10. Real-World User Experience: Engaging Students and Industry Professionals Through a Mentor Program

Lee-Ann Kastman Breuch, Ann Hill Duin, and Emily Gresbrink
University of Minnesota

Abstract: This case study investigates user perspectives of a "joint enterprise" that resulted from strategic interaction of students and industry professionals in a pilot mentor program. We were chiefly concerned with this question: *How might user experience in a mentor program address the academic–industry gap?* Sub-questions included the following: *What is the "user experience" of participating in a mentor program? And how can we make improvements to a mentor program based on user/participant feedback?* Findings from survey and interview responses indicated that the mentor program specifically addressed the "gap" in two ways: by providing a key learning opportunity outside of the classroom that could inform students about the field and careers and by building professional relationships and networks. Designing a mentor program from a user experience perspective proved useful as a means to cultivate real-world user experience and position students for successful entry into technical communication. Prominent themes were that community, duration, clarity of goals, and pairings are critical to mentor program success.

Keywords: advisory board, community, mentoring, students, technical communication, user experience

Key Takeaways:

- Few studies have investigated mentor relationships between students and mentors in technical communication programs.
- Mentor programs that overlap with technical communication advisory boards can be guided by the foundation of communities of practice to encourage collaboration between students and workplace professionals in a "joint enterprise."
- Mentor programs benefit from user-based design and planning that gathers perspectives of students and professionals that contribute to continuous improvement.
- This case study shares user experience results from a mentor program that resulted in recommendations for community, duration, clarity, and pairing.

DOI: https://doi.org/10.37514/TPC-B.2022.1367.2.10

- Collecting student and mentor user experience data before, during, and after participation in a mentor program allows program directors to evaluate program effectiveness from the perspective of all stakeholders.

Academia exists within a bubble. Real-world workplaces are difficult to recreate in an academic setting without students taking on intern/externships or working roles. In our experience at a large midwestern research university, engaging students with technical communication advisory board (TCAB) members and alumni is the closest that students can get to real-world hands-on experience while remaining embedded in academia. Such engagement represents an innovative approach to instructional design and assessment, one that moves both students and workplace professionals to the center of academic practice. Industry professionals provide an intimate view of workplace trends and topics, making these accessible and relevant for students via industry-academia course projects, informational interviews, webinars, and onsite visits. In turn, our vision is that engagement with academia and students increases the effectiveness of industry professionals and their industries. To encourage this kind of engagement, we decided to launch a user-centered pilot mentor program involving our students and TCAB members. In this chapter, we share our investigation of user feedback from specific mentor-mentee interaction of students and professionals in a pilot mentor program.

Our mentor program strives to narrow the gap between academic and industry understandings of technical communication, and to do so, it is informed by community of practice theory and framework. In earlier research, Ann Hill Duin and Jason Tham (2018) used Etienne Wenger's (1998) three dimensions for establishing a community of practice—joint enterprise, mutual engagement, and shared repertoire—along with Joel Kline and Thomas Barker's (2012) model for academic/practitioner collaboration that suggests that "effective collaboration among the academic and practitioner communities will improve professionalism through better research, better education, and a more comprehensive body of knowledge" (p. 33). Kline and Barker emphasized that community of practice (CoP) theory "strongly emphasizes the interactively constructed nature of engaging, belonging, and sharing tools" and "the three dimensions of community can help us to identify and understand the kinds of activities, engendered through membership in a community of practice, that lead to professionalism" (p. 35).

Our pilot mentor program was also designed and developed through the lens of user experience and user-centered design (Gould & Lewis, 1985). John Gould and Clayton Lewis (1985) coined the phrase "user-centered design" and defined it as having three central characteristics: (1) early focus on users, (2) systematic data collection, and (3) iterative design. Using this model, we wanted to investigate the "joint enterprise" that results from strategic interaction of students and industry professionals (TCAB members and program alumni) through a mentor program. We conducted a detailed case study on the impact of designing a

mentor program from a user experience (UX) perspective, focusing on both what students and industry professionals want and acquire from such a program.

In theory, such a mentor program should provide students with an experience not otherwise available within a course; such external experience should strengthen their overall academic and professional experience before they enter the workforce or continue in their education. Indeed, we began this mentor program because it was a strong request from TCAB members. We then asked students and learned that they were very enthusiastic about the idea as well. We asked both parties about what each would want from a mentor program, and they mentioned the need for structure and clear delineation of roles and responsibilities: Who initiates? What is the student role? What is the mentor role? In response, we provided structural parameters for the mentor program that included the expectation that each pair meet three times in a 15-week period, that they articulate goals together, and that they let us know how they decided to structure their mentor-mentee engagement. We launched our pilot mentor program with a get-together event on campus, at which time we shared program goals and mentor resources, and their engagement began. This "interactively constructed nature of engaging, belonging, and sharing tools" allowed for both an open-ended and user-centered approach to the mentor program in that the student and paired mentor decided how they wanted to shape their meetings. For example, one pair decided to do a job shadowing, another decided to have coffee, and another decided to have a resume review. The three-meeting framework allowed for both structure and freedom to address student and mentor needs.

With Institutional Review Board (IRB) exemption approval, we gathered survey responses from participants as the pilot ended, and we conducted follow-up interviews. Throughout the pilot, we were chiefly concerned with this question: *How might user experience in a mentor program address the academic–industry gap?* Sub-questions included the following: *What is the "user experience" of participating in a mentor program? And how can we make improvements to a mentor program based on user/participant feedback?* Our goal was to integrate user feedback with instructional design to find ways to better bridge industry and academia and to engage students and industry practitioners. This approach is indeed innovative and useful as we actively practice student-practitioner engagement as a method for cultivating real-world user experience through such joint enterprise activity.

In the remainder of this chapter, we further discuss mentor programs as communities of practice, we discuss our user-based approach to this pilot study, and we share results and findings from the participants of our mentor program.

Mentor Programs, Communities of Practice, and User Experience

Most scholarship on mentor programs focuses on programs within workplaces or within academia rather than across academia and industry. Several stud-

ies have addressed mentoring for graduate students and early career faculty members in academia (Finch & Fernandez, 2014; Metzger et al., 2015; Pardun et al., 2015). Others have addressed workplace mentor programs; for example, Stephen Baer (2018) suggested that mentor programs are common within workplaces, as they can provide ongoing learning, support, and training for employees (see also Allen et al., 2009; Jones, 2012; QualComm, n.d.). Within workplace mentor programs, learning can be positively associated with factors such as affective trust (sharing bonds) and perceived organizational support (perceptions of how employees are valued; Baer, 2018). In addition, learning can be more impactful when mentor dyads are paired carefully to address similarities and differences, when expectations are clear, when participants reflect on the experience, or when mentor training is provided (Jones, 2013). Mentor experiences can be enhanced by using metaphors to facilitate conversations about complex situations, as well as questions about workplace practices or contexts (Seto & Geithner, 2018).

Very few studies in technical and professional communication have addressed mentor programs between students and workplace mentors; however, a common and related topic involves student internship programs in technical communication and ways that those programs can address the gap between academia and industry (Bloch, 2011; Henze, 2006; Kramer-Simpson, 2018; Munger, 2006; Sapp & Zhang, 2009; Sullivan & Moore, 2013). In a qualitative study of four student interns, Elisabeth Kramer-Simpson (2018) identified elements of successful internship programs that benefit students. A recurring finding was that successful internship experiences provide students with important workplace tasks while also providing freedom as well as opportunities for mistakes as learning moments. Patricia Sullivan and Kristen Moore (2013) also investigated internships, but they specifically addressed the experiences of female students in engineering programs and technical communication courses. Using feminist methodology, they found that women engineering students did not always thrive in internship situations arranged by engineering programs. Instead, Sullivan and Moore explored mentor strategies that emerged in technical communication courses required for those students and focused on daily work practices. These strategies involved time tracking, project management, and weekly memo updates, and students found these strategies very beneficial in projects involving industry clients. A key finding suggests that alternative mentor strategies may be helpful to female engineering students.

