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Issue 15.1 From the Editors

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Welcome to *Programmatic Perspectives* 15.1! This issue signals the transition to our latest editorial team. We would like to thank outgoing Co-Editors Lora Anderson and Lee-Ann Kastman Breuch for their outstanding service and leadership, and we wish them well as they move to other scholarly work. We also thank Tim Ponce for his work as Book Review Editor for the past year. We know Tim will continue to serve our field well as an Associate Editor at *Technical Communication Quarterly*.

After considering the recent special issue on design thinking (14.2), the editorial team has revised the layout of the journal in ways that we hope will improve readability and accessibility. Titles and authors are now in Iowa Style, while the text is in Verdana. Margins now reflect a standard 8.5 x 11-inch layout that should benefit readers in both pdf and printed versions of the journal. We thank the CPTSC Executive Committee members for their feedback and suggestions during the revision process. And we offer a special thanks to Copyeditor Alex Evans for implementing these improvements.

In addition to the changes in design you will see in this issue, we include a special In Memoriam section to note the recent passing of three TPC scholars: Bill Hart-Davidson, Johndan Johnson-Eilola, and Halcyon Lawrence. The CPTSC and TPC communities have been shocked and saddened by these events. Our goal is to honor them, their lives and work, while also sending our most sincere condolences to their families and friends. We must acknowledge that words are never quite substantial enough to truly memorialize the profound and lasting effects these three people had on others they touched during their lives and their professional work. The people who agreed to write a memorial had a huge task to make some meaningful comments. We are grateful to them for sharing their memories and for their efforts in highlighting some of the contributions made by these colleagues who are gone too soon.

As we summarize for you the contents of this issue, we are proud to present research, ideas, and suggestions that everyone in TPC programs can find helpful

in some way. We begin with three research articles that address a spectrum of salient topics. In "TPC Program Administration in Small US Institutions: Recruitment and Assessment," Lynn Russell reports on the findings from interviews with 26 TPC program directors at small institutions. As noted, these programs in small institutions make up 37% of all TPC programs in the US and are currently understudied. Russell concludes with a series of reflective questions that should provide guidance to directors at programs of all sizes.

Morgan Banville's study, "Exploring a Case of Surveillance: Pedagogical and Programmatic Influences of Biometric Technology," uses data from research to argue for inclusion of topics related to biometric technology in upper-level TPC courses. Banville provides assignment examples and a case study of one assignment that will support students' understanding of surveillance.

Codi Renee Blackmon, in "On Developing a TPC Program Graduate Orientation," uses survey data from current and former students to describe the contexts, information, and support that incoming students need for graduate school success. The author identifies socialization and professional development as especially important dimensions.

We also have two excellent program showcases in this issue. In "Writing for Organizational Change: A Programmatic Assessment of an On-Campus Service-Learning Partnership," Jeffrey Bacha and Jaclyn Wells describe an ongoing effort between their TPC program and the university's writing center. The program addresses topics including the needs for sustainability and increased communication with clients.

Next, in "The Value and Use of the Advisory Board," Nick Carrington and Jennifer Wingerter provide details about their TPC program advisory board and recommendations for faculty and administrators who are developing their own boards.

In the Commentaries section, Krista Speicher Sarraf's "Engaging in Mutual Mentoring: A Heuristic to Transfer Knowledge as a Technical and Professional Communication Administrator" describes the importance of the scholarship in *Programmatic Perspectives* to new directors in small programs.

Another timely Commentary is "Leveraging Design Thinking and Generative AI to Transform Pedagogy," where Nadya Shalamova and Tammy Rice-Bailey provide examples of how teachers might use "generative AI technology, such as ChatGPT, to facilitate students' deeper understanding of the design thinking process. Our intent is to raise awareness of generative AI potential, stimulate further research, and improve opportunities in TPC pedagogy and programmatic development." Readers will glean ideas on how they can begin teaching students about generative AI and some ways to implement those ideas in their own classrooms.

We are also happy to present four FOCUS essays that draw readers' attention to a couple of salient topics for technical communication teachers and programs:

one a classic that has been a source of interest and engagement for teachers and practitioners of technical writing over time, and the other a topic that addresses new challenges and developments. In "Choice Reflection: Distinguishing Research from Human Subjects Research," Michael Salvo reflects on improvements in the IRB process during his career and summarizes his experiences when submitting research proposals for review. Scott Mogull in "Audience Personas: Audience Analysis Documentation for Rhetorical Technical Communications" and Daniel Hocutt, Nupoor Ranade, Jianfen Chen, and Katlynn Davis in "Data Analytics for TPC Curriculum" focus on the classic technical communication topic of audience and address the topic from different angles for producing a nuanced understanding of a challenging, complex, and foundational topic. Mogull's piece examines the topic of audience analysis in terms of personas and offers the Myers-Briggs Type Indicator for understanding audience. On the other hand, Hocutt et al., using current technologies for doing data analytics, present for us ideas for generating quantifiable data and, based on specific variables, make visible patterns in user behavior that will form a quantifiable basis for understanding audience. Their essay also offers insights for classroom application. Both approaches, with their explanatory powers from different approaches, offer a balanced and timely understanding of this foundational topic.

Timothy Ponce's essay "The Union of Theory and Skill: Using Micro-Credential Coursework as Class Supplement" touches on recent developments as the field addresses the need for technical communicators to be adept at learning new tools and skills while making connections with the theories that drive communication for which these new tools and skills are used. He has examined this topic with fresh eyes and argues that it would be beneficial if students, while taking technical writing courses, gain certification through LinkedIn. In doing so Ponce offers practical pedagogical insights for technical communication faculty to consider for keeping their courses technologically up to date while teaching students the theory underlying the communication these tools enable.

The book reviews section in this issue of *Programmatic Perspectives* highlights three recent publications that each, in their unique way, delve into the intricate layers of technical and professional communication, showcasing its depth, ethical dimensions, and interdisciplinary connections.

Keywords in Technical and Professional Communication, reviewed by Christina Davidson, examines the diverse and sometimes conflicting interpretations of central terms within the discipline. Through a rigorous selection process involving corpus analysis and surveys, the book provides historical and contemporary insights into these keywords, discusses critical debates, and contemplates their future use or reconsideration in the current environment.

