The Future of Engineering Education
2024 Annual Conference & Exposition
Oregon Convention Center
Portland, OR . June 23 - 26, 2024
ASEE
Paper ID #41713

Cultivating Scientific Communication Skills through Professional Development Course Series for the Graduate Curriculum

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Cultivating Scientific Communication Skills through Professional Development Course Series for the Graduate Curriculum

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Cultivating Scientific Communication Skills through Professional Development Course Series for the Graduate Curriculum

Abstract

Over the past few decades, effective scientific communication has become a critical skill to develop for graduate students across all engineering disciplines. A robust publication record in reputed journals, embellished with outstanding conference presentations, is a benchmark for a productive graduate degree that translates to job opportunities and visibility in the engineering field. In addition, the National Association of Colleges and Employers (NACE) ranks communication skills as one of the top core competencies for college graduates nationwide. As such, graduate students must communicate their research in an articulate style to audiences at all levels so that scientific knowledge is shared and understood by society at large.

Engineering schools emphasize technical writing and presentation for their undergraduate curriculum through junior writing, capstone, and senior design in every field. Such resources are limited and often need to be more organized for the graduate curriculum, needing a systematic approach to address the diverse aspects of communicating science effectively to different audiences. Besides, the diverse and multilingual backgrounds of graduate students should be noticed when students are expected to present and publish their work in the field. Therefore, there is a need to infuse the graduate engineering curriculum with well-designed scientific communication courses to ensure the productivity of students.

The University of Connecticut identified this significant gap in providing structured support to the graduate student community in scientific communication. This evidence-based practice paper describes the implementation of a unified “Professional Development” (PD) course series to support the success of graduate students. This PD program features a course to enhance the students' verbal scientific communication skills through a practical, feedback-driven, and peer-reviewed format. A scientific writing course, a course complementary to scientific communication, is being developed to help students improve their writing skills. A key objective of both these communication courses is to teach graduate students how to use storytelling in speaking and writing to make their scientific findings clear and engaging for all audiences. It also explains how storytelling can be a tool in their career proficiencies and further strengthen the NACE Career Competencies. The university's initiative underscores its commitment to bolstering scientific communication and is a model for other institutions.

Introduction

Effective scientific communication is essential for graduate students, providing a foundation for academic success and career advancement. The success of graduate students depends on publishing in journals and presenting at conferences - activities that extend beyond meeting educational requirements. It also depends on sharing advanced research within the scientific community. Mastery in scientific communication establishes students as proficient researchers and prepares them for successful careers in academia or industry. The National Association of Colleges and Employers (NACE) reinforces this, highlighting communication as a critical competency for career readiness. The NACE Career Competencies include Critical Thinking, Communication, Teamwork, Technology, Leadership, Professionalism, Career and Self-Development, and Equity and Inclusion. NACE advocates for skills like active listening, persuasion, and adapting to diverse communication styles [1]. These communication skills become even more valuable when young professionals convey complex scientific ideas, foster innovation, and collaborate in the workplace. Employers recognize this skill as vital for thriving in today's diverse professional environment. Therefore, by excelling in scientific communication, graduate students excel academically and become well-equipped for seamless transitions into their prosperous careers in the professional setting.

Scientific communication is emphasized in undergraduate engineering programs but receives less attention in graduate programs. Undergraduate engineering curricula prioritize the development of technical writing and presentation skills. These skills are integrated into coursework like capstone projects and senior design and are standard across engineering disciplines in almost all institutions. In contrast, resources for developing communication skills in graduate programs are often limited [2,3,4] and need to be more structured than the undergraduate level [5], making it challenging for students to convey complex scientific concepts to diverse audiences effectively. As a result, graduate students seek independent resources to acquire proficiency in this skill. There are also unique challenges related to the diverse linguistic and cultural backgrounds of graduate students [5,6,7], who make up a significant portion of the graduate programs that still need to be addressed. This can be detrimental, especially in a field where students must present and publish their work comprehensively and coherently.