While scholarship on internships is helpful, very few, if any, studies address mentor programs outside of internships or the student/mentor experience of such pairings. Duin and Tham (2018) addressed ways that mentors from an advisory board helped with the curricular revision of a course in digital writing and content management. Using the community of practice (CoP) framework (Wenger, 1998), Duin and Tham explored three dimensions of community of practice—mutual engagement (participation from all parties), joint enterprise

(negotiated goals and accountability), and shared repertoire (shared history and richness). In their study, a "shared repertoire" was mainly comprised of faculty and advisory board member discussions surrounding learning outcomes, course goals, and resulting strategic direction and course syllabi. A key conclusion was continued recognition that to keep pace with technological and industry changes, course redesign should be a collaborative endeavor with advisory board members and industry experts. Laura Gonzales and Heather Turner (2019) also examined industry-academic partnerships, specifically through a social justice lens. They described experiences with industry-academic projects involving multilingual students and communities; however, they also discovered that multilingual students experienced anxiety about mentor relationships due to racial and linguistic backgrounds and differences, resulting in labor associated with building professional networks. Gonzales and Turner in turn described several strategies to address this labor, such as grounding collaboration in empathy and listening, and building spaces for sharing stories between students and industry collaborators. Such strategies can be integrated into industry-academic partnerships, including advisory boards.

Advisory boards can indeed be helpful resources for collaborative interactions and discussions that can bridge the gap between academics and practitioners, and they can help form a key "community of practice" for students entering the workplace (Söderlund et al., 2017). Advisory boards can be great resources for mentor programs as well. Indeed, as Gonzales and Turner (2019) noted, we acknowledge the difficulty students may have establishing professional networks, and we saw our TCAB and mentor program as a response to helping students address that challenge. Our TCAB is an intergenerational group of business leaders whose purpose is to provide exemplary networking and experiential learning opportunities for students and to enrich the curriculum and visibility of our programs, students, faculty, and staff. Three of our academic programs—a B.S. in Technical Writing and Communication, a Graduate Certificate in Technical Communication, and an M.S. in Scientific and Technical Communication—have opportunities to interact with TCAB members[1]. At the time of this writing, the board included 18 members. Many serve in upper-levels of management at national/international companies; others have their own businesses; and 11 were graduates of our programs, with two being recent graduates of our B.S. program. Since the inception of our TCAB in 2014, we have created a number of opportunities for students to interact with board members, such as a connect event involving speed networking, a research showcase in which students share research projects with TCAB members for feedback and input, and webinars that feature our TCAB members and their areas of expertise.

1. https://cla.umn.edu/writing-studies/alumni-friends/technical-communication-advisory-board/members

Our most recent TCAB addition is the mentor program, which is the focus of our study here. In Fall 2018, we asked students and TCAB members what might best help create engaged experiences. Our TCAB members enthusiastically supported the idea of a mentor program, and when we later asked students, they also indicated strong interest. In response, in 2019, we piloted a mentor program in which we paired interested students with TCAB members (and additional alumni who served as mentors) over a 15-week period. We scheduled an initial launch meeting in which mentors and mentees met each other. At that initial meeting, we provided some background information about mentor programs (see QualComm, n.d.) and our goals of establishing greater engagement across academic and workplace contexts. For example, we mentioned the following goals:

- to build relationships that enhance professional development for both mentors and mentees
- to bridge the gap between academia and industry
- to help students develop a personal learning network (PLN) that contributes to personal, academic, and professional success
- to articulate clear goals for professional development

We provided time for the pairs to meet and asked them to articulate goals for their mentorship pairing, and we also asked them to plan for two additional points of contact in the remaining 15-week period. (See Appendix A for launch meeting worksheet.) We then asked pairs to come back to a large group discussion in which we fielded any additional questions about the program. The mentor-mentee pairs were then on their own to conduct their plans.

We use community of practice theory as a framework for our study of this mentor program, in that we are interested in Wenger's (1998) three dimensions for establishing a community of practice—joint enterprise, mutual engagement, and shared repertoire—as a framework. We are especially interested in examining the mentor program in terms of a "joint enterprise" that requires negotiated goals that are collaboratively constructed. Kline and Barker (2012) also emphasized a community of practice framework for academic-industry partnerships, and they noted the importance of collaboration between academics and practitioners:

> Similarly, industry advisory boards for academic programs, mentorship programs, and certification initiatives are good opportunities. However, their structure needs to build collaborative participation from both communities to succeed. Without collaboration, the knowledge and social presence necessary to negotiate meaning, something that Wenger (1998) notes is critical to community, fails to occur.

In addition to collaboration, an important aspect of community of practice is situated learning, or learning within a specific context. Jean Lave and Etienne Wenger (1991) suggested that new professionals learning on the job must

pay attention to the contextual factors around them as they learn new tasks; it is also important for new professionals to establish positive relationships with workplace peers. Technical and professional communication scholars have also addressed the importance of situated and contextual learning in studies of new employees who have transitioned from academic to professional contexts. For example, Liberty Kohn (2015) suggested that students or new employees may feel more motivated when their writing or communication is an embedded part of a community context rather than a separate, individual "paper" in a writing classroom. In her investigation of new employees in communication roles/positions, Susan Katz (1998) also suggested that new employees are successful when they develop literacy techniques that address specific needs of a context. Dorothy Winsor (1996) also reinforced the importance of situated learning in her investigation of new engineers moving from graduation into their first professional jobs. Anne Beaufort (1999) mentioned the importance of context as well in creating appropriate documents and texts for workplaces. In sum, addressing context in new workplaces is an important aspect of belonging in a community of practice (p. 43).

A community of practice framework for the study of our mentor program also aligns well with user experience and user-centered design theory and practice. By integrating "user experience" in our mentor program, we mean understanding not just performance or preference of a specific task but rather the entire user experience before, during, and after their "use" or participation in the mentor program (see Getto & Beecher, 2016; Potts & Salvo, 2018; Rose et al., 2017; Still & Crane, 2017). As an example, Michael Salvo and Liza Potts (2018) described "experience architecture" that is not limited "to one aspect of a product" but rather one's entire experience (p. 6). Conducting this kind of user experience research requires largely qualitative research methods such as interviewing, field inquiries, and participatory design (Johnson et al., 2007; Redish, 2010; Salvo, 2001). In addition, these qualitative approaches in user experience research align with methods that technical communication scholars have advocated to investigate issues of social justice. For example, scholars in technical communication have asserted that researchers must ensure the representativeness of participants, be open to including vulnerable populations that may benefit from participating in designs, and consider qualitative methods such as storytelling to gather information about user experience (Rose et al., 2017; Walton & Jones, 2013).

Our pilot study of the mentor program embraced these user experience approaches in that we used interview methods to learn more about the broader, holistic experiences of students and mentors in the mentor program. In addition, we sought to capture the voices of as many participants in the mentor program as possible to inform the continued development of the program. Specifically, we asked users—in this case, students and mentors—to inform us of ways they believed the mentor program did or did not address the gap between academia and industry and of recommendations they would have to improve the program. In

gathering this input, we approach the mentor program through a collaboratively constructed user-centered design perspective that relies on participant research and takes into account participant contributions that will be addressed as the program continues to improve. This user-centered design approach provides the added benefit of contributing participant feedback as a kind of formative assessment of our pilot mentor program. (As noted by Crane and Cargile Cook, 2019, assessment rarely includes student perspectives or participation. We seek to integrate user-centered design by involving our participants in providing feedback for continual improvement [K. Crane & K. Cargile Cook, January 21, 2019].) Thus, we see community of practice theory as providing a necessary framework for understanding our mentor program, and user experience and user-centered theory and practice as ways to research and evaluate the program.

Methods

We conducted a case study of our pilot mentor program in order to gather data that would inform the user experience of students and mentors in the program. Robert Yin (2003) suggested that a case study "investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 13). Yin explained that case studies are useful tools for better understanding contextual situations. Our case study can be explained as a single case study or an intrinsic case study which provides the opportunity to learn about one particular case (Stake, 1995). Case studies can encompass a variety of data collection methods; our case study includes a qualitative, open-ended survey and follow-up interviews, and it was conducted with the intention of evaluating the pilot and identifying ways to strengthen the mentor program. Stake (1995) might identify this case study as a type of formative evaluation that is meant to provide insights for future improvement. We integrated qualitative methods aligned with user experience research to inform our case study.

As mentioned, we began this project as a pilot study of a voluntary mentor program that would last through a 15-week period. We launched the mentor program with an initial meeting in February 2019 in which all students and mentors had the opportunity to meet. This initial meeting included an introduction to the mentor program, including an overview of participation and suggested structure for the mentor pairs. We asked mentors and students to articulate goals for participating in the program and outline three contact meetings that would occur during the program. Mentors and students were given great flexibility for articulating these goals and meetings.