UX Writing: Designing User-Centered Content, reviewed by Christopher Morris, offers a comprehensive guide to creating engaging and effective user experience (UX) content. By integrating principles from user-centered design, content strategy, artificial intelligence, and digital marketing, the book equips students and practitioners with the tools to merge writing and design, ultimately enhancing user engagement and meeting business objectives.

Augmentation Technologies and Artificial Intelligence in Technical Communication: Designing Ethical Futures, reviewed by Joe Schicke, explores the profound impact of emerging augmentation technologies and AI on human experience and identity. It addresses the technical, rhetorical, theoretical, and socio-ethical challenges associated with these technologies, providing a critical perspective on their benefits, risks, and implications for the future of technical communication.

Together, these books underscore the complexity and ethical considerations inherent in modern technical communication, offering valuable insights and methodologies for students, scholars, and professionals navigating this dynamic field. The reviewers effectively discuss how teachers and administrators can use these books to enhance their classrooms and programs.

Please enjoy the issue!

Remembering Bill Hart-Davidson

Steve Benninghoff

Eastern Michigan University

Bill Hart-Davidson, as many of the online tributes and remembrances have detailed, was a man of insatiable curiosity and a profound ability to connect with people—an extremely relatable polymath. He was a fabulous listener and collaborator and was ridiculously generous with his time. As I sit here writing this, and thinking of so many moments, I can't help but smile thinking how Bill was always about play, and practice, and finding the joy in both. In this short remembrance in *Programmatic Perspectives*, I will focus on how the Bill I knew, as far back as his choosing a graduate school, was already the “programmatic Bill,” who was thinking as much about the team, and what we all “owe to the sport,” and the sport owes to society, to develop the metaphor, as he was worried about what the programs and the field could do for him. As his frequent online byline states, “Give. When in doubt, give more,” Bill practiced phronesis, always thinking both broadly and deeply about the given situation, and did his best to aid and support people—but more, to connect.

I met Bill when we were in graduate school at Purdue. I'd really only discovered rhetoric in the last class in my MA, and while I wondered where it had been hiding through my academic career, it was Bill who brought me into the field and helped me understand rhetoric both more broadly and more ethically. It was not only as a tool to “win” arguments, but more importantly how to build shared understanding and foster relationships, and how to connect and compare across different disciplines and contexts. I remember one of our first mentoring meetings for graduate teaching assistants in technical or business communication, which Bill was leading, and how he helped everyone in the group realize they did, in fact, have relevant experience for teaching TPC, even though their backgrounds were in literature or composition. In my first experience with him as a teacher, he was helping people connect and building community by bridging English disciplines. Whenever I teach invention, I explain the concept as a system comparison that allows us to transfer knowledge, however imperfect, from one context or domain to another.

At one of many meals shared with Bill, I remember he explained deciding on Purdue—he wanted a strong cohort through graduate school. His concern for larger groups and social dynamics was a frequent theme, and in multiple domains, including sports. Bill was a cross-country runner in high school, and paid for college

by working as a professional juggler. He also played pee wee baseball when he was younger. He remembered a game where he got hit by the opposing pitcher. For most of us, being hit would be the focus of that memory. But the reason he remembered it was because the next inning, his pitcher, in retribution, nailed the other team's first batter. Bill wasn't a star on the baseball field, but his elder teammate stood up for him, and Bill never forgot. Support your people. (He never hit anyone, but he did a lot of standing up for people.)

When it came to his first job, Bill again knew he wanted to be part of a team—and always knew he wanted to mentor and develop graduate students. Rensselaer Polytechnic Institute was the best combination. In particular, I remember how excited he was about getting Assistant Professor of Human-Computer Interaction as his title. RPI was a great place for him to start, with tremendous colleagues, and he advised a fabulous group of graduate students into the field.

I attended my first CPTSC in 2002 by flying to Albany and driving up to Potsdam with Bill. He loved CPTSC because it saw rhetoric and technical communication as he did—it taught listening and responding as much as performance, solved problems collaboratively, and perhaps most because it went outside, beyond the classroom, into nature and the community. Bill knew the connections were there, if only we were open to building them. In all his roles, developing research centers, advising graduate students, and designing programs, this was always his key. Bill understood rhetoric and user experience in embodied, multidimensional, humanistic ways, but not just academically. It was in the way he worked with his graduate students, in the way he taught, in the way he collaborated and communicated with experts from other disciplines, and the way he thought about program development.

When Bill came to Michigan State, the program there was in a real moment, and along with his colleagues they developed several great programs: a new major in rhetoric and professional writing, the Writing in Digital Environments (WIDE) research center, and the Eli feedback review system, just to name a few. But it was the experience architecture (XA) program that seems to me to encapsulate so much about Bill. Long before the field made its turn toward user experience research and design, Bill was prioritizing empathy and listening. He was so thoughtful about how so many of his actions, as a teacher, as a colleague, and as a friend, were considered in light of play, practice, and joy.

I will close by simply saying that Bill taught me lessons I take into every class, every meeting with new people, about tacit and explicit knowledge, and how rhetoric can help us collaboratively forge a better future, and he did it with a wonderful sense of humor. Many of us have similar stories, and hopefully we can support each other in the same way Bill did.

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Artificial Intelligence and the Intellectual Legacy of Johndan Johnson-Eilola

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Johndan Johnson-Eilola passed away suddenly on November 12, 2023. Literally that day, Johndan, Eric York, one of his colleagues at Clarkson University, and I were putting the final touches on an article for a special issue of the *Journal of Business and Technical Communication* on the effects of artificial intelligence tools in pedagogy, practice, and research. My first co-authored publication with Johndan appeared in 1992, and this article with Eric is the last one (Johnson-Eilola, Selber, & York, 2024), but Johndan's intellectual legacy will be alive for many years to come, helping the field to grapple with truly important questions of our time.