Researchers and academic institutions have undertaken various initiatives to address the challenge of enhancing scientific communication skills among graduate students [5,8,9]. For instance, several universities have integrated training for graduate students, offering workshops and seminars focused on scientific writing, public speaking, and presentation skills [9,10]. Some institutions have partnered with professionals to provide practical insights and real-world scenarios, enriching the learning experience. Furthermore, there's a growing trend of interdisciplinary courses where students from different scientific backgrounds collaborate, simulating a more diverse communication environment [11,12,13]. Research in this field has also emphasized the importance of peer-to-peer learning, creating student-led discussion groups, and assessments focused on improving communication skills [11,13,14,15,16,17]. Digital platforms, like online courses and webinars, have also been leveraged to reach a wider audience and provide flexible learning opportunities [9,10]. These efforts reflect a broader recognition of the importance of communication skills in graduate education and a commitment to preparing students for the multifaceted demands of their professional and academic futures.

The University of Connecticut has taken a step to advance its graduate engineering curriculum by recognizing the significance of structured support in scientific communication and overall career preparation for graduate students. The university has launched a Professional Development (PD) course series uniquely tailored to boost the success of its graduate students. This program distinguishes itself through its focus on career advancement and developing essential core skills for graduate students, valuable for their current studies and future careers. A key area of focus in the PD course series is scientific communication. One of the courses currently offered centers on oral communication, specifically targeting presentation and public speaking skills. Expanding its curriculum, the university is also developing a course on scientific writing to improve student communication.

The distinctive aspect of the PD courses is incorporating storytelling as a pedagogical strategy. This method goes beyond conventional teaching techniques, focusing on conveying information and weaving scientific data and findings into a compelling and relatable narrative [18]. Such an approach makes complex, scientific concepts more understandable and approachable for various audiences. Storytelling in this context involves not embellishing facts but creating a coherent story that connects research outcomes with their practical implications. It can transform data into tangible, comprehensible examples and scenarios. This technique significantly enhances communication effectiveness, ensuring it resonates with and is memorable to diverse audiences, including scientists, industry professionals, and the general public.

This evidence-based practice paper offers a comprehensive overview of the PD course series at the University of Connecticut. It highlights the institutional support and teaching methods for these PD courses. The storytelling theme is woven throughout the courses as the basis for improving communication skills. The paper's first section provides an in-depth description of the PD course series, including detailed overviews of the three existing courses and an insight into the current scientific writing course. This paper also discusses the structure of these courses, examining their unique pedagogical approaches, objectives, and delivery methods. Subsequently, the paper explores the purported impacts and benefits of the PD courses, drawing on student reflections to assess their effectiveness in enhancing students' competencies. Finally, the paper concludes with a discussion on the current and future potential of the PD course series and how storytelling can be a tool in the graduate curricula tied to the NACE Career Competencies (Figure 1).

Professional Development Course Series for the College of Engineering, Graduate School – Inception and Institutional Support

The Professional Developments (PD) course series at the College of Engineering (CoE), of the University of Connecticut, was founded during the Summer of 2020, during the COVID-19 pandemic. These short 1-credit special topics courses were designed to gather small groups of graduate students from various engineering disciplines weekly, fostering discussions on their professional aspirations and strategies. Initially conceived as a means to combat the isolation induced by the pandemic, the course structure was flexible. The topics were predominantly driven by student input, and class notes evolved dynamically during online sessions. However,

over the next year, the diverging and evolving instructional concepts and methods were purposely restructured into a series of courses along distinct tracks to advance the professional and career objectives of Ph.D. and MS students. Students from different engineering disciplines shared a standardized professional platform where they can learn, practice, and master good career practices instead of seeking individual sources to gain proficiency.

In an era of constant technological advancements, the future of engineering education lies in embracing good communication skills to bridge the gap between theory and practice. Producing well-prepared graduates to tackle the challenges of the ever-evolving industry and research aspects is an asset to the institution. Therefore, improving the students' career prospects, helping them stay updated on the latest trends, broadening their professional network, and learning from experts and peers became the primary goals of PD courses.

The distinctive focus of the Professional Development course series garnered official recognition from the CoE Graduate Program in Fall 2021, thanks to the robust backing of the Associate Dean of Graduate Studies. These courses started multiple collaborations across the university, such as the Center for Career Development (CCD), the Center for Excellence in Teaching and Learning (CETL), the Graduate Certificate of College Instructions (GCCI), The International Office, and the University's Writing Center. Faculty members for the PD courses maintain close ties with all the engineering graduate departments and schools across the University. The CoE provides administrative, networking, and marketing support for the PD courses and incentivizes the PD enrolment as an integral part of their Graduate Curriculum.