Near the end of the 15-week period, we distributed a questionnaire to all participants that asked questions about the goals of their mentor pair, their meeting choices, their hopes for the program, and whether or not hopes were met. The questionnaire also asked participants for reflections about how the program ad-

dressed the academic-industry gap and any recommendations. This study was submitted to our institution's IRB board and was returned with a full exemption, stating that this work was considered program evaluation. We gathered 34 surveys out of 40 participants, or a participation rate of 85 percent. We included a question that asked about a follow-up interview; several participants agreed, and we conducted short 15-minute interviews with 23 participants. (See Appendix B.)

We gathered survey data which was offered in open-ended written responses, and we transcribed interview data in response to the following four questions:

- What was your overall experience in the mentor program?
- How do you believe the mentor program addressed (or not) the gap between academia and industry?
- In what ways did the program help?
- What recommendations do you have for improvement?

We examined responses according to the questions asked and used an emergent coding approach informed by the data rather than any predetermined coding categories. As themes were identified, we reviewed them as a team to either verify or eliminate. In the results section, we highlight results by both question and theme.

Participants

A total of 40 people participated in the mentor program—20 students and 20 mentors. Participating students represented four different academic programs in our department: two students from our M.A./Ph.D. program, six students from our M.S. professional program, six students from our Graduate Certificate program, and six students from our B.S. program in technical communication. Of the mentors, 15 were TCAB members and five were invited alumni from our various programs (see Figure 10.1).

About 12 weeks into the mentor program, we distributed a survey to all 40 participants in the program (see Figure 10.2). The survey included open-ended questions that asked participants to identify the goals they articulated for the program, the meetings they planned, their hopes and dreams for the program, whether their hopes were met, and how they believed the program did or did not address a gap between academia and industry (see Appendix B). Of 40 participants invited, 34 participants responded to the survey, for a participation rate of 85 percent. Of those responding to the questionnaire, participants included the following:

- Ten TCAB members and mentors (30.3%)
- Four invited alumni and mentors (18.2%)
- Six M.S. students (15.2%)
- Six Graduate Certificate students (18.2%)
- Two M.A./Ph.D. students (6.1%)
- Five B.S. students (15.2%)

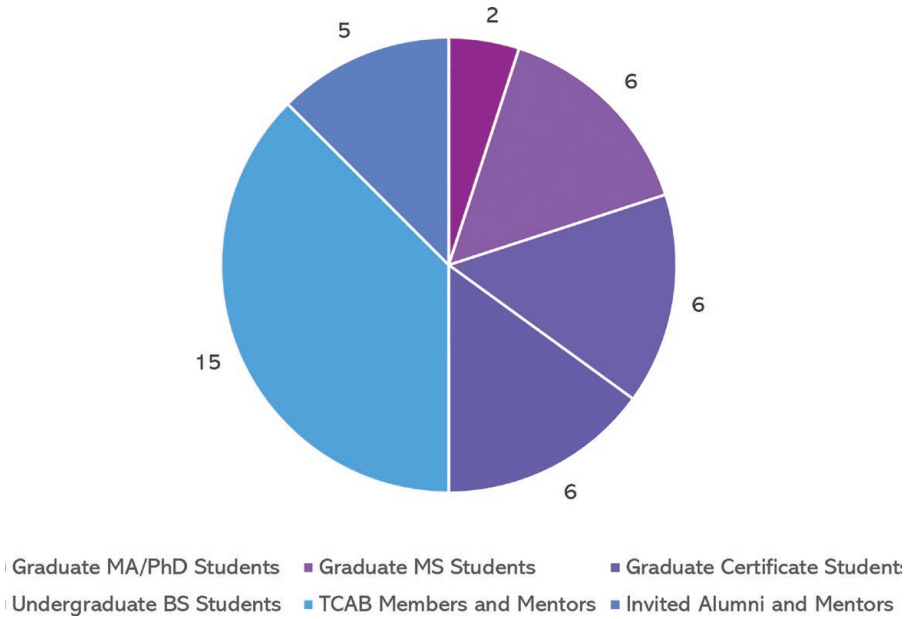


Figure 10.1. Program participants in the mentor program.

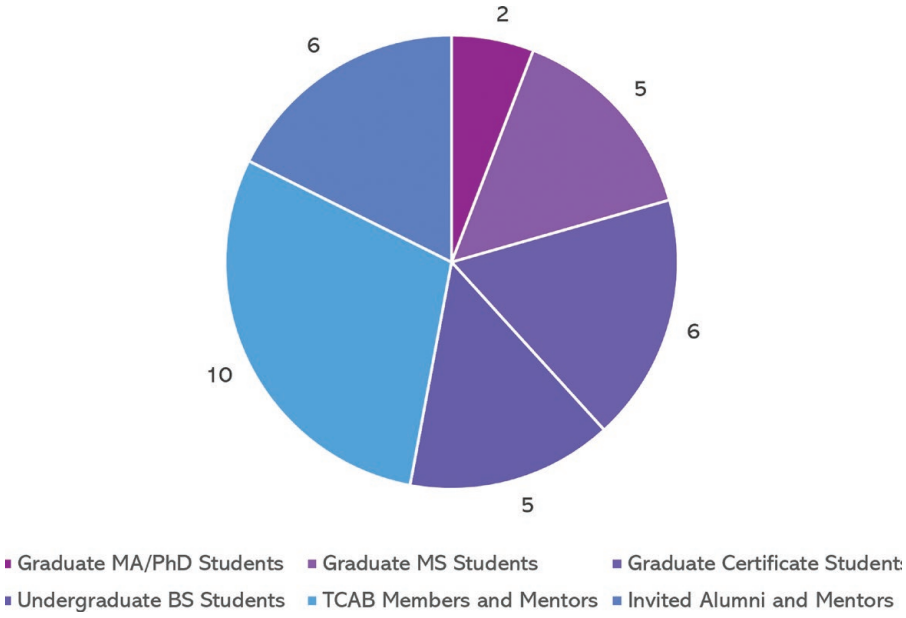


Figure 10.2. Survey participation.

The last item on the survey asked if participants would be willing to participate in a brief interview about their experience. Of the survey participants, 23

agreed to be interviewed. We scheduled brief 15-minute interviews with these participants using whatever method worked best, whether in-person, video conference, or phone. One interview was conducted with two participants at the same time; all others were conducted one-to-one. Of those completing interviews, 11 were mentors and 12 were students. Participants included the following:

- Six TCAB members and mentors
- Five invited alumni and mentors
- Four M.S. students
- Two Graduate Certificate students
- One M.A./Ph.D. student
- Five B.S. students

Results

Our guiding research questions addressed the user experience of participants in the mentor program, how well the mentor program addressed the gap between academia and industry, and suggestions from users/participants to improve the program. We discuss results in order of these questions, using responses from our participants from a survey and interviews about the mentor program.

Overall User Experience

Participant responses to the program and overall user experience were overwhelmingly positive. Several participants indicated that their hopes were both met and exceeded in the program. Many used the word "great" to describe their experience. Comments focused on the pairings, rapport, opportunities to engage with professionals, and flexibility of the program. One undergraduate student enthusiastically described her experience as exceeding her expectations:

> My hopes were met and exceeded by this program! I thought it was such a great opportunity to meet and engage with professionals in the field on a personal level. I learned so much from [my mentor] and she helped me feel much more prepared to move forward into my job search and eventually first career.

Graduate students seemed to appreciate having knowledgeable mentors that could help them learn more about opportunities and the field. One graduate certificate student said, "I really enjoy having a mentor that currently works in the field and is incredibly knowledgeable, friendly, and helpful." Some graduate students commented on the flexibility of the program and ways the program could continue, as seen in the following response from an M.A. student:

> It was great. I enjoyed my meetings with my mentor. We decided to not continue meeting regularly, but we are staying in touch. For example, my mentor is going to be a guest presenter next week for the course I am teaching.

Mentors commented that they mostly had positive experiences and that they hoped the students would find the experience useful. Several commented on what they hoped might be helpful for students, such as sharing professional contacts. Said one mentor, "I'm here for [the student]."

Of the 34 participants responding to the survey, only six participants indicated dissatisfaction—four students and two mentors. Student comments of dissatisfaction mostly addressed disappointment that very specific expectations were not met, for example, that mentors did not have experience in their particular specialty area (e.g., usability or environmental science), or that mentors did not have advice for them on specific or personal challenge areas. Mentor comments of dissatisfaction indicated some frustration when student mentees did not contact them to set up further meetings or have clear goals for the mentorship, or that student mentees expected them to review their work or resume, like an editor or teacher. Yet, overall, these comments were few, and most participants reported positive experiences.

