6. Trial and Error: Designing an Introductory Course to Technical Communication

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Abstract: This chapter presents the experience of an undergraduate introduction to technical communication (TC) class from design to execution in a four-year public university without a technical communication degree program. The chapter contributes to scholarship on technical and professional communication (TPC) pedagogies and curricular design by sharing reflexive narratives from the instructor and students on what happened in the classroom in an institutional context often not represented in established scholarship. I argue that the challenges of the class are to maintain a good balance and connection between theory and practice to help students begin to develop core conceptual skills of TC and facilitate transfer. Through trial and error, students gained some conceptual skills but might have gained a limited view of technical communication in this first iteration. Upon that reflection, I discuss the changes in the second iteration and offer suggestions for designing the class with a problem-solving perspective and social justice orientation in an institutional context without TPC programmatic structures and learning outcomes, using more scenarios and examples to help students see how technical communicators can be advocates for change and to facilitate transfer. I also argue for adaptive, flexible, socially just pedagogical practices and discuss implications for classroom research and professional development practices.

Keywords: classroom research, intro to technical communication, theory and practice, social justice pedagogy

Key Takeaways:

- Curriculum development and course design must be in tune with disciplinary trends as well as accommodating and adaptable to local institutional contexts.
- An introduction to technical communication (TC) course can take a problem-solving and social justice-orientation that asks students to explore fundamental TC concepts and connect them with practical scenarios in class activities and assignments.
- When designing new courses, we should enact equitable, inclusive, and flexible pedagogical approaches by maintaining an open dialogue with students throughout the course, enacting a human-centered pedagogy.

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Researchers in technical and professional communication (TPC) have long been studying our pedagogical practices, curricular design, and program administration (Cargile Cook, 2002; Melonçon & Henschel, 2013; Staples & Ornatowski, 1997; Thatcher & St.Amant, 2011; Walton et al., 2016). Some of the scholarship focuses on the varieties of the multi-major professional writing course (Breuch & Sadler, 2016; Read & Michaud, 2018), while others focus more on technical communication degree programs that prepare future practitioners and scholars (Melonçon & Henschel, 2013; Melonçon & Schreiber, 2018). More recently, we have seen new collections on specific pedagogical theories and practices (Bridgeford, 2018; Haas & Eble, 2018). Joining this new trend of pedagogical research on technical communication, this chapter reports on a research project that responds to Lisa Melonçon and Sally Henschel's (2013) call for more research about TPC program design and development, particularly "what occurs in the classroom" (p. 60). Specifically, this chapter reports my experiences of designing and teaching an introductory technical communication course in the context of an institution without a TPC program. This research will be especially useful for instructors in similar institutional contexts who are faced with the challenges of developing courses and/or programs from the ground up by reminding us of the importance of contextualizing curriculum and programmatic research in local situations (Cooper, 1991) and by emphasizing the lived experiences of an instructor and students in the classroom.

I teach in a four-year public university with a liberal arts focus. Our institutional context is unique but also reflective of liberal arts institutions with traditional English departments trying to build and/or enhance their curriculum in technical and professional communication. Recently, we shifted the ways we want to prepare our majors by rearticulating the objectives and learning outcomes of our B.A. in English degree program, transforming it from a content-oriented degree with concentrations in literature and language or writing into a more skill-oriented major without concentrations but highlighting skills such as "critical reading and research, as well as strategic, creative, and critical communication" (Winthrop University English department, 2016). This revision of the major was driven by the department's desire to empower students to recognize the value of an English degree and the transferrable skills they would gain from this program that would prepare them for a variety of careers. This change also resulted in a renewed emphasis and interest in writing and rhetoric courses.

I joined the department in the fall of 2018, expected to contribute to the rhetoric and professional writing curriculum and coordinate internships. I was very excited to learn that I would be teaching a 300-level technical communication (TC) course in my second semester. But very little direction or record was given to me about what this course was meant to be, largely due to the lack of a TPC programmatic structure; thus I had the freedom to design it however I wanted it to be. While I enjoyed this freedom and was thrilled to design a new course, I also immediately recognized the challenges as I began to conceptualize this

course and its learning objectives. Designing and teaching the course proved to be challenging due to a variety of factors, the first of which was the limited number of courses we offer on technical communication, thus positioning my class as an introductory window to a vast field with knowledges and practices that might not always be later explored in more depth in other courses. Further, the lack of a TPC program and the changes of personnel provided limited infrastructure for sharing resources and developing interpersonal relationships among instructors in a consistent and sustainable manner. In fact, I only discovered after I finished the semester that this course was taught remotely online three years earlier by an adjunct instructor. I was able to obtain his syllabus and course website, which could have been helpful in my planning process the previous semester.

