

2016 Innovations in Teaching Using Technology Grant Proposal

Title of proposal:

Teaching Professional Skills and Entrepreneurial-Thinking through Podcasting

Courses(s) or curriculum affected:

Immediate: Junior/Senior Engineering Clinic

Short-term: Freshman/Sophomore/Junior/Senior Engineering Clinics and other Engineering courses

Long-term: Cross-disciplinary courses/curricula/collaborations

Name of applicant:

Cory Hixson

Assistant Professor of Experiential Engineering Education (ExEEEd)

Rowan University College of Engineering

hixson@rowan.edu

Objectives of the proposal:

Innovation:

The innovation proposed here is both the process of producing a podcast and the podcast content itself. Engineering faculty are consistently searching for and experimenting with tools and techniques that teach students important professional knowledge, skills and attitudes (KSAs) (i.e., communication, collaboration, creativity, entrepreneurial-thinking, leadership, ethics). However, engineering instructors often find it difficult to incorporate such KSAs into their technical courses. The process of developing a podcast teaches students these KSAs because it requires students to think professionally when working on teams, leading episode development, interviewing guests, editing episodes, and communicating through storytelling.

Beyond process benefits, the proposed innovation also provides podcast content that faculty members can utilize in their existing courses to support students' understanding of professional engineering, innovation, and the professional skills needed to succeed as an engineer. This content is especially useful in a flipped classroom (described further in the Scalability section that follows).

Creating this podcast also offers students the opportunity to run a small non-profit and learn entrepreneurial KSAs. I am currently working with Robert Zazzali to legally allow students to garner sponsorships, sell ads, and collect/manage

revenue. These activities provide real-world entrepreneurial and managerial learning opportunities for students.

Scalability:

Immediate impact (current) — Initially, Juniors and Seniors in the Rowan College of Engineering Clinic curriculum will benefit from this grant. At the beginning of this semester (Fall 2016), a team of 3 Junior/Senior Engineering Clinic students and I began mapping out what it would take to develop a podcast that explored innovation at the intersection of business, science, engineering, technology, art, and design.

Short-term impact (1-2 years) — Freshman Engineering Clinic (FEC), especially the first semester of FEC, will benefit from the podcast content that is developed. One of the goals with this innovation is to develop episodes that can be used by FEC instructors to “flip” the classroom. For example, episodes or episode segments (e.g., those describing what various engineers do as professionals or how business, science, engineering, technology, arts, and design interact) can help expose students to the engineering disciplines. Additionally, the podcast content will be index so more advance engineering courses can easily find and utilize content that would be specific to their course. For example, an episode that interviews a petroleum engineer about his daily activities would be interesting to chemical engineers who are applying for jobs in the oil industry. Using these podcasts in Rowan classes will hopefully attract more students into the podcast creation process, thus scaling the learning of professional and entrepreneurial skills.

Long-term impact (within 3-5 years): — While I’ve currently started this project through the engineering clinic series, it is my goal that this podcast expands beyond engineering students and the engineering clinic course. I hope to evolve the podcast creation process into a interdisciplinary course/initiative. I envision students and faculty from science, business, journalism, the arts, etc. benefiting professionally from their engagement with this innovation.

Adaptability:

With today’s advancements in technology, anyone with something interesting to say and a few pieces of essential technology can create and distribute a podcast. I hope that through receiving this award and sharing my work with both the university and broader academic communities, I can encourage more faculty to teach students important professional and entrepreneurial skills through podcasting. I also believe that by fostering student podcasting experts and establishing a “studio” (suite of tools), this effort can evolve into a university resource to help faculty create additional podcasts of their own.

Description of the specific innovation:

As mentioned, the innovation proposed here is both the process of producing a podcast and the podcast content itself.

Specific to the podcasting process, students will

- Brainstorm episodes (creativity)
- Script episodes (communication/creativity)
- Schedule guests (project planning)
- Interview Guest & Record episodes (communication)
- Edit episodes (creativity/communication)
- Master episodes (quality control)
- Distribute episodes (project management)

Specific to the podcast product, students will

- Differentiate between short-term and long-term podcast products (vision/branding)
- Evaluate the product (assessment/evaluation/quality)
- Market the product to students, faculty, and general audiences (marketing)
- Garner sponsorships/selling ads (sales/marketing/accounting)

Required Academic Technology support:

The required academic technology support for this project is minimal. I have audio recording and editing experience, and the Lynda suite of courses provides a series of videos to help students learn these skills. I anticipate needed technology support two areas: 1) hosting the podcast on Rowan's website, if we decide to use Rowan's site instead of Libsyn or Squarespace, and 2) configuring the audio editing computer and obtaining the necessary editing software (because these will likely be university-owned machines).