Interview data reinforced these findings. In response to the question "Tell me about your experience," most participants shared positive comments and gave specific examples such as:

- appreciating free-flowing discussions and the ability to address questions
- enjoying the opportunity to job shadow and/or tour a workplace
- liking the flexibility to shape the mentorship
- appreciating the initial launch meeting
- learning from mentors about everyday work practices
- learning about specialization areas of mentors
- learning from mentors about work experience across multiple industries
- learning from "very knowledgeable" mentors
- learning from mentors who are closer in age and have just graduated
- getting feedback on resumes
- appreciating the relaxed and informal tone of the program
- learning about mentor approaches or philosophies to certain kinds of work

Comments that were not positive indicated disappointment when the pairs did not find ways to meet, unclear expectations or goals, or pairs that did not result in mutual interests.

We further addressed overall user experience by examining responses from the survey or interview about mentor pair goals, meeting structures, hopes, and how hopes were met, as described in the sections that follow.

Mentor Pair Goals

To learn more about the overall user experience, we examined goals articulated by the mentor dyads as reported in the surveys. Responses indicated that goals generally addressed four areas: career and job search, professional networking, specific skill areas, and specific requests. As Table 10.1 shows, we report results according to student-expressed goals for the mentor program, differentiating between undergraduate and graduate students.

Goals related to career and job search were stated most frequently (see Table 10.1), as several students mentioned working on their resume and cover letters, updating LinkedIn profiles, strengthening job portfolios, or preparing for a job search and/or applying for jobs. However, when examined for student population, it was clear that graduate students had more specific goals for job searching than undergraduates, such as questions about part-time work, re-entering the workforce, and exploring career areas. Another strong theme related to goals for the program included professional networking, which was expressed by both undergraduate and graduate students. When examined for student population, survey responses showed that both graduate and undergraduate students expressed goals for increasing their professional networks, such as through joining professional organizations, learning more about the work of technical communicators by talking with mentors and/or other practitioners, or job shadowing. A number of responses indicated goals related to specific skill sets. As Table 10.1 shows, these goals were most frequently related to usability, but also to the medical device industry and other skill areas such as project management, improving writing, marketing, writing proposals, storytelling, writing manuals, etc. Graduate and undergraduate student responses both indicated specific skill set areas. A final category involved very specific requests of mentors such as to provide feedback on student research projects or give personal advice regarding how to productively disclose disabilities in a workplace situation.

In order to create the mentor pairings, we began by reviewing these survey responses for each participant. We also took into consideration a brief one to two paragraph statement written by each student, which expressed their specific interests and reasons for wanting a mentor through this program. Based on the student paragraphs and survey data from students and mentors, we conducted an informal coding process that looked for similar themes, interests, and goals between the students and mentors. When an ideal match surfaced in the themes, the student and mentor were paired together. Thus, while this was not a self-selected mentor pairing process, it was user-guided in that we considered student statements, goals, and interests as guidance while pairing them with mentors.

Table 10.1. Themes and Articulated Goals Reported by Students in Survey Responses

Theme	Mentions by Students (*N*=18)	Grad Students (*N*=13)	Undergrad Students (*N*=5)
Career and Job Search			
Working on resume and cover letter	10	9	1
Preparing for job search / applying for jobs	9	5	4
Updating LinkedIn profile	2	2	0
Strengthening job portfolio	3	3	0
Exploring career paths or directions	5	5	0
Advice on part-time work	2	2	0
Advice on transitioning to workforce	1	1	0
Total	**31**	**26**	**5**
Professional Networking			
Growing a professional network	5	4	1
Learn more about technical communication field	8	5	3
Job shadowing	2	1	1
Network with usability experts	4	1	3
Total	**19**	**11**	**8**
Strengthen Specific Skill Sets			
Learn more about the usability / human factors field	5	2	3
Learn how to create a business plan	2	2	0
Improve writing	2	1	1
Learn about issues in medical device writing	2	2	0
Learn about structured authoring and content management	2	2	0
Learn to market an idea	1	0	1
Learn to formulate a proposal	1	0	1

Theme	Mentions by Students (*N*=18)	Grad Students (*N*=13)	Undergrad Students (*N*=5)
Learn project management skills	1	1	0
Learn more about storytelling	1	1	0
Learn how to manage a technical team	1	1	0
Learn how to become a CTO	1	1	0
Total	**19**	**13**	**6**
Specific Requests of Mentors			
Feedback on B.S. undergraduate capstone project	2	0	2
Feedback on classes and goals for after graduation	1	0	1
Suggestions for how to disclose a disability with employers and develop positive avenues for working with employers	1	1	0
Total	**4**	**1**	**3**

Mentor Pair Meetings

We learned as well from the questionnaire that mentor dyads set up meetings in a variety of formats. For example, some pairs reported meeting virtually through video conferencing (four) and some pairs had phone meetings (two). However, most pairs met in person at least once, either at a coffee shop or restaurant, or at the workplace of the mentor for job shadowing or a tour. Regarding activities or foci of the meetings, participants mentioned reviewing resumes, LinkedIn profiles, and student academic work such as a usability report, paper, or portfolio for class; discussing career paths; touring a mentor's workplace; or job shadowing at a mentor's workplace. Some dyads reported a sequence in which one meeting was focused on the mentor's workplace and experience, and the second meeting was focused on the student's interests, whether resume, portfolio, or academic paper.

Hopes, Expectations, and How the Program Met Hopes

In our post-participation survey, we asked users what their hopes were for the program as it continues and how well their hopes are being met. We report results here according to undergraduate, graduate, and mentor populations.

Undergraduate students were overall very excited and pleased about the program and its opportunities. Most of them found their hopes met by the program;

one participant explicitly mentioned they felt their experience was not rewarding and their hopes were unmet. The undergraduate population expressed a desire to become more connected to individuals in the field and wanted a longer duration of mentorship (discussed later). They wanted to see the program become a stepping stone for undergraduates going into the workforce. One student said, "I've really enjoyed all of the time I spent with my mentor, and I found this to be one of the most valuable, useful experiences I've had in terms of networking and career building at the U so far."

Like the undergraduate students, graduate students were overall very pleased with their experience in the program, felt their hopes were met and the program went well. Graduate students seemed to want more information about jobs and career searches. Many graduate students also noted ongoing connections with their mentors, whether formally as a mentor-mentee pair or as a connection/resource in the technical communication industry. Some students enjoyed the free structure of the program, while others sought more structure, activity suggestion, and overall guidance as a mentee. As the program continues, graduate students expressed hope in more students participating, more mentors from more industries, greater networking opportunities, and feedback as their careers evolve.

Mentors also echoed the sentiment of a positive experience with overall hopes being met. They expressed a desire to continue mentoring and felt the program was a good chance to connect with students. Some areas of change recommended by mentors included having more in-person meetings, more structure to the program, and more undergraduate-age students signing up for mentorship guidance.

How the Program Helped

A question we asked in follow-up interviews was "How did it help?" This question allowed participants to share their thoughts on how their experience participating in the mentor program helped them as students or as professionals working in industry.

The majority of undergraduate participants found the mentor program, as a whole, helpful. Specifically, the undergraduate students found that one-to-one attention from their mentors with resume and career advice from real-world workers was a helpful takeaway. The specialized attention from a one-to-one pairing allowed undergraduate students to connect with a professional on a more personalized level. One student responded,

> [My mentor was] better than [the university's] Career Center, which I visited before as a sophomore and had them look at my resume. But it was just students working there—they were older students but didn't have much to say about me. I felt they had thousands of resumes to look at so I'm not sure they could help me that much.

Additionally, many undergraduate students felt that their mentors provided a good overview of how technical communications careers could look, feel, and operate. A number of mentees mentioned their mentors walked them through daily job tasks and scenarios, and showed them where their academic careers could take them.

Graduate students shared a similar sentiment as well; many of them found their mentor's real-world experience helpful in their understanding of how a technical communication role may function. One student described their experience as a "snapshot" of what it would be like to work in the industry, having had an opportunity to observe their mentor in the workplace, in real time.