Therefore, when designing the class, I was faced with an incredibly challenging question: If this was the first class where students would learn about technical communication or even the only class where they would learn about some of the fundamental concepts and theories of TC, what should they get out of this course? I had to situate this question in scholarly perspectives on TPC curriculum design.

"Basic" and "Intro" Courses in Technical Communication

In their research on U.S. TPC undergraduate degree programs, Melonçon and Henschel (2013) categorized courses in curricula they studied by course description and purpose. Two categories are especially relevant to my project here: "basic" and "intro." The basic category refers to "introductory courses to the *practice* of technical and professional writing and communication" (Melonçon & Henschel, 2013, p. 51). The authors also mentioned that often this course is also "the 'service course' for other departments" (p. 51). The intro category refers to "[c]ourses that are an introduction to the *field* of TPC. Unlike the basic course, the intro course establishes the history and theories of the field, and then prepares students to produce or create professional documents" (p. 52). It seems that the distinctions here are driven by the different perceptions of technical communication as a discipline versus a profession. While the basic course focuses more on what a technical communicator does, the intro course provides students with more disciplinary and theoretical content about technical communication as a knowledge-producing discipline.

By comparing their study to Sandi Harner and Anne Rich's (2005) survey of undergraduate curriculum in scientific and technical programs in the US, Melonçon and Henschel (2013) showed a curricular trend where the number of courses in the basic category had decreased, which was partly attributable to the diversifying of the degree programs. In fact, Harner and Rich (2005) only used "technical communication" as a category but did not distinguish "basic" from

"intro" as Melonçon and Henschel did. Nancy Allen and Steven T. Benninghoff (2004) had already identified a variety of central topics covered by most courses in TPC programs: "audience, genre, visual rhetoric, document design, rhetorical analysis, collaboration, ethics, user-centered design, project management" (p. 165). By December 2011, when Melonçon and Henschel (2013) verified their programmatic data collection, some of these topics already had their own designated courses: "The decrease in the percentage representation [of the 'basic' course category] also could be attributed to the diversity of recent course offerings and to the fact that many of the basic skills covered in this course could be divided and completed in other courses" (p. 57). Melonçon and Henschel (2013) thus concluded that the field of TPC had become more defined and more mature. However, as the field has become more mature, some institutional contexts may not yet align with the trends of the field. Therefore, the local challenge becomes how to develop new curricula that reflect the current trends of the field but also accommodate the needs of student populations and respond to institutional constraints.

While Melonçon and Henschel's categorization can be useful in investigating curricular trends in the field, local institutional contexts may often require more nuanced understandings and adaptation of courses. As I described before, my institutional context without a TPC program determined that I must design a course without guiding programmatic objectives and learning outcomes. However, my institution does have a minor in writing that allows students to focus on professional writing or creative writing, in which my course is an option. Within the minor's requirements are other writing courses that do cover some of the core topics of technical and professional communication:

- WRIT300 Rhetorical Theory;
- WRIT367 Editing for Professionals (this course has not been taught in a while);
- WRIT43X: Academic Internship in Writing;
- WRIT465 Preparation of Written and Oral Reports (the service course);
- WRIT501 Writing for New Media;
- WRIT502: Digital English Studies: Literature, Rhetoric, and Technology;
- WRIT566 Writing for Sciences and Technology; and
- two other special topics courses at the 300 and 500 level on rhetoric and writing.

By just looking at the course titles, one might discern that these courses would cover some of the topics on Allen and Benninghoff's (2004) list, such as audience, genre, rhetorical analysis, visual rhetoric, document design, collaboration, and ethics. Nonetheless, explicit curricular efforts across these courses that are driven by shared programmatic outcomes for professional and technical communication are lacking, which could have facilitated students' transfer experiences. On the other hand, being one of the two rhetoric and writing fac-

ulty in the department, I have another disciplinary partner to bounce ideas off. Since these courses are mostly taught by the two of us, we have been discussing our course design, and pedagogical practices so that we might informally build some continuity across the courses for students and inadvertently facilitate some knowledge transfer.