In whatever we wrote, Johndan and I always did our best to think explicitly and carefully about how to make our work on technology relevant to an uncertain future. Media do indeed have specificities, and communication situations always involve local forces and realities, but there are ways to write about technology that allow research and scholarship to have a shelf life for audiences: One power of rhetoric is that it can help you conceptualize and organize what might appear to be a jumble of objects, processes, relations, and actions—human and non-human.

Our main approach to thinking more durably about technology was to invent heuristics for helping people reason through the intricacies of wicked problems. As we explained in the introduction to our co-edited volume *Solving Problems in Technical Communication* (2013), we understood heuristics to be “tentatively structured procedures for understanding and acting in complex situations” (p. 4). The procedures could involve probing technological contexts with a series of critical questions, modeling or mapping communication dynamics in consequential settings, conceptualizing categories for pattern elements or relationships, developing extended examples to illustrate concepts and processes, leveraging binary oppositions for descriptive and analytic aims, and more. Heuristics are valuable to thinking in our field because causality is often complicated and circular (rather than linear) and because meaning is often contingent on the surrounding context. They help us approach complexity and messiness in ways that are both rhetorically sensitive and systematic, at least tentatively, for invention purposes and beyond.

In this tribute to Johndan, I illustrate the durability of his work by showing how three of his heuristics can help us think productively about generative artificial intelligence (Gen AI). I have intentionally selected pieces from his early work to demonstrate just how prescient he could be about the future of technical communication. The first essay, "Control and the Cyborg: Writing and Being Written in Hypertext (1993)," used the imaginary of the cyborg from feminist biologist Donna Haraway to reconsider received understandings of control in human-machine environments. The second essay, "Relocating the Value of Work: Technical Communication in a Post-Industrial Age" (1996), applied a symbolic-analytic framework from former Secretary of Labor Robert Reich to help us move our work up the organizational value chain, academic and non-academic. The third essay, "Little Machines: Understanding Users Understanding Interfaces" (2001), mapped a history of help systems to argue for reconnecting the how and the why of technical communication in instructional documents. I will take each piece in turn, providing a brief summary and then focusing on what is particularly salient to Gen AI.

Essay #1: "Control and the Cyborg: Writing and Being Written in Hypertext"

This theoretically oriented essay responded to the celebratory tenor in much of the initial work on computers in the writing classroom. As in many of his essays, Johndan drew on a wide range of interdisciplinary perspectives to help teachers make some sense of the complications of hypertext writing and reading, which, in the examples he used, instantiated postmodern theories of textuality and challenged status-quo thinking about the nature of contemporary texts. He employed the imaginary of the cyborg to argue that the distributed control afforded by certain types of hypertext can allow teachers to simultaneously foreground process and product or writing as both an activity and an artifact. For Johndan, the cyborg was an instructive imaginary because this "machine-organism entity is necessarily partial and contradictory" and because it invites us "to question some normally submerged aspects of the fundamentally technological nature of much of our lives" (p. 384).

I encourage you to (re)read the essay for more about how Johndan appropriated the cyborg figure as a heuristic, but the following advance organizer reflects his continued interest in the development of self-critical modes, addressing our own submerged biases:

This essay is not a call for technological 'progress' or, conversely, Luddism. This essay tries to remind us that we are neither moving forward to utopia nor backward to Eden; we are doing something else entirely—but, to a great degree, we are failing to think critically about what that something is and failing to consider our technological activities in a deeply social way. (p. 384)

Johndan understood that discourses about technology can be deeply polarized, missing the nuances of meaning and practice between binary oppositions. Such polarization was and sometimes still is a barrier to advancing knowledge in technical communication. Consider how the discourses of Gen AI often construct AI

as either a savior or destroyer of literate activity.

By control, Johndan meant who can do what, or who tends to do what, in literacy contexts. More specifically, he was interested in how technology conditions and shapes the practices of writers and readers. Much of the early scholarship on hypertext contrasted its qualities with those of print, and the really insightful essays did not pit one against the other but rather deployed this rhetorical move to build a bridge between overlapping media. But using the cyborg imaginary allowed Johndan to emphasize distinctions that animate issues of control. For print, he explained, one of the greatest preoccupations of an author is “controlling the passage of the reader through the text” (p. 385). Readers of this journal do not need me to elaborate on the nature of writerly intention structures or readerly practices for print: Technical communication research has attended to print rhetorics since at least the mid-twentieth century. I will simply note that historically control has been located in the author function, even if readers have always been able to defy the linearity of printed texts.

In hypertext, however, readers can become authors by writing their own versions of texts through navigational choices or by producing actual content (think editing Wikipedia pages) or metadata that contributes to meaning construction (think rating product reviews). The insight from Johndan was that control would come to involve more than just a reconfiguration of dynamics in a writer-reader dyad. As he put it, “In hypertext, the computer becomes an active participant in structuring and navigating the text. Although some of the computer’s control is a result of the original author’s manipulations, many controlling characteristics of hypertext are the result of software and hardware activity” (p. 386). Adumbrating the posthuman turn in the field, Johndan envisioned technology not as intelligent in the human sense, as AI evangelists would lead us to believe, but as an aspect of communication situations that has effects, that plays a role in how causation operates in technical communication. The activity of computers helps rearticulate control, distributing it, however unevenly and temporarily, across people, objects, processes, contexts, and more. In this view, the writer-reader dyad is succeeded by a multifactorial network, one that focuses to a large extent on power relationships.

Although Johndan did not offer a definition of power in this piece, for my purposes here, I will stipulate that power is what stabilizes or fixes meaning in particular situations, at least for a period of time. In the landscape of control, Gen AI can contribute to how power is exercised in a variety of ways, from producing output shaped by problematic bias in training data to storing prompts in open libraries for crowdsourcing work. But we will need to be judicious in how we think about the concept of distributed control. As Johndan warned decades ago, it “holds both empowerment and danger” (p. 383) for the field.

Essay #2: “Relocating the Value of Work: Technical Communication in a Post-Industrial Age”

This essay offered a new take on the relationship between technology and communication that still promises to strengthen and raise our stature as an applied discipline. Johndan was alert to barriers that limit the contributions of technical communication by positioning our work as a low-level facet of knowledge production. This piece, which won The Nell Ann Pickett Award for best article in *Technical Communication Quarterly* in 1996, began with a compelling problem statement that traces the emergent shift from an industrial to postindustrial economy in the United States; this shift began to appear more visibly with the rise of online information services for both consumers and professionals.