However, graduate students offered different responses than undergraduate students regarding what was helpful. While undergraduates found concrete advice helpful, such as resume editing advice, graduate students found the exchange of skills and information to be specifically helpful in their mentoring pair. A student mentioned that their mentor was helpful because the mentor had skills the mentee did not have; by sharing that information, the mentor helped the mentee to gain a useful skill. Additionally, graduate students found it helpful to have connections with technical communicators in the industry as they began to seek jobs. One student stated that it was good to be put into contact with people from a local company and that they were glad to be able to visit with people at a place where they wanted to potentially work in the near future.

From the mentor perspective, all of the mentors found the insight from students in academia to be informative for their lines of work or perspectives on learning. Many mentors enjoyed speaking one-on-one with their mentees and found their comments on career goals to be insightful. One mentor, a recent graduate, found it interesting to see where they were just a few years ago and felt it was positive to speak to someone about to graduate, since their academic career was relatively fresh as well.

Many of the mentors in this pilot are alumni of the academic program in which they are mentoring. One mentor said the experience was helpful to gain insight into what students are currently learning and experiencing in the classroom and the direction in which the program is leading students. Additionally, another alumnus found it fulfilling to give back to a program that provided a positive student experience, and mentoring was a great way to do so.

Additionally, one mentor used their experience from this pilot program to leverage a new experience in their workplace; the knowledge and skills they learned from mentoring their student translated into an opportunity to lead a mentor program in their workplace. They found the ideas and structure of this program to be informative as they helped pilot another mentoring program in the community.

How the Mentor Program Bridged the Academic-Industry Gap

In both the questionnaire and interviews, we asked a question about how well participants thought the program bridged the gap between academia and indus-

try, and this was a key focus of our study. Again, the responses were overwhelmingly positive, yet open-ended and covered a lot of ground. After reviewing both survey and interview responses from participants, two strong themes emerged: (1) mentor program as a learning opportunity and (2) mentor program as a way to build relationships and network. The word cloud in Figure 10.3 visually depicts the most commonly used words in responses.

As shown by Figure 10.3, frequent words such as "think," "can," "know," "learn," "mentor," and "help," "helps," or "helped" demonstrate the capacity for the mentor program as a learning tool or opportunity for both mentees and mentors. Indeed, responses from participants mentioned the many areas where they gained knowledge, whether about the broad range of career opportunities in technical communication, agencies that hire, or potential career routes. Each of these areas were things that participants deemed "outside of the classroom" and a unique strength of the mentor program.

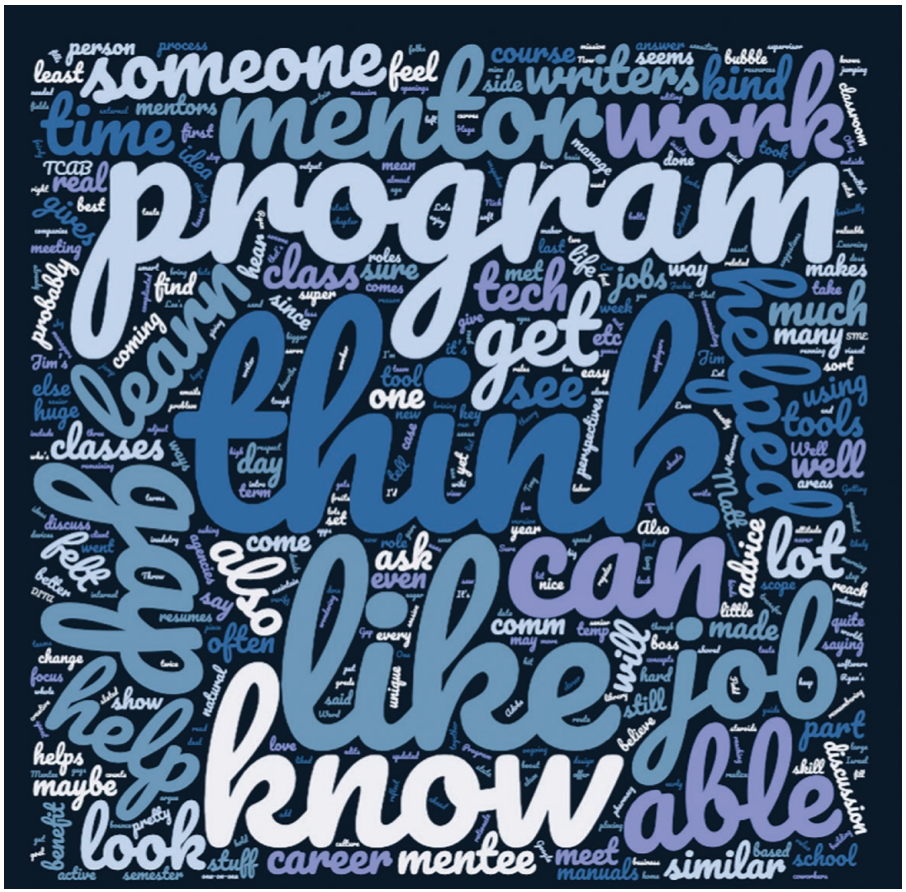


Figure 10.3. Word cloud from responses to gap question.

Undergraduate students seemed to appreciate learning about technical communication as a field and imagining what careers might look like. Many commented that it is difficult to gain this knowledge in the classroom, and they appreciated that their mentors could provide more insight outside of the classroom. Said one student, "Being able to have the opportunity to talk to someone who is outside the university is not something I had the opportunity to do throughout the school year or this internship." Experiences with mentors helped them learn about the field in ways that classrooms could not. One undergraduate student expressed this idea clearly:

> I felt the program definitely addressed the gap between academia and industry. Courses helped with content areas but the mentor program was more personal and a place where I could ask questions about jobs, applications, career. No classes are geared toward jobs necessarily. I could have asked these questions of a professor but felt more natural coming from [my mentor] who had been through things very recently.

Graduate students commented that they learned more details about the technical communication profession, possible career tracks, and specific areas such as usability. They appreciated that the mentor program provided a vehicle for students to reach out, rather than having to do it on their own. Responses included words such as "get information" and "learn about the technical communication profession." One graduate certificate student explained in more detail how the mentor program helped them learn about the field:

> [My mentor] has worked in many different fields and it really opened my eyes to all of the possibilities that tech comm has to offer. [He] was able to reflect on his time as a student and job-hunting as well and also give me advice based on his experience as a hiring manager. It was great to learn more directly about the industry-side of things that is often difficult to accomplish in an online class setting.

Mentors provided a broader perspective and could recognize the value of the learning opportunity for students who are entering or further exploring the field. Some commented on the ways the mentor program allowed flexibility and "comfort" to ask difficult questions. As one mentor said, "This program has opened a window for students to ask large (and sometimes difficult) questions about what their futures may hold." And mentors commented on the ways they learned from students as well, as seen in the following response from an alum and mentor:

> This program is a great tool for students as they prepare for their transition from academic to professional life. As a professional, I found it interesting to learn about classes the students are taking.

> It allows me to see how future technical writers are training, and it makes me excited for the future of the field!

A second theme in responses about how the program bridged gaps between academia and industry was building relationships, networks, or community created through the mentor program—a kind of guided experience. It is this sense of community that seemed to bridge the gap between academia and workplace—understanding that there are differences between academia and industry but also working towards transition from one to the next (and back again!).

Undergraduates appreciated the opportunities to network and meet people in ways they would not be able to through classes. One student said that the program has allowed him to meet people in the field and expand his knowledge of the field.

Graduate students articulated how valuable it was to have a personal resource to help navigate the differences between academia and industry. As one graduate student put it, "having someone to guide you . . . that's really helpful." Another graduate student recognized the value of bridging the gap and said it was useful in ways that he would want to continue: "It was helpful in connecting the two worlds. I want to keep doing it."

Mentors had many positive things to say about how the program helped establish relationships. One mentor said that the program "made a person-to-person connection" and commented that the connection helped bridge the gap between academia and industry. Others used words like "engagement," "coaching," and "developing professional skills sets." Some mentors offered that they have introduced their mentees to other professionals to help mentees build their networks. One mentor saw the program as an opportunity for students to work with a professional on a regular basis and make it easier to connect. Mentors definitely valued and acted upon the idea of relationship building as a way to bridge the gap between two worlds. One TCAB member and mentor responded,

> It has afforded the student the opportunity to work with a working tech. comm. professional on a regular basis, and made it convenient for the student and mentor to establish a working relationship whereby topics that are often overlooked or sensitive in nature can be discussed in confidence.