It is also important to point out that our service course has been primarily serving business students; thus, it has a stronger emphasis on professional communication more broadly than technical communication. My course WRIT366 can take on the role of both the basic and intro categories as it introduces students to technical communication both as a field and as a profession, in theory and in practice. Within our majors, many students were not familiar with technical communication. On the other hand, there was also hope that this course would draw other students into our English major and/or professional writing minor. The purposes of this course were certainly multifold.

Designing WRIT366: Technical Communication

With this complex role and multiple purposes of this course in mind, I began to determine the important topics the course should cover and to conceptualize how to introduce students to these topics via readings and course assignments. Below is the course description I came up with:

> This course introduces you to the field and profession of technical communication. Technical communication refers to activities of preparing and delivering written and oral documents that present specialized information in a way that allows non-specialists to understand the information and use it to perform tasks. For example, a software company needs technical writers to develop documentation for their software packages; a non-profit organization needs technical writers to develop and maintain content for their websites. Technical writers provide a bridge between technical experts and non-specialists. You will learn the theories of technical communication, how to conduct research to solve workplace communication problems, how to retrieve, evaluate, and present information for different types of audiences in different genres in ethical and legal ways. In turn, you will explore what it means to be a technical writer and develop an understanding of technical communication with a social justice perspective. (Chen, 2019)

This description aims to provide a straightforward explanation of technical communication as a field and a profession by using simple language and examples to help students conceptualize what this course might cover since many of them might not know what technical communication entails. At the same time, this description also mentions some of the important concepts this class would

cover: ethics, social justice, genre, etc. From here, I developed a more detailed list of student learning objectives to show students that in this course, they would

- explore what it means to be a technical writer;
- develop a critical understanding of technical communication with a social justice perspective;
- understand the relationships among language, knowledge, and power, including social, cultural, historical, and economic issues related to information, writing, and technology;
- understand that writing is driven by specific purposes and audiences and rhetorical situations;
- understand that genres are socially and rhetorically constructed;
- develop skills to communicate technical information to non-specialists;
- gain practice in collective decision making, team building, and group projects;
- learn to conduct research to solve workplace communication problems;
- practice technical writing and editing and document design; and
- begin to develop a professional identity as a technical writer.

Here you may notice that not only did I include the traditionally core concepts, but I also foregrounded the social justice approach in this course. Recent scholarship has been drawing more attention to teaching technical communication with a social justice approach, signaling a "social justice turn" in the field (Jones, 2016; Jones et al., 2016; Walton et al., 2016). Angela M. Haas and Michelle F. Eble's (2018) edited collection offered us a number of ways to teach technical communication with a social justice-informed pedagogy. Responding to this disciplinary call for more social justice-oriented work, I decided to design the course with a social justice orientation, through both developing course content that pushes students to see how technical communication can be oppressive and empowering to marginalized populations, as well as engaging with social justice pedagogical practices that foster inclusivity and equality in the classroom.

These learning objectives were developed to cover the five core conceptual skills Sally Henschel and Lisa Melonçon (2014) developed: rhetorical proficiency, abstraction, social proficiency, experimentation, and critical system thinking. I will discuss more how these conceptual skills were realized through these learning objectives in my analysis of student reflections later. Rhetorical proficiency is the most fundamental conceptual skill in TPC curriculum; students need to understand how to write for different kinds of audiences and purposes and that the different genres of technical communication should be understood rhetorically and as social constructs. It is also important to understand first and foremost that existing systems and structures contribute to the rhetorical contexts of technical communication; therefore, it is important to analyze and critique those structures. From there, students can learn to research, write, and

organize information and content rhetorically and ethically. Because of the central role technology plays in the field of technical communication, students should be able to enhance their technological literacies in this class as well. Finally, students need to recognize that technical communication, just like other writing and research practices, is a social endeavor and that technical communicators actually spend more of their working time communicating with others, such as subject matter experts or other tech writers and editors, rather than actually sitting at their desk writing alone.

Based on these course objectives and pedagogical goals, I selected Heather Graves and Roger B. Graves' *A Strategic Guide to Technical Communication* (2012) and Krista Van Laan's *The Insider's Guide to Technical Writing* (2012) as primary texts supplemented by other texts written by both scholars and practitioners of technical communication. Graves and Graves' text resembles similar professional and technical communication textbooks, with chapters on major genres as well as important topics such as document design, style, and presentation. Van Laan's book is written primarily for practitioners, offering useful descriptions of what it means to work as a tech writer, especially in the software industry, as well as practical advice and sources for people to jump-start their career in the field. I assigned a variety of scholarly articles and other resources that would introduce students to important concepts, such as social justice and feminism, as they relate to technical communication, as well as providing them with more in-depth guidance and resources on certain practices, such as technical editing.