Generally speaking, the focus in an industrial economy is on manufacturing goods, such as machinery, computers, cars, and other tangible products. Manufacturing is still important to a post-industrial society, of course: Producing a tremendous supply of computer chips and energy sources will be essential to the development of AI server farms, for instance, and trucking tangible products literally helps drive the economy in all sorts of ways. But in a post-industrial society, information and communication also become primary products. In other words, in the twenty-first century, people are buying and selling technical communication because it has intrinsic value, a new reality that Johndan anticipated in his scholarship.

Using the symbolic-analytic framework from Reich as a heuristic for conceptualizing a more empowering model of technical communication, Johndan argued that we should remap the field for the new economy, shedding, or at least shrinking considerably, our identity as a service or support field that simply traffics in routine production work and in-person service work. These two types of work emphasize technology over communication and thus ultimately leave us on the outside looking in when it comes to knowledge production, organizational decision making, research, strategic management, and other higher-order roles and functions. In fact, Johndan admonished that "If technical communicators do not take action to change their current situation, they will find their work increasingly contingent, devalued, outsourced, and automated" (p. 262). This admonishment has become an imperative in a dawning age of AI-generated writing.

The more empowering model that Johndan offered foregrounds collaboration, experimentation, abstraction, and system thinking, four capacities that are easily discernible in prompt engineering, the practice of using instructional writing to elicit output from Gen AI chatbots. Johndan acknowledged that technical communicators already sometimes act as symbolic analysts, but as a field we have not advanced a coherent and robust enough approach to "inver[t] the relationship between technical product and knowledge product" (255), failing to reposition our expertise in communication as a key component of meaning-making processes in both design and use settings. By collaboration, Johndan meant the capacity to function in teams that work across complex disciplinary domains and to recognize how power dynamics in teams can diminish or enhance the status of technical communication. By experimentation, Johndan meant the capacity to conduct richly contextualized research that attends to the "broader and more complicated concerns" (p. 259) in problem-solving contexts, especially the social concerns that are almost always lurking in the background of functional tasks. By abstraction, Johndan meant the capacity to see "patterns, relationships, and hierarchies," that is, the bigger

rhetorical picture, “in large masses of information” (p. 260). And by system thinking, Johndan meant the capacity to understand where a wicked problem comes from in the first place and trace how it develops in a particular space and time to help change systemic conditions.

A wicked problem addressed by prompt engineering can come from nearly anywhere, but a commonplace example is that people often turn to AI because they believe it will help them improve work efficiencies, as in saving time or money. A technical communicator functioning as a symbolic analyst has the capacity to critically assess this seemingly singular belief in technology, which is rooted in the earliest industrial landscapes, including scientific management, in order to think systemically and act productively in the post-industrial present. As Johndan so aptly put it, “technology is easy to come by, but understanding and strategic use are both rare and valuable” (p. 257). Strategic use here might mean understanding that AI tends to both solve and create problems: Google retrained its Gemini robot to be more sensitive to diversity issues, but the robot then hallucinated racially diverse images of Nazi soldiers and the Founding Fathers. Although there are ways to improve work efficiencies, no silver bullet exists in complex situations. Any long-term solution will most certainly involve teams leveraging the epistemic dimensions of technical communication—prompting is principally a writing activity that has been appropriated by the discourse of engineering without much outcry from us—and testing the efficacy and limitations of prompt sequences, including sequences purchased from AI marketplaces, which people use to outsource and automate technical communication and to sell it as a primary product.

In addition, any long-term solution for improving work efficiencies will need to involve abstraction. AI actually works by abstraction, meaning that prompting output is based on pattern matching for a massive corpus of decontextualized texts. Although AI output can be useful in many different ways, this sort of abstraction separates texts from their action contexts and thus fails to attend to the particularities of technical communication situations. In contrast, what Johndan meant by abstraction is the ability to structure information appropriately for “specific types of users in certain contexts” (260). He anticipated perhaps the most critical step in the process of working with Gen AI: Adapting, transforming, and rewriting output for more relevant and targeted results.

Essay #3: “Little Machines: Understanding Users Understanding Interfaces”

This essay used the example of online help systems to challenge the commonsense view that technical communication should be a minimalist type of communication modeled after a “politics of amnesia” (p. 120). Although Johndan acknowledged the need to bracket or strategically forget information in a world of information overload, a minimalist approach with a narrow focus on instrumentality and brevity, while useful in the short run, ultimately disempowers users by separating the why from the how in work-related tasks. “Instead,” Johndan argued, “we must help users understand communication, production, thinking, and living as an often messy, complicated, open-ended activity, one that often requires attention

to not merely the simplest functional activities but also the larger frameworks and contexts of that work” (p. 126). Always a teacher, Johndan encouraged us to extend our pedagogical objectives and practices to non-academic settings and to think of users of technical communication as our students. Although decades old, this is a capacious vision for the future of the field.

The type of minimalism Johndan critiqued is based on the principle of transparent design, on the idea that good design melts into the background so that the primary task can occupy the center stage of the work platform. The development of online environments helped to defend and advance this principle, as Johndan explained: “In print, the medium was the message, but that was always the problem with print—it got in the way. Online, we can make the medium disappear and leave the pure message (or so the argument goes)” (p. 121). What Johndan grasped early on is that there is a tradeoff between short-term problem solving and long-term solutions. In the short run, users of minimalist technical communication can get quick answers to questions that create impasses and thus slow or stall progress. If users of a word-processing program do not know how to create columns or hanging indents, for instance, they can call up the online help system for procedural instructions. Such instructions are indispensable because they allow users to stay focused on the task at hand, but they support training, not learning, which is essential to long-term solutions.