Recommendations for Improvement

The fourth question on our post-participation survey asked users if they had recommendations for future iterations of the mentor program. This question allowed survey participants to share their thoughts on what they feel would make the mentor program better going forward or what they wished they could've had during their time in the program. While participants largely had positive things to say about the mentor program, several suggestions for improvement were giv-

en. Themes emerged around areas such as duration and format of the program, flexible mentor-mentee pairings, and clearer goals and expectations.
Undergraduate student participants seemed to like the idea of meeting for a longer duration of time; that is, three meetings were good, but more meetings would have been better. A few students mentioned that the program should be planned for an entire academic year (September to May). The length of time mattered to students because they sought a connection with their mentors; more time with their mentors would create a personalized, tailored experience for the mentees' needs and wants.

Another recommendation from the undergraduate level was the idea of flexibility in mentor assignments. The option to change mentors was mentioned a few times; this was due either to changing interests or a complete clash of interests in the first place. The opportunity to gather as much insight as possible—or find that one perfect fit—was something students valued. Students mentioned these changes could happen at the semester or yearly mark; one mentioned the chance to change as soon as possible.

Much like undergraduate students, graduate students also mentioned the duration and meeting frequency as something to look into in the future. The duration of one year was mentioned by a handful of graduate students; more meetings were recommended as well. Additionally, graduate students specifically made recommendations for in-person, large group meetings alongside more one-to-one time with their mentors. One student suggested large group meetings could be used as icebreaker/"get to know you" time or as connection events to see what other perspectives are out there beyond their mentors.

From the mentor standpoint, duration was also the main recommendation; mentors want more time with their mentees, and vice versa. One mentor suggested that a longer duration with a mentee allows for more focused career development and a tailored mentor experience:

> I think it would be cool if you would have opportunities to have a [mentor] meet with [their mentee] a few times over a longer period of time in their development or their career. So, for example, if somebody thinks they want to be in medical writing . . . Have them meet with[someone] from the medical industry early on. Then maybe a half a year later, you can see some progression and how things how [mentee] ideas change, or how things change [in the industry].

Another concept recommended by mentors was one of clarity in goals and purpose. All mentors appeared to share a positive experience with their mentees, but many seemed to feel that their mentees relied on them for goal setting; in reality, mentees should drive the partnership with their goals and ideas, and mentors should offer their advice and opportunities as appropriate. One mentor mentioned that she felt her student didn't really "know what [they] wanted

out of this," but only because the student was younger/undergraduate level. Ideas such as structured activities, printed or online resources, and concrete goal setting were recommended.

Additionally, it was recommended that mentors come prepared too. A handful of mentors mentioned that they have experience with similar scenarios outside of the pilot study (i.e., external mentor programs) which have valuable resources on teaching people how to mentor. Having those resources available was a recommendation, so those who may not know where to start with a mentee would have a starting point. Another recommendation was to provide a list of sample goals to guide mentors and mentees at the launch meeting. Similarly, several commented on making clear expectations about what mentors could and could not do, or rather what goals were realistic for mentor pairs. Mentors also suggested that organizers make clear that mentees need to initiate contact, and that mentors are not expected to serve roles as teachers or professors in evaluating or grading work. Mentors also suggested that the program emphasize networking as a realistic expectation rather than "finding a job." One mentor suggested that students complete a summary of what they learned from the program to inform organizers of the program.

Discussion

In this chapter, through the lens of user experience and user-centered design, we have investigated the "joint enterprise" that comes as a result of strategic interaction of students and industry professionals (TCAB members and program alumni) through a mentor program. This "interactively constructed nature of engaging, belonging, and sharing tools" allowed for both an open-ended and user-centered approach to the mentor program in that the students and mentors determined how they wanted to shape their interaction. Our particular interest focused on the specific user experience of participating in the program, including how such mentor-mentee experience might address the academia-industry gap. We articulated a central research question: *How might user experience in a mentor program address the academic-industry gap?* We also articulated sub-questions: *What is the "user experience" of participating in a mentor program? And how can we make improvements to a mentor program based on user/participant feedback?*

Overall results from the survey and interview data indicate that this program provided a positive framework for establishing effective connections across academic and practitioner communities. Mentor-mentee interaction provided an opportunity for students to engage with mentors from specific industries, working to identify and understand the kinds of activities engendered through membership in the technical communication field. Key findings were based on user feedback about the mentor program and included four themes: community, duration, clarity of goals, and mentor pairing matters (see Figure 10.4).

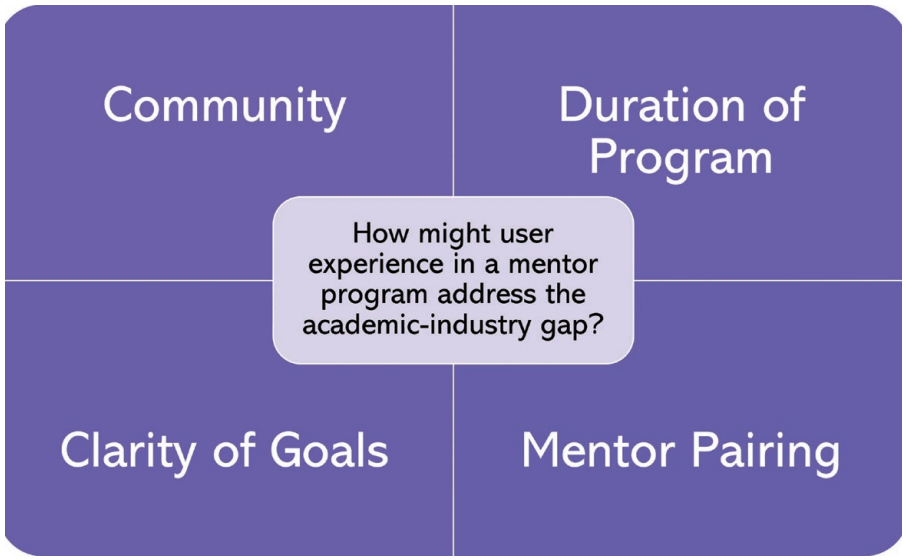


Figure 10.4. Four user-based themes on mentor programs.

In terms of *community*, our findings from survey and interview responses indicated that the mentor program specifically addressed the "gap" between academia and industry in two ways: by providing a key learning opportunity outside of the classroom that could inform students about the field and careers, and by building professional relationships and networks. These two findings connect explicitly with community of practice theory, in particular, that new professionals join communities of practice and that professional relationships are important learning opportunities. As Kline and Barker (2012) suggested, academia and industry must both contribute and collaborate to build positive connections: "Without collaboration, the knowledge and social presence necessary to negotiate meaning, something that Wenger (1998) notes is critical to community, fails to occur" (p. 43). Our findings suggest that mentor dyads provide a key collaborative opportunity for students and professionals to reach out, to learn things outside of the classroom, and to build professional networks.

Related to the idea of community is the theme of *duration*, or the length of the mentor program and opportunity for the community to grow and thrive. In our findings, participants from each group—undergraduates, graduates, and mentors—expressed the need for more time to develop community, asking for the program to continue or that it be offered over a longer timeframe. Some enthusiastically suggested the opportunity to have new mentors each year to build a broader professional community. Another suggestion related to community was the idea of having additional larger group meetings, such as at the end of the year, to bring everyone together and get a sense for the collective community.

Regarding *clarity of goals*, user feedback identified that the program needed to provide clearer goals, both for mentors and participating students. This feedback helped us revisit the following goals we shared at the first mentor-mentee pairing event:

- to build relationships that enhance professional development for both mentors and mentees
- to bridge the gap between academia and industry
- to help students develop a personal learning network (PLN) that contributes to personal, academic, and professional success
- to articulate clear goals for professional development

From surveys and interviews, we identified the need to revisit these goals throughout the program and to add more specificity to these; e.g., what exactly does it mean to "bridge the gap" as a student meets with a technical communication professional for the first time? While academics may use PLN visualizations to indicate resources, tools, and contexts within which they work and learn, such visualizations are not commonly used in either academia or industry. Therefore, we should articulate mentor-mentee strategies that more clearly relate to making connections that build understanding about technical communication industries and how to best develop skills for securing a position and being successful in this profession. We also learned through survey feedback the various goals that dyads articulated, and how those differed for graduate students and undergraduate students. While some goals and expectations that undergraduate students brought to the program surprised us, e.g., requests for mentors to review coursework or to represent the specific industry the student planned to enter (environmental communication), the largest overall goal of discussion was job search and career preparation. The majority of undergraduates were exploring the field; in contrast, the graduate students exhibited greater understanding as well as practice in the field, leading to more focused goals. As facilitators, rather than including one set of goals, we have identified the need to provide more specific mentor-mentee direction based on the student level.