As highlighted in the introduction, this PD course series established multiple courses (and workshops) to enhance graduate students' knowledge, skills, and competencies. These 1-credit courses, with no prerequisites, are offered on a rotating basis throughout the academic year, as summarized in Table 1. Most of these courses have been approved as permanent courses by the Graduate School.

Table 1. Courses and Workshops are offered throughout the academic year.

Name	**Resource Type**	**Semester Offered**
First Year Experience	1 -credit course	Fall and Spring
Scientific Communication	1 -credit course	Fall
Scientific Writing	2 -credit course	To be offered in Fall 2024
Engineering Internships and Careers in Industry	1 -credit course	Fall
Teaching Engineering Practicum	1-6 credit course	Fall and Spring
Teaching Engineering and Pedagogy	1 -credit course	Spring

Effective Negotiation for Women Graduate Students in STEM	Workshop	Spring
The Art of Negotiation	Workshop	Spring
CoE (3MT) Three-Minute Thesis Competition	Workshop	Spring

The multidisciplinary aspect of the PD courses is also an important benefit, enabling graduate students to benefit from diverse perspectives. In the Fall of 2023, the CoE offered support for four full-time graduate teaching assistants (GTAs) to help with the growing demand for these courses. The GTAs help the students with resources and preparing materials. The GTAs also receive teaching and practicum credits as part of their training.

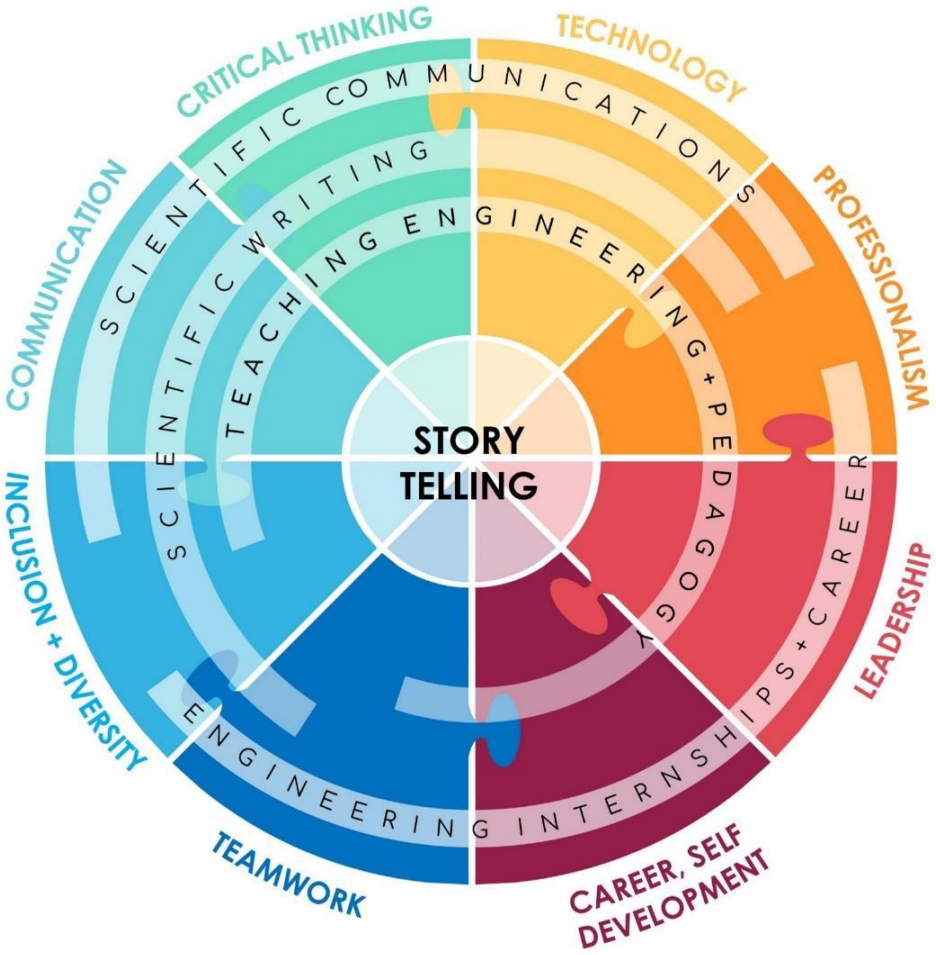

Figure 1. The NACE Career Competencies are tied to the storytelling tool. Professional Development courses such as Scientific Communication, Scientific Writing, Engineering Internships and Career in the Industry, and Teaching Engineering and Pedagogy use storytelling as a central theme to enhance the career competencies of graduate students.