To illustrate the distinction, Johndan worked through an extended example involving a software wizard in Microsoft Word that at the time helped users create memos, resumes, legal pleadings, and other technical-communication documents. After initiating the wizard, users confronted a series of basic questions and templates; based on their answers, the wizard walked them through the process of creating the document. Although this feature now exists as an annotated document template (versus automated software sequence), it would be easy enough to recreate the wizard with Gen AI. The problem for Johndan was not so much the basic questions, which could serve invention purposes with the right framing, or even the templates, which reflect typical genre elements in technical communication, but that the wizard represented the writing process as a simple checklist of static considerations: Pick your genre, design, and style, and voila! You have a document! But is the document effective? The obvious answer is no, at least not fully, because document elements like genre, design, and style must invariably be tuned to audiences, purposes, and contexts, not applied in a blanket fashion to any and all situations. According to Johndan, the wizard worked because it “disguise[d] itself as a neutral tool rather than an incomplete environment, never suggesting that the user might want to think about the operation or learn background theories” (p. 126). Unmasking this supposed neutrality is still a crucial initiative for the field, not to create some sort of academic gotcha moment, as it were, but to ask what else we need to do to complete the environments in which we leverage information technology.

If wizards attempted to automate the development of key document elements, Gen AI goes an order of magnitude further by automating writing itself. And that writing, in the eyes of many people, is good or good enough for a variety of uses, including technical communication. The challenge we face is developing a pedagogy

for prompt writing that emphasizes learning, as Johndan advised. For the most part, what we have been seeing so far is a training approach to prompting that aims to help users elicit better and better output: The approach concentrates on how to craft effective prompts and on how to reprompt robots until the content is acceptable. If we can become skilled enough at prompting robots, so the logic goes, we can outsource writing to Gen AI. Writing is reduced to a form of human-computer interaction based on statistical probability.

In contrast, a first principle of a pedagogy of learning is that people need to know more about technical communication, not less, to employ Gen AI productively. It addresses the limitations of AI, seeing AI as an incomplete environment for writing and communication, and it involves the capacities of humans in production activities, including decision making around the rich array of rhetorical dimensions of texts and their contexts. A pedagogy of learning reconnects the how and the why of technical communication, combining functional instruction with conceptual instruction, as Johndan imagined it, empowering people—technical communicators and users—rather than marginalizing them. A simple example is asking students to use rhetorical heuristics to guide the evaluation of AI output. How well does the output accommodate the audiences, purposes, and contexts for the document? Reflect what we know from research about effective technical communication? Employ strategic as well as conventional approaches? Attend to ethical and legal considerations? These are just a few of the questions that foreground the complexity of our expertise, and of writing, in the seemingly unfinished project of demonstrating the relevance of the field to the world.

A Brief Conclusion

I cannot claim to be objective when it comes to Johndan and his work, but Johndan also reminded us that objectivity is a relative rather than absolute concept. There are many valid ways to measure an intellectual legacy, and one reasonable method, surely, is to judge the extent to which, and how well, the work remains relevant to this day. This tribute did not write itself, but I only really struggled with personal feelings. Applying the essays reviewed here to Gen AI came quite naturally and easily. It was as if the essays had been written for our current moment.

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In Memory of Dr. Halcyon Lawrence

Rebecca E. Burnett

Andy Frazee

Georgia Institute of Technology *Georgia Institute of Technology*

As many across technical and professional communication know, on October 29, 2023 we lost Dr. Halcyon Lawrence, a wonderful and consequential colleague, teacher, and scholar. The sense of loss—to the discipline and to our personal lives—was immediate and long-lasting, leading to many remembrances, including tributes in *Communication Design Quarterly* and *Technical Communication and Social Justice*, as well as the establishment of an annual scholarship from ATTW in her memory.

The two of us had nearly a decade to experience Halcyon as a colleague—since 2015 when we interviewed her for a position as a Marion L. Brittain Postdoctoral Fellow in the Writing and Communication Program at Georgia Institute of Technology. We hired her, and she stayed with us until she completed her postdoc work and was hired at Towson University. We stayed in touch after she left Georgia Tech; we eventually co-authored an article published in the Fall 2022 issue of *Programmatic Perspectives*. The article, “Sustainable Collaboration: A Co-taught, Client-based Course Sequence Integrating Computer Science and Technical Communication,” captures the highlights of a multi-year project in which Halcyon played a central role—as a course developer, project leader, and teacher.

On her LinkedIn page, Halcyon described her professional self this way:

I am a technical communicator with expertise in usability research, instructional design, and training and development. As a consultant, I have worked on usability research projects with CITI, bSwift and NNMA. As an academic, I conduct research into linguistic issues in the design of speech technology, social networks and language variation, speech intelligibility and computer-mediated communication, and emotional speech research.

To limit Halcyon to this brief description, of course, threatens to hide what made her so special and to limit the impact she had on so many lives. Indeed, the problem with categories is that they have boundaries; one of the things that characterized Halcyon was that for her, boundaries overlapped, merged, melded. For her, boundaries were flexible, malleable.

From our points of view, Halcyon’s breaking down of boundaries in the classroom, in her research, and in her community engagement was precisely what made

her special in the context of a university writing and communication program. Ultimately, not only did she participate in that program, but she helped make it better through her leadership, mentoring, and relationship-building. Empathy infused every interaction—her awareness of her own connections, commitments, and responsibilities led naturally to her awareness of the connections, commitments, and responsibilities of those around her. She was aware, in a way that is all too rare, that the connections of others were as important to them as her connections were to her. She always asked after Andy's daughter and Rebecca's husband while speaking of "home"—her native Trinidad and Tobago—as if it were just across the hall.

Halcyon brought this sense of connection and responsibility into the classroom by lowering the boundaries between the classroom and the community outside the academy. She believed teaching was "broadly premised on the social constructivist notion that the classroom environment can and should be modeled on real-world environments that allow students to encounter realistic workplace issues and challenges." She was successful in implementing her philosophy. When Andy observed her teaching many years ago in the large (50 students in 10 teams) tech comm class co-taught with computer science, he noted the ways Halcyon made expert knowledge real to her students.

After reviewing a usability script, she asked for student volunteers to practice and model the usability process, and then responded to questions. In short, Dr. Lawrence handled the pedagogical situation—a class much larger than writing-class norms—with a well-structured lesson that expertly engaged and spoke to all of those students.