Regarding *mentor pairings*, while TCAB member bios are included on our website, we did not ask students to indicate who they might be most interested in working with, as not all TCAB members were able to participate in this pilot program. We asked students to share a paragraph about themselves for the purposes of our development of mentor-mentee pairings; however, we did not share these with mentors or allow them to request a specific student mentee. Instead, we relied on our collective knowledge of all students and mentors, working to develop pairings that matched student interest with specific industry directions. Again, our goal was to integrate user feedback with instructional design to find ways to better bridge industry and academia, and to engage students and industry practitioners. While the pairings engaged

students and industry practitioners, comment and direction from participants indicated the need to clarify expectations to focus on mentee responsibility to generate clear goals for professional development that would allow mentor sharing of expertise.

The user feedback we received from participants in this pilot mentor program offer "lessons learned" that contribute to our next iteration of the program. We plan to implement changes that address each of the four themes of community, duration, clarity, and pairing. In terms of *community*, we will work to foster greater community throughout, clustering mentor groupings by industry if possible, and bringing the full group together one or two additional times. In terms of *duration*, we will extend the duration of the program so that it spans the entire academic year rather than one semester (or a portion of one semester). One idea is to run the mentor program from October to May. We can connect this theme of duration to the theme of community by asking pairs to meet and reflect on their mentor experience at the end of the program. In terms of the theme of *clarity*, we will provide clearer parameters and options for the types of activities mentor pairs might engage in, and we will provide more information to guide students as they articulate goals, outcomes, and/or expectations for the mentor program. These efforts will be informed by current research by technical communication scholars such as Rebekka Anderson, Carlos Evia, and JoAnn Hackos that identifies the industry-academia gap and important conversations and connections that need to be made as we prepare students for professional lives (see Andersen & Hackos, 2018; Evia & Andersen, 2018). As well, we note that sometimes establishing professional network connections is difficult and challenging for students (Gonzales & Turner, 2019; Sullivan & Moore, 2013), and we encourage conversations to be open and supportive of narrative experiences (Gonzales & Turner, 2019). We also will be intentional in following up with students as they (1) develop professional goals, (2) review and work on these with their mentors, (3) share these with a larger community, and (4) develop short- and long-range plans for this work. A final large group mentor meeting would be an appropriate place to address these items. Finally, in terms of the theme of *pairing*, we will provide a mentor program model in which students prepare more for this program (e.g., perhaps require a LinkedIn site) and have more information for their mentors. We also will share more details about the mentor pool with students. These plans of action are generated directly from user feedback that we believe will improve our mentor program.

Conclusion

As noted earlier, this program came about as the result of a strong request from TCAB members. Such a program provides a means for "succession planning" and overall strengthening of the field. The mentors—both TCAB members and

program alumni—were pleased with the impact of this program as it provided a means to connect with the academic community. This was more than a one-way transfer of knowledge from mentor to mentee; it provided for a transactional knowledge exchange. For example, one mentor used her experience to prepare for another role leading a different mentor program; another mentor learned about disabilities in the workplace, having had no prior exposure working one-to-one with the specific mentee's disabilities. Mentors appreciated the chance to showcase their workplaces, recommending that we identify multiple mentors from a given workplace to allow for creation of a stronger community of practice as multiple mentors and mentees meet together in the workplace setting. Again, we see this collaborative give-and-take in the mentor program as addressing a "joint enterprise" with negotiated goals. We see the mentor program as a key learning opportunity that our target users—students and mentors—find valuable.

Overall, the mentor program in this case provided an innovative way to build academic-industry connections, and we are overwhelmed by its positive impact. The program provided an opportunity for mentors and mentees to engage in joint enterprise and community practice work to bridge the academia-industry gap. User feedback allowed us to better understand the mentor program user experience, and in this case, we learned that the student experience needs to broaden outside the classroom. We see such a user experience perspective as bridging industry and academia, as integrating design and instructional design, as engaging students and industry practitioners. At a time when numerous virtual opportunities exist to build and share knowledge, the impact of a personal one-to-one connection—most often in person—clearly worked to build each mentee's personal and professional network. We know that successful internship experiences provide students with the opportunity to develop important workplace skills; however, unless the student is offered a position and continues to work in the industry, it's rare for the experience to foster a strong mentor-mentee relationship. With expansion of program duration, clearer articulation of goals, and greater attention to mentor-mentee pairings, such a mentor-mentee program will hold even greater impact on students and our field.

References

Allen, T. D., Smith, M. A., Mael, F. A., O'Shea, P. G., & Eby, L. T. (2009). Organization-level mentoring and organizational performance within substance abuse centers. *Journal of Management*, *35*(5), 1113-1128. https://doi.org/10.1177/0149206308329969

Andersen, R., & Hackos, J. (2018). Increasing the value and accessibility of academic research: Perspectives from industry. In *Proceedings of the 36th ACM International Conference on the Design of Communication* (pp.1-10). Association for Computing Machinery.

Baer, S. (2018). Enhancing learning for participants in workplace mentoring programmes. *International Journal of Evidence Based Coaching and Mentoring*, *16*(1), 35-46. https://doi.org/10.24384/000462

Beaufort, A. (1999). *Writing in the real world: Making the transition from school to work.* Teachers College Press.

Bloch, J. (2011). Glorified grammarian or versatile value adder? What internship reports reveal about the professionalization of technical communication. *Technical Communication*, *58*(4), 308-327.

Duin, A. H., & Tham, J. (2018). Cultivating code literacy: A case study of course redesign through advisory board engagement. *Communication Design Quarterly*, *6*(3), 44-58.

Evia, C., & Andersen, R. (2018). Preparing the next generation of leaders and innovators in technical communication. *Intercom*, July/August, 23-24.

Finch, J. K., & Fernandez, C. (2014). Mentoring graduate students in teaching: The FC-CIC model. *Teaching Sociology*, *42*, 69-75. https://doi.org/10.1177/0092055X13507781

Getto, G., & Beecher, F. (2016). Toward a model of UX education: Training UX designers within the academy. *IEEE Transactions on Professional Communication*, *59*(2), 153-164.

Gonzales, L., & Turner, H. N. (2019, October). Challenges and insights for fostering academic-industry collaborations in UX. In *Proceedings of the 37th ACM International Conference on the Design of Communication* (pp. 1-6). Association for Computing Machinery.

Gould, J. D., & Lewis, C. (1985). Designing for usability: Key principles and what designers think. *Communications of the ACM*, *28*(3), 300-311. http://portal.acm.org/citation.cfm?id=3170&coll=portal&dl=ACM&CFID=11644763&CFTOKEN=46634291

Henze, B. (2006). The research-experiential internship in professional communication. *Technical Communication*, *53*(3), 339-347.

Johnson, R., Salvo, M., & Zoetewey, M. (2007). User-centered technology in participatory culture: Two decades "beyond a narrow conception of usability testing." *IEEE Transactions on Professional Communication*, *50*(4), 320-332.

Jones, J. (2012). An analysis of learning outcomes within formal mentoring relationships. *International Journal of Evidence Based Coaching & Mentoring*, *10*(1), 57-72.

Jones, J. (2013). Factors influencing mentees' and mentors' learning throughout formal mentoring relationships. *Human Resource Development International*, *16*(4), 390-408. https://doi.org/10.1080/13678868.2013.810478

Katz, S. M. (1998). *The dynamics of writing review: Opportunities for growth and change in the workplace.* Ablex.

Kline, J., & Barker, T. (2012). Negotiating professional consciousness in technical communication: A community of practice approach. *Technical Communication*, *59*(1), 32-48.

Kohn, L. (2015). How professional writing pedagogy and university–workplace partnerships can shape the mentoring of workplace writing. *Journal of Technical Writing and Communication*, *45*(2), 166-188. /https://doi.org/10.1177/0047281615569484

Kramer-Simpson, E. (2018). Moving from student to professional: Industry mentors and academic internship coordinators supporting intern learning in the workplace. *Journal of Technical Writing and Communication*, *48*(1), 81-103. https://doi.org/10.1177/0047281616646753

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

Metzger, A. M., Petit, A., & Sieber, S. (2015). Mentoring as a way to change a culture of academic bullying and mobbing in the humanities. *Higher Education for the Future*, *2*, 139-150. https://doi.org/10.1177/2347631115584119

Munger, R. (2006). Participating in a technical communication internship. *Technical Communication*, *53*(3), 326-338.