Course Structure for the Professional Development Course Series

Learning in the classroom is effective when it is student-driven and student-centered. At the same time, constant feedback, motivation, guidance, and challenges provided by the professors help the students take that extra step toward reaching a higher level. A well-structured course defines a clear projection for the student's growth. As such, the PD courses are carefully crafted, planned, and organized to accommodate student learning, exploration, feedback, practice, and reflection. The objectives for each course mentioned in Table 1 are different. Yet, they share similar teaching strategies and utilize the power of storytelling as a backbone for some of the learning outcomes (Figure 1). Every course is centered around a specific facet of professional growth. Therefore, the layout of the course plays a pivotal role in equipping students with the necessary resources for thriving in both their graduate studies and future careers post-graduation.

Lectures: Lecture materials for each topic furnish students with essential knowledge to expand upon. Occasionally, guest speakers from diverse backgrounds and industries contribute their insights and experiences, fostering collaboration among the Graduate School of Engineering, CCD, CETL, the International Office, and the University's Writing Center. Each course comprises an hour of class time, supplemented by additional out-of-class work to align with the requirements of a 1-credit course. Course topics are carefully selected to be relevant and practical, aiming to enhance students' proficiency. Employing constructive alignment, students build upon their existing knowledge by acquiring new insights and skills. Following each lecture, students engage in peer-led practice sessions to hone their storytelling and presentation abilities to enhance the depth and significance of their learning experiences.

Peer-based feedback: Graduate students have varied standings over their professional development; therefore, individualized, personalized feedback is the critical teaching strategy for each course. All courses are student-centered and student-driven, prioritizing their learning needs, interests, motivations, and experiences. Students can choose their partners and topics to work on during the semester projects. They choose their cohorts to review their assignments and improve on their work. Course modules are highly collaborative and geared towards the individual professional growth of students. Peer-based feedback is highly encouraged in all of these courses. It helps the students with their communication skills and supports the learning process by checking performance against criteria, strengths, and weaknesses, as seen by other studies [19,20]. This is where the multidisciplinary aspect of the PD courses is most effective. Students further along in their graduate degrees offer help to their relatively new peers. Peers observe and learn from each other's work and performance. They build upon each other's strengths and weaknesses and contribute to their learning experiences. Most enrolled students have international backgrounds, and the peer review format also builds a safe space for students to receive and work on constructive criticism.

Assessment Strategy: The PD courses utilize assessment rooted in experiential learning and formative feedback principles to create an engaging learning experience. Each topic provides students with relevant information. and know what they should focus on as they progress through the course. Following these introductions, students engage in topic-related assignments and hands-on experience. After these introductions, students are tasked with assignments related to

the topics. This approach provides students with hands-on experience. Subsequent class sessions are discussion-based, allowing students to share insights and learn from their peers. This multifaceted approach ensures that students not only grasp theoretical concepts but also cultivate practical skills and the ability to apply their knowledge effectively.

Student reflection is central to this learning process because it helps students develop self-awareness and critical thinking skills. Students share their expectations and goals with the class at the beginning of the semester. This fosters accountability and sets a clear path for their learning journey. At the end of the semester, the students reflect on their learning journey, highlighting achievements, areas of improvement, and lessons learned. This reflective process fosters metacognitive awareness, enabling students to understand their strengths and weaknesses better to gauge their growth [21]. This feedback, in turn, helps to improve the courses for the future. This ensures we stay responsive to our students' changing educational, career-oriented goals. Combining experiential learning assessments and student reflection promotes a dynamic and student-centered learning approach to achieve professional development. The course structure is presented in Figure 2 and the topics covered in these courses are discussed further in the sections below.