Major assignments included a white paper and a software documentation project that required students to take a critical view of technology and ground their work in human experiences while practicing writing rhetorically about technology to non-expert audiences. They would also collaboratively write a research proposal to explore a workplace problem, which would help them develop a problem-solving view of technical and professional communication. Another major project enabled students to gain editing experience and skills by completing two editing reports that would require them to practice both comprehensive and copy editing and include an explanation of their editing objectives and justifications for editorial changes and comments. Finally, students would design an online portfolio where they could begin building their professional identity as a technical communicator and showcase their work. Students would also reflect on their learning processes from all these assignments. Along with these major assignments, students also completed 19 notecards throughout the semester with prompts that ranged from guided responses to readings, reflections on course activities and my teaching, to short writing exercises, etc.

To further enact a social justice pedagogy, I planned to regularly collect students' thoughts about the readings, discussions, and activities of the class and to use contract grading in this course to ensure a more equitable assessment of student work (Medina & Walker, 2018). These pedagogical decisions reflect some of the principles of the "apparent feminist pedagogy" Erin A. Frost (2018) laid

out, such as ensuring students read a variety of materials and paying attention to their genres, creating space for students to reflect on their positionalities and their instructor's positionalities in this course, and leading students to consider the situatedness of the authors of technical documents.

Due to the institutional limitations I mentioned earlier, I perceived the needs for sustainable course development and curricular design practices. Therefore, I obtained Institutional Review Board (IRB) approval the semester before to collect student work and reflections to conduct research on this class, and also as a pilot study in preparation for later curricular development on technical and professional communication. I recruited students to participate in this research by obtaining permission to use their written work (excluding the online portfolio) and reflections on all major assignments in the research. Because I was also the teacher of the class, I made sure that students understood that their participation would not impact their grades in the class. And I waited until the class ended before I looked at the informed consent forms to learn who opted to participate. In the end, 14 students out of 16 enrolled consented to participate, and 13 of them provided written work (one student did not submit any major project). In the next section, I will share the lived experiences of this course: what went well and what did not. Using both my pedagogical narrative and reflections and the analysis of student reflections on major assignments to support my discussion, I hope to provide a comprehensive picture of my trial and error in teaching the first iteration of this course that will be helpful to instructors working in a similar institutional context.

Teaching WRIT366: Technical Communication

I had a grand plan for this class, but not everything worked out as well as I hoped it would. Throughout the semester, I kept a reflective journal on this course to note down my reflections of my teaching methods and things that I would change in future semesters based on how students reacted to the course. Thus, I will start with a brief teaching narrative.

One of the first tasks I performed at the beginning of the semester was to distinguish this class from the service course, WRIT465: Preparation of Written and Oral Reports. I made it clear that my class was not going to necessarily prepare students for communication in their respective fields; instead, it was aimed at introducing them to the field of technical communication and preparing them for the professional careers of technical communicators. This distinction was important to make, especially when there aren't explicit programmatic goals or narratives that would delineate the roles of a variety of courses.

Contract grading allowed students to plan and set their own goals for the class, which might have helped ease some concerns and anxieties students had learning about new concepts and practices. If students completed the four major assignments in good standing and did not miss more than four class notecards

and four classes or violated my professional communication policy no more than four times, they would receive a B for the class. Completing major assignments in good standing meant that they had to turn in all components on time and meet assignment requirements with good efforts. To receive higher grades, students simply had to revise previous work in this class to put on their professional website. They could also complete an optional assignment that asked them to write a letter to future students taking this class; this letter served both as a reflection and review for them of everything they had learned in this class and as a great teaching tool for me when teaching this class again in order to support future student learning with lived experiences and perspectives of former students. Contract grading alleviated pressure from them on producing the "best" work so that they could make mistakes with these new genres they were learning; at the same time, it required students to be better at time management and focus more on the process of their writing and learning.

