research professor and director of assessment and instructional support in the Leonhard Center for the Enhancement of Engineering Education at Penn State. She leads the portfolio of faculty development initiatives that are offered within the College of Engineering. Zappe is an Educational Psychologist with a background in applied test development and measurement. She has worked in a faculty development role for more than 15 years. In addition to her role in the College of Engineering, she also holds an affiliate faculty position in the Educational Psychology department at Penn State. She is a national leader in engineering education research and has served as an external evaluator on many NSF grants. Her research background is varied, focusing on evidence-based instructional support, faculty development, and entrepreneurship education. In addition to her role in the Leonhard Center, Zappe is deputy editor of the *Journal of Engineering Education* and is the current division chair for the Educational Research and Methods Division of the American Society for Engineering Education (ASEE).

Dr. Stephanie Cutler holds degrees in Mechanical Engineering, Industrial and Systems Engineering, and a PhD in Engineering Education from Virginia Tech. She is an assistant research professor and the assessment and instructional support specialist in the Leonhard Center for the Enhancement of

Engineering Education at Penn State. She holds an affiliate position in the Education Psychology department at Penn State and specializes in faculty development and evaluation. Stephanie is recognized for her expertise in faculty development, boundary negotiation of the field of engineering education through peer review, and workshop development & facilitation. She is an emerging leader in engineering education, receiving the American Society for Engineering Education (ASEE) Educational Research and Methods (ERM) division's Apprentice Faculty Grant (2017) and served as a Director in 2020/2021 for the division. She is currently the 2022 Vice Chair of Programs for ERM. She has served on the executive leadership team to establish the ASEE Faculty Development Division and developed their inaugural program in 2018 and has continued to further the program by serving as the division's Program Chair for the 2019 and 2020 annual ASEE Conferences. Her primary research interest include faculty development, the peer review process, the doctoral experience, and the adoption of evidence-based teaching strategies.

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