Pardun, C. J., McKeever, R., Pressgrove, G. N., & McKeever, B. (2015). Colleagues in training: How senior faculty view doctoral education. *Journalism & Mass Communication Educator*, *70*, 354-366. https://eric.ed.gov/?id=EJ1086563

Potts, L., & Salvo, M. J. (2018). *Rhetoric and experience architecture*. Parlor Press.

QualComm. (n.d.). *Mentorship program toolkit*. Retrieved October 11, 2021, from https://www.qualcomm.com/media/documents/files/mentorship-program-flip-focus-guide.pdf

Redish, J. C. (2010). Technical communication and usability: Intertwined strands and mutual influences. *IEEE Transactions on Professional Communication*, *53*(3), 191-201.

Rose, E. J., Racadio, R., Wong, K., Nguyen, S., Kim, J., & Sahler, A. (2017). Community-based user experience: Evaluating the usability of health insurance information with immigrant patients. *IEEE Transactions on Professional Communication*, *60*(2), 214-231.

Salvo, M. J. (2001). Ethics of engagement: User-centered design and rhetorical methodology. *Technical Communication Quarterly*, *10*(3), 273-290. https://doi.org/10.1207/s15427625tcq1003_3

Sapp D. A., & Zhang, Q. (2009). Trends in industry supervisors' feedback on business communication internships. *Business Communication Quarterly*, *72*(3), 274-288. https://doi.org/10.1177/1080569909336450

Seto, L., & Geithner, T. (2018). Metaphor magic in coaching and coaching supervision. *International Journal of Evidence Based Coaching and Mentoring*, *16*(2), 99-111. https://doi.org/10.24384/000562

Söderlund, L., Spartz, J., & Weber, R. (2017). Taken under advisement: Perspectives on advisory boards from across technical communication. *IEEE Transactions on Professional Communication*, *60*(1), 76-96. https://doi.org/10.1109/TPC.2016.2635693

Stake, R. E. (1995). *The art of case study research.* Sage Publications.

Still, B., & Crane, K. (2016). *Fundamentals of user-centered design: A practical approach.* CRC Press.

Sullivan, P., & Moore, K. (2013). Time talk: On small changes that enact infrastructural mentoring for undergraduate women in technical fields. *Journal of Technical Writing and Communication*, *43*(3), 333-354. https://doi.org/10.2190/TW.43.3.f

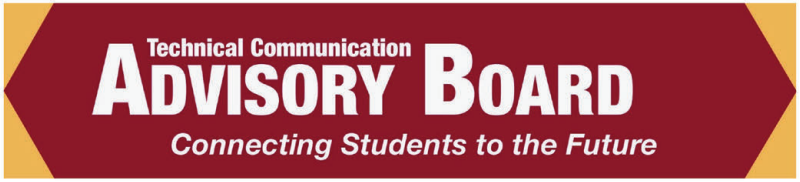
Walton, R., & Jones, N. (2013). Navigating increasingly cross-cultural, cross-disciplinary, and cross-organizational contexts to support social justice. *Communication Design Quarterly, 1*(4), 31-35.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Winsor, D. A. (1996). *Writing like an engineer: A rhetorical education.* Lawrence Erlbaum Associates.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Sage Publications.

Appendix A: Launch Meeting Worksheet



Contact Information

Mentor Name: _____ Email: _____

Mentor Phone (Optional): _____ LinkedIn: _____

Mentee Name: _____ Email: _____

Mentee Phone (Optional): _____ LinkedIn: _____

Goal Setting:

What goals would you like achieve this semester? Write down up to **three** goals. If you're stuck, think SMART* – specific, measurable, achievable, relevant, and time-bound. This will help narrow down your focus and write goals that can be achieved by you and your mentor.

1. _____
2. _____
3. _____

Upcoming Meetings:

Next Meeting: _____ Online, or In Person: _____

Next Meeting: _____ Online, or In Person: _____

Subsequent Meetings are Optional, but Encouraged!

**Adapted from* https://fitsmallbusiness.com/wp-content/uploads/2018/05/SMART-Goals-Template-Worksheet.pdf

Appendix B: Post-Participation Mentor Program Questionnaire

1. Email Address

2. Participant Name
3. How are you participating in the Mentor Program?
   - ○ Undergraduate TWC Student
   - ○ Graduate Certificate Student
   - ○ Graduate M.S. Student
   - ○ Graduate M.A./Ph.D. Student
   - ○ TCAB Member and mentor
   - ○ Invited alumni and mentor
4. What goals did your Mentor Pair articulate for Spring 2019? (Please list up to three goals)
5. The Mentor Program asked each Mentor Pair to set up two meetings or opportunities for connection. Please describe the first of those meetings or opportunities for connection.
6. The Mentor Program asked each Mentor Pair to set up two meetings or opportunities for connection. Please describe the second of those meetings or opportunities for connection.
7. What are your hopes for this program as it continues?
8. How well are your hopes being met and what can be done to improve the program?
9. How has this mentor program engaged the gap between students and industry professionals?
10. Please share any additional information you think may be helpful as we continue this pilot program.
11. Would you be willing to be contacted for a short (15 minute) follow up interview about your experience with the Mentor Program?
    - ○ Yes
    - ○ No
    - ○ Other (free text)

Appendix C: Pre-Participation Mentor Program Questionnaire (Student Version)

1. Are you interested in being paired with a TCAB Member for the 2019 Spring Semester?
   - ○ Yes
   - ○ No
2. Are you able to commit to at least three meetings, including our facilitated event on Monday February 4th, 2019, 6-7 pm?
   - ○ Yes
   - ○ No

3. What are your areas of interest?
   - ○ Business and Professional Writing
   - ○ Writing on Issues of Science and Technology
   - ○ Technical and Professional Presentations
   - ○ Editing, Critique, and Style
   - ○ Rhetoric, Technology, and the Internet
   - ○ Science, Technology and the Law
   - ○ Writing Proposals and Grant management
   - ○ International Professional Communication
   - ○ Information Design: Theory and Practice
   - ○ Technology, Culture, and Communication
   - ○ Technical and Professional Writing
   - ○ Visual Rhetoric and Document Design
4. Do you have any comments, suggestions, or questions as we move forward in this pilot program?

Appendix D: Pre-Participant Mentor Program Questionnaire (Mentor Version)

1. Are you interested in being paired with an undergraduate or Cert/MS student for the 2019 Spring Semester?
   - ○ Yes
   - ○ No
2. Are you able to commit to at least three meetings, including our facilitated event on Monday February 4th, 2019, 6-7 pm?
   - ○ Yes
   - ○ No
3. What are your areas of interest?
   - ○ Business and Professional Writing
   - ○ Writing on Issues of Science and Technology
   - ○ Technical and Professional Presentations
   - ○ Editing, Critique, and Style
   - ○ Rhetoric, Technology, and the Internet
   - ○ Science, Technology and the Law
   - ○ Writing Proposals and Grant management
   - ○ International Professional Communication
   - ○ Information Design: Theory and Practice
   - ○ Technology, Culture, and Communication

- ○ Technical and Professional Writing
- ○ Visual Rhetoric and Document Design

4. Do you have any comments, suggestions, or questions as we move forward in this pilot program?

Appendix E: Email Script for Mentor Program Students

Hello -

Thank you for applying to join our Workplace Mentor Program. We are so happy to see you are interested in coming together during Spring 2019 for this pilot program between students and TCAB Members.

The next step before pairing you with a TCAB member involves getting to know you better, beyond the survey content. We are asking that you provide us with one paragraph (no more than half a page, double-spaced) telling us more about what interests you, what your educational and career goals are ... anything that might help us better understand your academic and professional goals and better pair you with a TCAB member/mentor.

Please submit this paragraph to me (gresb008@umn.edu) by the end of the day Thursday, December 20th. Please note that if you don't submit a paragraph, you will not be able to receive a mentor pairing.

If you have questions, please reach out to me. I am happy to help and advise on this process as needed.

Thanks!

Best,
Emily Gresbrink
Lee-Ann Kastman Breuch
Ann Hill Duin