Two-thirds of the way into the semester, just as we were wrapping up the documentation project, I realized that there was very little time left to work on a group research proposal before the students had to develop the final online portfolio. Many students did not seem to be technologically savvy, and I suspected that they would feel overwhelmed with the final web design project. On top of that, learning about conducting workplace research and developing a research proposal required a shift back to the "academic" side that at the time might seem disconnected from the rest of the class to them. Therefore, I made the decision of cutting the group research proposal assignment in response to these concerns. This change also made me realize that students needed a lot more scaffolding and explicit transfer among assignments in this course; I had simply placed the research proposal at the wrong time in the schedule, and it would have required more scaffolding than time was allowing for.

I intentionally front-loaded the class with more theoretical readings, having students read scholarly articles about rhetoric, feminism, ethics, and social justice. At the same time, I also used both lectures and readings to illustrate to students what it meant to be a technical writer by presenting them with resources and reports from the industry. The quick introduction of both theory and practice seemed to work well, to the extent that students could quickly gain an understanding of what technical communication *was*. But I noticed that they were struggling to engage with theoretical concepts and the scholarly readings in their practices, especially when it came to ethical considerations and how tech writers could serve as advocates for social changes, which I suspected had to do with the fact that there was a stronger perceived emphasis on tech writing in the software industry, and perhaps not enough discussions and activities were given to critical understandings of technologies and the complexities of workplace dynamics and tensions. I certainly felt that I could have done a better job at threading social justice throughout course assignments and activities, especially from a perspective that's more action and change oriented, beyond just the accommodative practices.

I gained this impression both from students' discussions in class and from their reflections on all the major assignments. The reflections for all major assignments asked the following five questions:

- What have you learned from this assignment? What have you learned about [assignment name] as a genre? What have you learned about technical writing through this assignment?
- What was easy about this assignment and what was challenging?
- How did you overcome any challenges to complete this project?
- What ethical considerations did you have when writing this assignment?
- How will you transfer what you've learned from doing this project to other projects in this class and other contexts?

For this chapter, I coded students' reflections on four major assignments (white paper, documentation project, editing reports, and professional portfolio), first using an "evaluation coding method" (Saldaña, 2013, p. 119) with my learning objectives as codes in order to see if students had indeed achieved the objectives I built this class on. I then used the "descriptive coding method" (Saldaña, 2013, p. 87) to capture students' experiences from these assignments, such as what they enjoyed doing and what they found challenging, how they overcame these challenges, and any other significant experiences that they mentioned. I placed these codes into three categories: learning objectives, learning challenges, and perceptions of learning experiences. Because I completed the first draft of this chapter soon after teaching the class, I reviewed the coding and analysis process again during later revisions, having gained some distance from the class and those students. During this coding review, I also "shop talked" (Saldaña, 2013, p. 35) with my writing colleague about my analysis of the data to improve the validity of coding. Of course, these are not perfect measures to ensure research validity and reliability. But under the institutional limitations, this shop talk allowed me to improve my perception of student experiences and help me better situate my analysis in our institutional context. Additionally, it further strengthened the informal exchanges between us—the only two writing and rhetoric faculty—which will be valuable for future curriculum and programmatic development. Next, I will discuss some key insights from this analysis based on the following themes: what learning objectives students met, what students' perceptions of their learning experiences and transfer were, and how the challenges of balancing theory and practice manifested.

What Skills and Practices?

In the introduction, I mentioned the question I was faced with when beginning to design this class: If this was the first class where students would learn about technical communication or even the only class where they would learn about some of the fundamental concepts and theories of TC, what should they get out

of this course? The coding shows that students did gain something along the lines of the conceptual skills Henschel and Melonçon (2014) developed (p. 8):

- Rhetorical Proficiency: compose content for a variety of audiences and purposes
- Abstraction: discover patterns and meaning, rearrange information in new ways
- Social Proficiency: collaborate, negotiate, and achieve consensus
- Experimentation: try new approaches and concepts
- Critical System Thinking: understand the processes by which parts are linked together; the ethical responsibility to consider ideological/power stances of those structures and critique when necessary

Out of the 49 reflections coded across four assignments, the top five learning objectives most frequently coded were understand writing is driven by specific purposes, audiences, and rhetorical situations (32); practice technical writing and editing and document design (29); explore what it means to be a technical writer (26); understand the relationships among language, knowledge, and power including social, cultural, historical, and economic issues related to information, writing, and technology (23); and understand that genres are socially and rhetorically constructed (16).