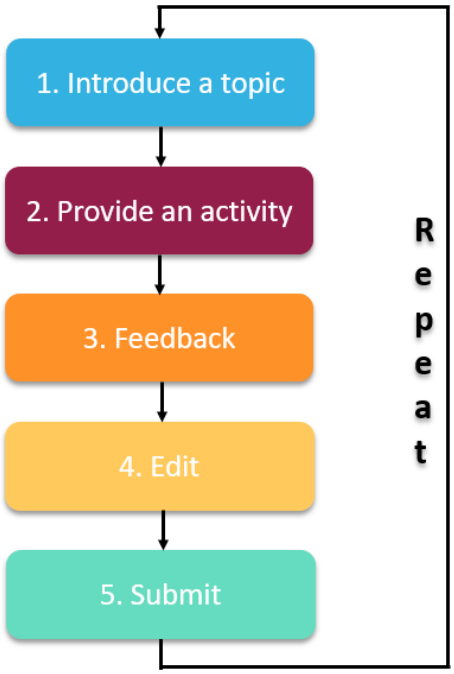

Figure 2. The general workflow and course structure that is practiced in all Professional Development Courses. Students gain ample practice on the topics introduced in the course through activities, project work, feedback, and refinement.

Scientific Communications: This course aims to formalize the practice and improve professional development skills in communicating scientific data and research-related topics to the general educated audience. Graduate students are familiar with oral presentations but often need help with the flow, details, timing, and excessive jargon. Significant emphasis is given to using the power of "storytelling" for future generation scientists to convey their discoveries, explain scientific facts, cultivate engagement, and spark interest. Students are taught how to build a lasting impression, an experience, and a valuable scientific memory for everyone through

“Storytelling.” Another aspect of storytelling is its beauty of simplicity. Taking away the scientific jargon and explaining terms in simple language can reach the minds of a regular audience and instill their interest in science. Through this course, students realize the impact of their research in the real world. They are asked to formulate an impactful story that relates their research work to the day-to-day life of ordinary people. Next, students are encouraged to follow the story arc to develop the flow of their presentation to create a lasting impression for the audience.

Besides storytelling, the topics of this class include the flow of the presentation, public speaking, elevator pitch, designing and formatting slides, the tricks and tools of three-minute thesis presentations, and poster designs and presentations. This way, the students are exposed to various formats of oral presentations. Each topic requires students to apply the skills and tools acquired during lectures through active participation in class presentations, embodying the "Learning by doing" approach. This teaching strategy fosters student engagement, reinforces hands-on training, and promotes experiential learning. Students deliver their presentations in different formats in the classroom, timed and reviewed by their peers. They also get feedback on their performances from the instructor and the graduate teaching assistants. To enhance their learning, students can implement all the feedback records using the Kaltura Media software and upload their presentations on Blackboard. For poster presentations, students follow the guidelines during the lecture and prepare their posters. The students then present these posters in an "In Class Poster Expo," where the classroom is transformed into a conference hall, allowing students to move freely between presenters. Peer reviews during these expos promote active participation and cooperative learning, and students often find inspiration from their peers within the same class setting as seen in Figure 3.

Engineering Internships and Careers in Industry: This course formalizes and enhances professional development skills for securing internships or permanent positions in the industry or national laboratories. Students learn to leverage storytelling to showcase their strengths and experiences to potential employers effectively. Additionally, the course introduces graduate students to the NACE career competencies and guides gaining experience in these areas. This course collaborates extensively with the Center for Career Development (CCD). Students receive assistance crafting resumes, curriculum vitae, and LinkedIn profiles and practicing interviewing skills and utilizing the learning modules on each of these topics prepared by the CCD. They can progress through these materials at their own pace and participate in the discussion boards on Blackboard with their peers to edit and share their revised resumes and LinkedIn profiles. Peer critique and suggestions provide further help for improvement during class sessions.

Teaching in Engineering: Communication and Pedagogy: This course formalizes the practice of professional development skills related to “teaching” (i.e., communication and pedagogy) in settings typically encountered by graduate teaching assistants and future faculty positions. The course delves into learning theories and strategies for designing courses tailored to diverse student populations, crafting goals and learning objectives specific to multidisciplinary engineering courses, and developing assessments and rubrics.