Indeed, every semester in their end-of-course evaluations, students gave Halcyon high marks for the clarity of her explanations, her ability to communicate ways to succeed, her respect for students, her enthusiasm, her ability to stimulate interest, her availability, the helpfulness of her feedback, and her overall effectiveness.

Halcyon's relationship- and community-building extended to her scholarship—both in the *how* (often through collaborative work) and in the *why* (to speak to the ways technologies may ignore the needs of its users). In a self-assessment for one of her annual reviews, Halcyon wrote that "Collaboration is the cornerstone of my scholarship....I am working with colleagues in the digital humanities, law, and computer science in the problem space of end user license agreements." Hal implemented her philosophy in individual and coauthored work, often focusing on usability studies, especially emphasizing equity on behalf of those who are marginalized. She was successful in her research and scholarship, publishing in a range of peer-reviewed journals (*Computers & Composition*, 2019; *Communication Design Quarterly*, 2018; *Programmatic Perspectives*, 2022; *Scholarship and Practice of Undergraduate Research*, 2000; and *Technical Communication and Social Justice*, 2024) and edited collections (Cambridge University Press, 2013; MIT Press, 2021; Utah State University Press, 2019; and WAC Clearinghouse, 2021).

To build community in the ways Halcyon did—as she did at every moment of her life—is extraordinary. We are grief-stricken by Halcyon's death, but simultaneously,

In Memoriam: Halcyon Lawrence

we are joyful because of her friendship, her spirit, her contributions to our professional and personal lives—and because of the real marks of her life we see in our program and in the relationships built there and sustained long after. As program leaders, scholars, faculty—as humans—we all can take Halcyon’s commitment to community as a model: to be open and caring, joyous and curious, empathetic and committed not only to ourselves but to those around us. To be truly invested in each other.

Author Information

Rebecca E. Burnett (PhD, Carnegie Mellon) recently retired as Director of Writing and Communication at Georgia Tech where she held an Endowed Professorship in the School of Literature, Media, and Communication and is now Professor Emerita. Her continuing research includes arts and humanities, collaboration, leadership, multimodality, risk, technical communication, and visual rhetoric.

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TPC Program Administration in Small US Institutions: Recruitment and Assessment

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Abstract: In the current educational environment, technical and professional communication (TPC) directors are always looking for new and innovative ways to sustain their programs, particularly through recruitment and assessment efforts. This article takes these sustainability concerns to the understudied field of TPC programs in small US institutions which make up a little over a third of all TPC programs in the US. To do this work, I interviewed TPC program directors at twenty-six small US institutions to inquire about how they recruit and assess their TPC programs. This article provides summary narratives from these directors, discusses the implications of those narratives, and then offers reflective questions that TPC program directors at any size institution can use to think about their own recruitment and assessment practices.

Keywords: sustainability, TPC administration, small US institutions, recruitment, assessment

The field of technical and professional communication (TPC) is asking important questions about its own sustainability. With many institutions closing their doors and university administrators bemoaning the decline in undergraduate numbers, questions about how to sustain the TPC discipline and its future in higher education are questions that TPC directors are forced to think about in today's educational climate. Two important facets of sustainability that are on the forefront of many TPC directors minds concern recruitment and assessment: How do we get students into our programs? How do we evaluate those programs?

In order to answer these questions, I turn to an understudied avenue of TPC programmatic scholarship: small institutions.¹ Small institutions with less than six thousand undergraduate students constitute about 37% of all TPC programs in the US. This percentage is derived from Lisa Melonçon's *TechComm Programmatic*

¹ While explained later in the article, the definition of small institution is an institution with an undergraduate population of six thousand or less, and the definition of a program is something that can appear on a student's transcript (major, emphasis, track, minor, microcredential, etc.).

Central database which houses 324 programs – with 121 programs of those programs located in small institutions (Melonçon, 2022). These numbers mean that small institutions house over a third of the field’s programs, yet studies have provided barely a handful of small school’s reflective narratives and case studies (Yonker & Zerbe, 2010; Kungl & Hathaway, 2010; Pitts, 2010; Henning & Bemer, 2021); and as of yet, there is no scholarship on a collective understanding of the types and situations of these 121 programs. Such numbers indicate that small institutions have a place in the TPC discipline, suggesting that scholars might next work to name that place in a comprehensive way.

This article takes the questions about recruitment and assessment to the space of small institutions in the United States (US) by asking the following research question: How do small US institutions sustain their TPC programs through recruitment and assessment? Scholars have been discussing lean means of creating and sustaining TPC programs through discourse about visibility, standardization, flexibility, globalization, administration, stewardship, social responsibility, innovation, etc. (Johnson et al., 2017), and I believe that small institutions provide examples of TPC directors sustaining their programs in lean ways that can benefit the TPC field at large, not just small institutions. The more the TPC field is exposed to how a variety of TPC directors recruit and assess their programs, the more the TPC field can learn how to sustain itself.

While I believe this topic has great significance to the TPC field, it also has personal significance to me. When I first approached this study, I was writing my dissertation for an R1 institution while working full time for a small rural institution. In my institution of employment, there is no TPC program, so I honestly approached this study with one personal question: can a small institution have a TPC program? I genuinely wanted to know if it was even feasible to start and sustain a TPC program in a small institution. This personal question is far too big for a single article to answer because a TPC program takes more than just good recruitment and assessment practices, but I wanted to share my unique positionality and personal connection behind the rationale and personal purpose of this study.

So, in order to answer my research question about recruitment and assessment, this article is structured in the following way. I first provide a brief literature review of a few notable pieces of scholarship about recruitment and assessment practices in TPC, and then I outline my method for collecting twenty-six one-hour interviews with TPC program directors in twenty-six different small US institutions. Next, I provide narrative summaries about how those twenty-six TPC program directors recruit and sustain their programs. Lastly, I discuss the major findings of the article and provide reflective questions for TPC programs directors to think about in their own local contexts.