More students gained the conceptual skill of rhetorical proficiency and recognized that they practiced technical writing like a practitioner. However, fewer of them gained the other conceptual skills: abstraction, experimentation, social proficiency, and critical system thinking. But when they did discuss ethical considerations, they were often cognizant of their writing processes that reflect some critical system thinking and experimentation by talking about how they overcame style, design, and technical challenges in their consideration of rhetorical and technological contexts through problem solving. For example, one student said the following in their reflection on the white paper:

> The ethical challenge with creating this assignment was not showing bias towards the document format that I prefer when creating documents. I had to make sure that I included the limitations of the product as well the benefits of the other programs even if it might have showed the other product in a better light. This also required that I conduct a little bit of research to find out more about the programs I wanted to discuss in my white paper.

Another said in their reflection on the online portfolio,

> I spent the majority of the time trying to configure a website for this assignment. In the end, I had to manipulate the website for three different viewing format [sic]. On a laptop, parts of the website's content is [sic] cut out. I had to rearrange the information

> so that all of the relevant information appeared. In the process, this new arrangement left blank space when viewed on a desktop. I filled this space with a video about my beliefs on education. It took a lot of work, but it should be accessible on multiple formats.

By reflecting on these processes, students articulated the awareness that they had been practicing what technical writers and editors would be doing, and that they learned firsthand what it meant to be technical writers, including the complexities and nuances of the profession. For example, one student wrote in their reflection for the documentation project, "Technical writers for software documentation must be willing to adjust to the feedback received from their usability testing participants, but also make decisions that best benefits [sic] the end users, even if it goes against comments from their testing results." Here, it's important to note that students more frequently perceived they were exploring what it meant to be a technical writer in the documentation project and the editing report project, seeing those as more practically what technical writers do, resulting in a limited view of the profession. This might also be caused by my choice of Van Laan's textbook, which focused on the practitioner's perspective in the software industry.

Learning and Transfer

My coding of students' perceptions of their learning experiences also revealed what most supported their learning and transfer. While I cannot argue that students will successfully transfer what they have learned in this class to other contexts, some transfer did occur among assignments within the class, and students also recognized other explicit sites of transfer. So while our department offers a limited number of specialized technical communication courses, students could already see how this course might prepare them for a technical communicator job or for tasks in other contexts. As our writing internship coordinator regularly asking students to talk about knowledge transfer from their courses to internships, I have already seen student interns who have explicitly discussed how our writing and rhetoric classes prepared them for their internships, which is very gratifying.

Some students found peer review helpful in their learning processes. Although I had to cut the group project, thus ridding students of a collaboration opportunity, they were still able to gain some social learning experience by commenting on each other's work, learning from each other, and troubleshooting with each other. One student said in their white paper reflection,

> The feedback from the peer reviews was the best way to overcome most challenges I faced because it required others to be able to understand what you said and determine if you did an effective job of creating the document and communicating the information.

Another said in their professional portfolio reflection,

> The main thing I had to do to jump over some of the hurdles I found myself in was to just ask someone who I knew was also doing the same thing. Most of the time, they had encountered the same problems and they were able to show me how to fix it.

Peer review thus not only offered opportunities for collaborative learning but also more authentic situations for composing where students would interact with a suitable audience.

I saw explicit transfer and connection between assignments, especially in the final online professional portfolio assignment. One student said, "I think it was a good way to finish of [sic] the class with an assignment that would incorporate everything that we have learned about technical communication throughout the semester." Students also drew connections between what they did in this class and what they had done or would do in other contexts; here, transfer is a two-way street for them. One student said in their professional portfolio reflection, "Because I understood the relationship between written text, purpose, audience, usability and design from this assignment, I will be able to apply them everywhere and in different contexts." One student mentioned that they were familiar with usability testing because they had done it in their digital information design classes; another said the documentation project reminded them of something they had done for their broadcast concentration. While I think I did a fairly good job at giving students an explicit rhetorical education and by designing authentic writing opportunities—two principles Elon Research Seminar on Writing Transfer participants laid out to support writing transfer—I certainly could have done more in providing them with "strategies and tools to think about how writing functions in communities" as well as discovering more what dispositions would better afford their transferring experiences (Moore & Anson, 2017, p. 10). And those authentic writing opportunities should be enhanced more to help students see how technical communicators could be advocates and agents of change.

Theory Versus Practice?