This class also offers insight to graduate students who aspire to have an academic career. It covers the fundamental components of crafting a teaching philosophy, guiding students through

articulating their teaching strengths, and designing innovative teaching approaches that align with their strengths. Students use the art of "storytelling" to effectively communicate their teaching ideas and approach. Additionally, teams of 2-3 students work together on a semester-long, hands-on project to design and create new courses or course material. As part of the project, they must design a syllabus, course modules, projects, and assessments for their hypothetical course. This gives them a unique opportunity to develop teamwork and share multidisciplinary ideas, creating inclusivity within the classroom.

Figure 3. "In Class Poster Expo", Fall 2023. Graduate students from different engineering fields enrolled in the Scientific Communication Class have a poster presentation activity in class to mimic a mini poster conference session. This allows students to interact and present their posters to each other and get feedback.

Scientific Writing: In the Fall of 2024, the PD course series will launch an additional "Scientific Writing" course. A key objective of both these courses will be to teach graduate students how to use storytelling in their writing to make their scientific research clear and engaging for all audiences. Critical topics for this course will include learning about the writing genres, mastering the art of crafting coherent narratives (abstract, conference proceedings, journal papers) to convey scientific findings, understanding the nuances of audience engagement, and adhering to formatting guidelines for various types of scientific documents like citation styles. Participants will learn to create professional, scientific manuscripts, reports, and abstracts through lectures, workshops, and practical exercises. The course also integrates assessments, feedback, and peer reviews to facilitate continuous improvement. Invited talks and insights in scientific writing from guest speakers will further enrich the learning experience.

Summary of Students' Reflections

As mentioned in the course structure, student reflections comprise an essential aspect of the PD courses. At the end of the semester, students shared their reflections in class and voiced their thoughts on how the various forms of presentations helped them improve their professional skills. Students enrolled in the Scientific Communication course aimed to enhance their communication and presentation skills. Motivated by a desire to improve their overall presentation skills, create more effective PowerPoint presentations, and engage diverse audiences, the students also sought to connect with individuals from different departments. The course proved beneficial in addressing these objectives through practical assignments such as 7-minute and 3-minute presentations, storytelling techniques, peer reviews, and valuable instructor feedback. Additionally, the inclusion of video-recorded assignments, poster projects, TED talks, 3MT (Three Minute Thesis), and in-class lectures on presentation flow contributed significantly to their learning experience. The students highlighted the courses' role in helping them better prepare for qualifiers and general exams, fostering increased confidence, and improving their English language proficiency in scientific communication. Overall, the course provided a comprehensive and impactful journey in scientific communication.

The students enrolled in the Internship course with the primary objective of preparing for and applying for full-time positions in the industry. Seeking to network with professionals at conferences, the students also aimed to understand the basics of job and internship-hunting strategies. At the beginning of the semester, students expressed eagerness to learn interview etiquette, resume writing, and the recruiter's mindset during the selection process. The course effectively assisted them in enhancing their professional skills, improving their communication abilities, and showcasing their skill set to prospective employers. Practical experiences, such as conferences and networking events, career information sessions with industry giants like GE and IBM, and applying to internships and job opportunities, played a crucial role. The lectures, particularly those offered by the Associate Director, Graduate Student & Postdoc Career Programs and Services, CCD, on ATS and CV/resume, proved invaluable. Guiding students in storytelling during networking sessions, building LinkedIn profiles, and overall job preparation by the guest speaker in CCD, was very effective. Invited speakers with solid internship backgrounds provided valuable insights and lectures on branding and updating LinkedIn profiles, which was a beneficial learning experience while applying for internships and full-time positions in the industry.

Students enrolled in the Teaching Engineering: Communications and Pedagogy course aim to acquire skills in designing a course, formulating influential teaching philosophies, and understanding good practices in teaching. This course proved particularly beneficial for those working as teaching assistants, enabling them to design course rubrics and syllabi. The emphasis on teaching methodologies, communication strategies, and pedagogical approaches gave students the tools to design and deliver engineering courses effectively, even as a graduate student. The practical application of the knowledge was evident in the enhanced ability of students to create comprehensive course materials, align assessments with learning objectives, and contribute to the overall improvement of teaching and communication skills in engineering education.