Literature Review

This article is not the first to conduct research regarding TPC programs in the United States (US). In 2005, Sandi Harner and Anne Rich mapped curricular trends

in TPC undergraduate curriculum from 80 bachelor degrees at the time; in 2010, Dave Yeats and Isabelle Thompson collected data from 147 institutions where 62 of them offered bachelor degrees, undergraduate certificates, and/or a minor in TPC; and in 2013, Lisa Melonçon and Sally Henschel conducted a follow-up study from the 2005 study that found 185 undergraduate programs in the US, representing a 131% increase. These scholars collected data on the total landscape of TPC programs, so this article will not be re-collecting data on all TPC programs; rather, this article only examines small four-year US institutions with undergraduate populations of six thousand or less with a particular focus on how these schools recruit and assess their programs. With this focus, I am not looking at all TPC programs; rather, I am exclusively examining small institutions' TPC programs to fill a gap in scholarship on these institutions' identities. Since scholars have not collected comprehensive programmatic data from small institutions, this brief literature examines the different voices relevant to the conversation concerning recruitment and assessment.

Recruitment

It is no surprise that the field of TPC has been discussing recruitment for a while. In fact, as early as 1975, faculty have been presenting information about recruitment strategies at the CPTSC (Andrews, 1975). In 1975, Clarence Andrews from Michigan Tech presented about how he replaced the technical writing major with a new Scientific and Technological Communication major with 45-credits in communication classes and 45 credits in science and technology classes. The major challenge of this new program was recruitment because most people do not know about the concept of technical communication, so he sent newsletters to local science teachers in the high schools to bolster TPC students.

Thankfully, we also have more recent discourse about TPC recruitment strategies from scholars such as Aimee Roundtree (2016). In her CPTSC white paper report, Roundtree summarizes the current scholarship on recruitment into five categories: Prevalence and Efficacy of Recruitment Practices, Research Studies of Strategies, Student Perceptions of Recruitment Success, Recruiting Dynamics and Problems, and Tactics for Encouraging Diversity in Recruiting (p. 2). From these categories, she composes a list of recommendation for TPC programs which include the need for personal connection (FTF, emails, calls, campus visits,), an optimized website presence, financial assistance specific to TPC program, lauding the profiles of TPC faculty, a robust recruitment plan, and diversity-specific programs, mentorships, and support (p. 5). Roundtree's last recommendation reiterates Christopher Dayley's (2020) later article on students' perceptions concerning diversity where he found that students who identify as a person of color care deeply about their TPC program supporting diversity efforts.

Assessment

Compared to recruitment, the field of TPC has a lot more to say about assessment. A possible reason that assessment is such a large conversation within TPC scholarship is because it covers such a vast array of topics. For example, in their edited collection titled *Assessment in Technical and Professional Communication*, editors Margaret Hundleby and Jo Allen (2010) demonstrate this vastness with

chapters on assessing institutional values, faculty, program directors, cultural change, oneself, undergraduate students, graduate students, Engineering and professional programs, technologies, physical sites, virtual spaces, classrooms, workspaces, etc. Any one of these topics could warrant its own book.

To narrow down the topic of assessment to a programmatic lens, scholars have focused on what competencies should be in TPC programs, and many scholars have addressed these exigencies including Kelli Cook (2002) and Geoffrey Clegg et al. (2021). Back when the TPC field was relatively younger, Kelli Cook (2002) proposed a theoretical framework of six literacies that should be addressed in TPC programs and curricula: basic, rhetorical, social, technological, ethical, and critical. She defined basic literacy as being able to write well and clearly, rhetorical literacy as being able to identify audience and purpose, social literacy as being able to collaborate with other stakeholders, technological literacy as being able to critique and use different technologies, ethical literacy as being able to uphold ethical standards, and critical literacy as being able to recognize and critique ideologies and power structures (Cook, 2002). Almost twenty years after Cook (2002), Clegg et al. (2021) published an article on their analysis of 376 program student learning outcomes in 47 institutions that had undergraduate degree programs in TPC (p. 21). Through qualitative coding, they found that the top four outcomes of TPC programs are rhetoric, writing, technology, and design. Compared with Cook, three out of four of these outcomes are three of Cook's literacies: basic, rhetorical, and technology. Cook's literacies also overlap with Clegg et al.'s ethics, collaboration, critical thinking, and culture categories showing how Cook's theoretical framework is still applicable to today's TPC undergraduate outcomes. In short, these outcomes proposed by Cook and Clegg et al. show how the TPC field can have consensus on what it proposes to be teaching—as aspect important to identify for assessment.

But it is not enough to name what needs to be assessed, it is important to actually continue to assess. In their article, Joanna Schreiber and Lisa Melonçon (2019) argue that TPC programs need to implement a continuous improvement model to ensure that their programs are working towards sustainability. They particularly argue for the GRAM approach to assessment that includes gathering data from the program, reading multiple perspectives about programs, analyzing the gathered data, and making the adjustments needed to the program (p. 262-263). This method of assessment pushes back against a program's stagnation and enables programs to have a clear vision.

One small institution who seems to be using Schreiber and Melonçon's continuous improvement model is Michigan Technological University (MTU), a small institution who revised their program based upon gathering program data and reading current scholarship. In their *Programmatic Perspectives'* showcase article, Ann Brady et al. (2012) explained the history of assessment over the fifteen years of MTU's TPC major by informing the reader about three separate approaches that were implemented over the years: system-centered, user-centered, and participatory approaches. System-centered assessment mainly relied on the end product but lacked assessment on rhetorical and user awareness. Practically, this looked like students turning in various workplace genres in their final portfolios

that had undefined audiences and missing user testing. In 2004, MTU changed its assessment metrics to be user-centered, requiring students to take more classes in user design. But this approach ended up failing because it was only assessed by one faculty member which felt like busywork to many of the senior TPC majors who saw no connections between it and the careers that they were about to start. Finally, in 2007, MTU built on the ideas of user-centered assessment to create a participatory assessment that incorporated multiple stakeholder voices to assess portfolios. When portfolios were turned in to the department, TPC graduates, advisory board members, STC committee members, faculty, and the program director all gave comments on these portfolios—making these meaningful learning experiences for the students. This assessment also created a bridge between the academic and industry divide by including industry stakeholders to be a part of assessment. Participatory assessment also includes the inclusion of student voices; for example, MTU sends out an exit survey for all graduating seniors to understand what they experienced while in the program and how they thought the program could be improved. Many of them wanted more interactions with industry leaders so MTU implemented a senior oral presentation component that was presented in front of MTU’s advisory board which was exclusively made up of community leaders—connecting students to their community. MTU’s program showcase proves how small institutions can still have robust assessment practices that evolve over time in response to scholarship and internal reflection—working with a continuous improvement model that moves the program towards sustainability.