The gap between theory and practice widened when students began to create technical documents without being able to explicitly apply a social justice perspective to the work they were doing, especially with a more action-oriented approach to diversity and inclusion of different cultures that Natasha Jones and Rebecca Walton (2018) argued for. It was more difficult for them to see how writing documentation for a software required a social justice perspective. For example, in their reflections, they talked mostly about ensuring document accessibility, using gender-neutral pronouns, and being objective about their products (to not exaggerate and to acknowledge limitations in their white pa-

pers), which are certainly very important, but more accommodation-driven and less advocacy-driven. They knew they had to make their writing accessible and inclusive, but they couldn't always see themselves as agents of social change in the practice of their writing for this class. I suspect that this was due to the limitations of the genres of the assignments and the lack of depth and breadth of discussions on social justice in class. As Rebecca Walton, Kristen Moore, and Natasha Jones (2019) reminded me, "[i]t's impossible to reject and replace injustices if you can't recognize them" (p. 133). While theoretically, we explored how technical communicators could be agents of social change by reading prominent scholarship by Steve Katz (1992), Melody Bowdon (2004), and Emily J. Petersen and Rebecca Walton (2018), not enough time was devoted to exploring these perspectives more in-depth in connection with more "real life" examples. When students created their own projects, the situations and topics they worked with only provided them with a more accommodative view of building accessible and inclusive content rather than an active change-oriented view for the writing decisions they made. For example, they recognized that they needed to provide captions for visuals to make them accessible for users who might be visually impaired. However, they might not necessarily recognize the structural and systemic inequities and oppressions that technical communication can enhance or combat.

Nevertheless, some students did gain an understanding that technical communicators, as argued by Johndan Johnson-Eilola (2004), do not hold just a supporting or auxiliary role to technologies or software developers but are crucial in creating user experiences and advocating for users. For example, one student wrote in their documentation project reflection, "Through this assignment I have learned that technical writing has a very big influence on people because it is technical writers that provide the information to users that they need to be able to use a product or service." The accommodative view is the first step for them to move toward a deeper reflection on social justice and technical communication. In order to push students for deeper reflections on the social justice perspective of technical communication, I need to provide them with more opportunities to expand their perception of what technical writers could do in various sectors, and practice and articulate the kinds of influences they could bring to diverse people's lives.

Conclusion and Looking Forward

To conclude this chapter, I will offer some thoughts and questions on both the development of an intro to TC course and the pedagogical practices in such a course with respect to programmatic development or the lack thereof. Further, I will emphasize the values of informal exchanges and infrastructure for fostering inter- and intra- institutional connections in supporting this work and research, as well as how it should be acknowledged and recognized.

Thoughts on Course Development

When I designed this class, I was afraid that I was trying to do too much by trying to cover too many conceptual skills in just one course. Upon reflection at the end of the semester, I also worry that I didn't do enough. For example, student reflections showed that my course wasn't able to focus more on the conceptual skill of "social proficiency" (Henschel & Melonçon, 2014). Similarly, some of the important TC skills were not as explicitly emphasized in my course. For example, more knowledge of business operations, knowing how technical communicators fit in an organization and how to navigate organizational culture; improved interpersonal communication skills; and project management are cited to be useful for increasing the marketability of the students across scholarship (Kim & Tolley, 2004; Rainey et al., 2005; Whiteside, 2005). Should these other skills be incorporated in an introductory course? If so, how should we introduce students to these skills without overburdening them with extra course work? If not, what types of skills, both conceptually and practically, should be emphasized in an introductory course? Ultimately, how could I bring the critical system thinking more to the foreground in this course, especially without tethering to programmatic goals?

In a way, these questions are intimately linked with the challenge of balancing theory and practice in such an introductory course, which I discussed earlier. Jones and Walton (2018) showed us how to use narratives to teach students to develop a critical perspective on social justice issues and apply it to technical communication. Walton et al. (2016) proposed three strategies to help frame courses with a social justice perspective, which were formulated based on service-learning courses. Is service learning the answer to help students see technical communicators as advocates? Other than service-learning courses, can we offer students other learning opportunities by perhaps constructing "conditional rhetorical spaces" (Anson & Dannels, 2004) that allow students to apply theories to hypothetical scenarios?