Students Testimonials

Testimonial 1

"The PD course series is one of my favorite experiences at Graduate School at UConn. I learned professional skills that will play a crucial role in my future career. *Scientific Communication* was the next course I enrolled in. My objective in taking this course was to become more comfortable in public speaking to various audiences about my research. I wanted to learn how to create a story that everyone could relate to and guide them to see the beauty of my research. I achieved my goals through peer and personal feedback from the instructor, and I keep growing in that area. The most important outcome of the Scientific Communication class was the limitless ways that someone could deliver a message based on different audiences through storytelling. The constructive feedback by the peers and the instructor played a key role in improving our ideas and bringing them to life with just a presentation."

Testimonial 2

"I immediately took interest in the course once I saw the title *Teaching Engineering and Pedagogy*. I was always interested in learning about teaching, especially Engineering courses as I am aspiring to be an instructor, and this course was what I was looking for. In this course, I wrote my first ever teaching philosophy which was a new concept that I never heard about before. I like how writing teaching philosophies forced me to contemplate the kind of educator I want to be and what kind of learning environment I wish to provide to my students. From assessment design and rubric creation to creating a course plan and building a course syllabus from scratch, this course has it covered! Throughout the professional development courses I gained invaluable knowledge as well as real teaching experience."

Testimonial 3

"My time as a teaching assistant for the Scientific Communications course was incredibly valuable. While my main responsibility was to give feedback on student presentations, I learned a lot just by observing how they presented their research. Each student had their own presentation style, and I was intrigued by the creative ways they used to explain scientific information. I saw how storytelling can make a presentation memorable. I also noticed how visuals and presentation design can either enhance or detract from the narrative of the

presentation. This experience inspired me to evaluate my own presentation style and provided insights into areas where I can improve my own skills."

Impacts of Storytelling on Career Competencies through the PD Courses

The PD courses are a valuable investment for graduate engineers who want to grow and excel in their profession and career paths by developing new perspectives, insights, and career competencies. Storytelling forms the central theme of these PD courses which in turn helps students to develop better communication skills, teamwork, professionalism, and leadership qualities. The integration of storytelling in PD courses contributes to several key aspects of career development, aligning closely with the National Association of Colleges and Employers (NACE).

The Scientific Communications course equips students with essential skills for enhancing their oral presentation abilities in various presentation formats. They learn to convey their research findings concisely and engagingly, a skill vital to fulfilling NACE career competencies. Notably, two student credits their success in the 3MT competition, and CoE Poster Competition to the course because of the feedback they received during in-class presentations that helped them strengthen their research story. The feedback given to the students during the poster workshops helped them prepare better for their conference presentations.

In the context of engineering internships and careers in the industry, students actively engage in activities aimed at enriching their professional profiles. Through the integration of storytelling, students not only acquire the essential skills but also gain the proficiency required to effectively market themselves. Some students attribute their successful acquisition of internships and job opportunities directly to their ability to market themselves effectively. They earned fellowship opportunities in their research field across the country.

Students who embark on the educational journey within the Teaching Engineering and Pedagogy course experience a distinct yet equally transformative dimension of storytelling. Students who completed this course received credits for the Graduate Certificate in College Instruction (GCCI), opening doors for them to secure positions in academia.

Finally, the Scientific Writing course that will be developed is a logical addition to this series. In the Scientific Writing course, storytelling plays a crucial role in enhancing communication and providing students with an understanding of the purpose and structure of a journal article. This approach helps them identify the primary communication goals of scientific articles they will create, enabling them to participate in academic publishing with clarity and intention. Furthermore, students will learn how to effectively convey research findings suitable for both the expert and lay audiences. It equips them with the skill to distill complex concepts into clear and engaging narratives, making the dissemination of knowledge more accessible and impactful.

Conclusions

In conclusion, enhancing education in engineering through practical experience is vital for producing competent engineers. The significance of hands-on learning, teamwork, and adaptability cannot be overstated; they are essential skills students must develop to succeed in dynamic engineering. By reimagining the traditional curricula to incorporate these elements, we can bridge the gap between academic knowledge and real-world applications, shaping the future of engineering education.

While the PD course series focusing on storytelling is still relatively new, its immediate benefits suggest promising outcomes for the current students, as we have mentioned in the previous sections, the students' reflections on such courses. By improving Engineering students' storytelling abilities, they are better equipped to communicate complex technical research ideas, engage diverse audiences, and make themselves stand out in the job market. As the long-term impact of these courses is yet to unfold, they hold the potential to transform the educational system (curricula), leading to a new generation of engineers who thrive in their careers.

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