Plans for evaluating and sustaining the innovation:

Evaluating the Innovation:

The podcast creation process will be evaluated using traditional academic assessment techniques in order to demonstrate evidence of student learning. For example, student reflections will be utilized to determine whether the students who create the podcast are learning professional and entrepreneurial KSAs. Learning in FEC and other courses that use the podcast will be assessed by utilizing minute papers, class observations, and short assignments. We will also utilize podcast assessment metrics, such as number of downloads, download demographics, sponsors, revenue, etc., to determine the reach and success of the podcast content.

Sustaining the Innovation:

At a minimum, I plan to continue to run this project through the Junior/Senior Engineering Clinic. As mentioned previously, I also plan to expand this innovation into a interdisciplinary initiative, possibly through Rowan's Hatch House. Sustained funding will be achieved via additional grants, donors, sponsors, and ad sales to support current and future equipment, hosting, and marketing needs.

Budget:

You will notice the current budget total is double this grant's maximum funding; therefore, I'm currently pursuing multiple sources for funding this project. Other opportunities for funding include private donors who are interested in helping students develop professional/entrepreneurial skills, corporate donors/sponsors who will co-brand the podcast with Rowan (or be mentioned as a supporter), Rowan Colleges (specifically Engineering and Business), and companies who would like to advertise (although realistically this is long term).

Also note that the editing computer accounts for over half of the current budget. Because \$2000 is an overestimate for the computer, I believe I get a sufficient computer for ~\$1000, resulting in a total of ~\$3000 instead of ~\$4000.

Finally, the budget numbers provided in the following chart are rounded up to the nearest whole number (excluding tax and shipping).

Full Budget Breakdown

Equipment	Cost	Quantity	Total Cost	Description
Blue Microphones Yeti Pro USB Condenser Microphone	\$249.00	1	\$249.00	https://www.amazon.com/dp/B004L9KLT6
Blue Microphones RADIUS II Microphone Shock Mount	\$46.00	1	\$46.00	https://www.amazon.com/Blue-Microphones-RADIUS-II-Microphone/dp/B00TTQLA50/
RODE PSA1 Swivel Mount Studio Microphone Boom Arm	\$99.00	1	\$99.00	https://www.amazon.com/RODE-Swivel-Mount-Studio-Microphone/dp/B001D7UYBO/
Zoom H6 Six-Track Portable Recorder	\$400.00	2	\$800.00	https://www.amazon.com/dp/B00DFU9BRK
Zoom APH-6 Accessory Pack for H6	\$60.00	2	\$120.00	https://www.amazon.com/Zoom-APH-6-Accessory-Pack-H6/dp/B003MW6JW6/
Zoom SGH-6 Shotgun Microphone Capsule	\$130.00	1	\$130.00	https://www.amazon.com/Zoom-SGH-6-Shotgun-Microphone-Capsule/dp/B00GXMTZE6/
PNY Elite Performance 128 GB SDXC Card	\$45.00	2	\$90.00	https://www.amazon.com/PNY-Elite-Performance-Speed-P-SDX128U395-GE/dp/B00WWBCQEI/
12- month hosting subscription (maybe website)	\$150.00	1	\$150.00	Libsyn or Squarespace
Ecamm Call Recorder for Skype	\$30.00	1	\$30.00	http://www.ecamm.com/mac/callrecorder/
Garageband (if we buy a Mac)	\$0.00	1	\$0.00	
Acoustic Foam Tiles (12-count)	\$18.00	1	\$18.00	https://www.amazon.com/12-Pack-Acoustic-Panels-Soundproofing/dp/B00TP7C9YY/
Auphonix 6-inch Pop Filter For Blue Yeti Microphone	\$22.00	1	\$22.00	https://www.amazon.com/Auphonix-6-inch-Filter-Blue-Microphone/dp/B00HBN6T1I/
Seagate Backup Hard Drive	\$140.00	1	\$140.00	https://www.amazon.com/dp/B00J0O5R2I/
iMac/Mac Mini (overestimate for the cost of an editing computer)	\$2000.00	1	\$2000.00	http://www.apple.com/shop/buy-mac/imac
Total:			\$3894.00	