With these questions in mind, in future iterations of the course, I planned to spend more time earlier in the semester exploring theories of technical communication with practical examples for students to analyze before moving on to more production-based work. Instead of having students practice several genres, as I did in this iteration, I might ask them to focus on one main genre, such as a documentation project. Moving away from a production-heavy format to a more balanced analytical and production model, I hoped students would be introduced to a larger variety of technical writing genres in order to ground the theories for them even if they don't get to practice writing many of them. At the same time, I hoped to offer scenarios that can inspire more authentic composing practices and broaden their view of what technical writers could do, especially as agents of change and advocacy. In the meantime, we could devote more time to discussions on other issues I wasn't able to cover this time that can be more beneficial

in students' future workplaces, such as project management and how to navigate organizational cultures and business operations.

Consequently, I designed the second iteration of the course with a problem-solving perspective and social justice orientation. We spent more time exploring fundamental concepts and theories such as rhetoric, genre, information design, and ethics to develop rhetorical proficiency. For every concept, students worked with practical examples in homework assignments and in-class activities to connect theory with practice. I used scenarios that especially pushed them to think about how technical communicators could serve as user advocates in terms of social justice impacts with a more active perspective so that the social justice theme could be more foregrounded and threaded throughout the course. For example, in one class activity, I gave students a list of phenomena that took place in China during the early emergence of the COVID-19 outbreak and asked them to come up with best TC practices in crisis response that would explicitly actively address the possible oppressions inflicted on different populations. In the second half of the semester, students worked on a collaborative documentation project in groups for different campus clients, which strengthened their critical system thinking skills and allowed them to work in a more realistic professional setting. Short of a service-learning component, this client project at least helped students improve upon project management, collaboration, and interpersonal communication skills while practicing a major technical communication genre. While I have not analyzed this semester's data, my perception as an instructor is that this problem-solving and social justice-oriented course design with scenario-based practices can be a useful way to marry theory and practice together and offer students a good window into the field and discipline of technical communication.

Thoughts on Pedagogical Practices

One of the most beneficial parts of this experience teaching this class for the first time was my effort to create open dialogues with students as equitable pedagogical practices, especially in a class where students might be overwhelmed by the workload and challenging content. This should be done both in terms of having students communicate with the instructor on their learning experiences regularly and maintaining a good interpersonal rapport with students. Students need to consistently reflect on their learning experiences in the class, and instructors need to be reflexive with them as well.

I had suspected that my own positionality and identity as a woman of color might have an impact on how students would respond to my pedagogical practices. But I did not experience any challenges in this regard. On the other hand, I did experience some unexpected personal challenges. On top of having two new course preps in my second semester on the tenure track with a 4-4 teaching load,

we lost a close family member to cancer. For a full month, I was consumed by grief and stress. In line with my equitable pedagogical approach, I told my students what I was going through, partly also to model a practice that I hoped my students would do with me. In fact, several students, from this class and others, told me their own struggles that were impacting their performance in class because they were encouraged by what I had done. This open dialogue was crucial in supporting student learning, especially in such a challenging course. Since we teach students human-centered technical communication, we must practice first seeing ourselves and our students as humans with real emotions and recognize the interdependence of our personal and professional lives.

Finally, when instructors are asked to develop a class like this, they must teach it with a great degree of flexibility and adaptability, for instance keeping open spots in the schedule and offering optional assignments to adapt to student needs and asking for student feedback on their ongoing learning experience. Maintaining flexibility is not only an important feminist approach to teaching but also useful in new curricular development situations. Because in a context where it is difficult to predict how students might respond to the course materials, it is all the more important to be flexible and adaptable and dialogic. Of course, this must be explicitly communicated to students early on as well. These equitable, inclusive, and flexible pedagogical approaches are just one small way to enact the social justice turn in technical communication pedagogy.

Thoughts on Professional Development

My course design and research process also indicate that in institutional contexts where rhetoric and writing curriculum is small and limited, instructors need to build professional networks with intra- and inter-institutional connections to help one another with curriculum development and pedagogical practices, especially when more formal programmatic structures are lacking. I know I could not have designed and taught this class without all the conversations with my fellow writing faculty in the department, and I certainly benefited from the larger TC professional community I'm attuned into on Twitter and various professional listservs. These support networks are crucial in our growth as teachers and researchers. Thus, it is important for us to advocate for such collaborative and supportive professional environments from within departments, institutions, and professional organizations, such as recognizing the values of collaboration and peer learning in faculty evaluation mechanisms like tenure and promotion guidelines.

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