Both the sections about recruitment and assessment indicate that the TPC discipline cares deeply about its recruitment and assessment practices, proving how these topics are critical for a program’s vitality. While my study only examines recruitment and assessment practices in small institutions, questions and practices around these two topics will always be a relevant conversation.

Methods

To add to the scholarship on recruitment and assessment, this article examines small four-year US institutions with undergraduate populations of six thousand or less where sometimes TPC programs exist but sometimes do not. With this focus, I am not looking at all TPC programs; rather, I am exclusively examining small institutions’ TPC programs to fill a gap in scholarship on these institutions’ identities.

For this project, Melonçon’s TPC database was used to determine which TPC programs were in small institutions for a total of 121 small institutions. For the purposes of this study, I define “small” as six thousand or less undergraduate students, and I define “program” as encompassing majors, minors, concentrations, emphases, tracks, and/or specializations – something that can appear on a person’s transcript (Harner & Rich, 2005; Melonçon, 2014). Therefore, if a small college has an undergraduate minor and not an undergraduate major, my study considers this college to still have a program. The figure below shows the distribution of programs interviewed (information found on the institution’s website):

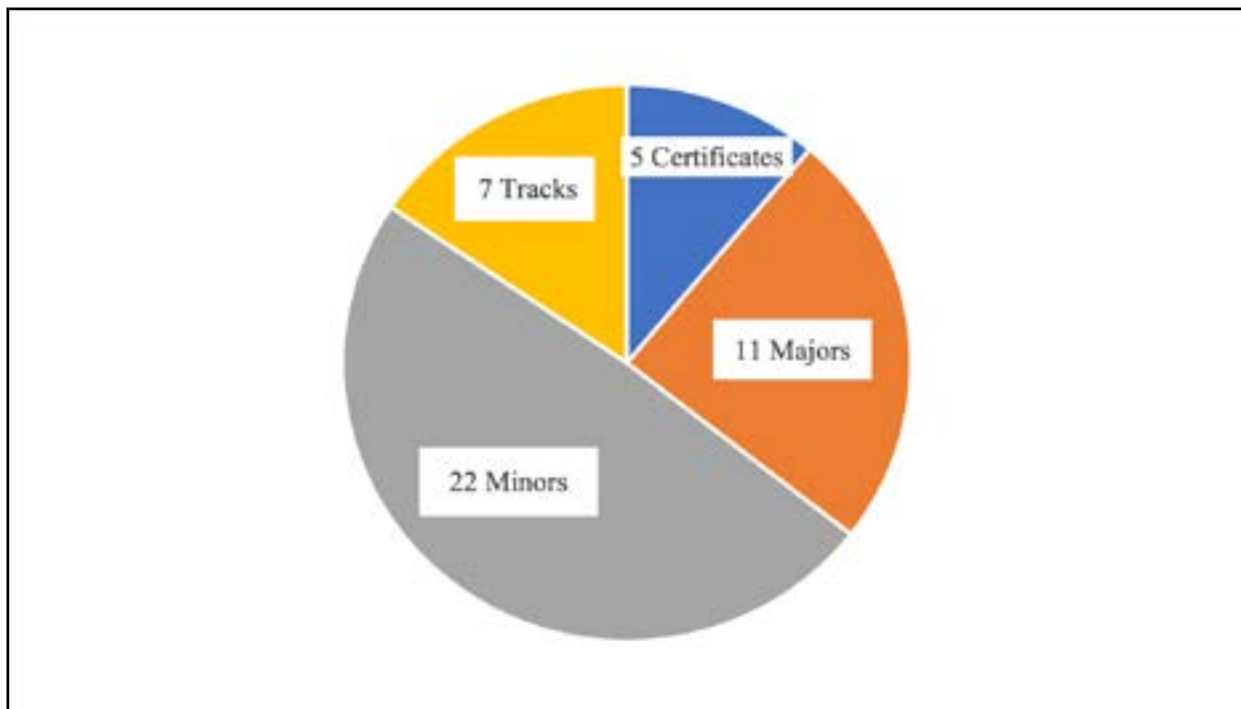


Figure 1: Distribution of Programs by Type

After determining the institutions that fit my study parameters, I individually emailed all 121 institutions to request an interview with their TPC program director. Out of 121 institutions, 26 of them consented to an interview with me—so, I was able to interview roughly 21% of the population I am studying. Before their Zoom interview, I sent participants access to my list of questions as well as my IRB.² It is important to note that my original study is much larger than the results presented in this article. My original study included questions about the program’s history, major stakeholders, challenges, successes, student population, curriculum, institutional visibility, funding, community partners, advisory boards, administration support, faculty credentials, cross-listing of courses, relationship to general education curriculum, assessment, future vision, recruitment practices, faculty development, software, technological support, etc. I could not effectively present all of these results in a single article; therefore, this article only presents the findings from two of my original study’s questions: How do you recruit students to your program? How do you assess your program? This data was collected in the fall semester of 2022 from August to October, and participants’ agreement to participate in the interview was the study’s consent form.³

After collection of all twenty-six interviews, I implemented John Creswell and David Creswell’s five steps to the data analysis process: “(1) organize and prepare the data for analysis, [...] read or look at all the data, [...] start coding all of the data, [...] generate a description and themes, [...] and represent the description and

² An IRB application to Old Dominion University was submitted on July 6, 2022 and received approval on August 15, 2022.

³ Additionally, I asked interviewees for their pronouns and a pseudonym during the interview, so this article uses the pronouns and pseudonyms chosen by the interviewees.

themes" (p. 193-195). To enact these steps, I first downloaded the transcripts automatically generated by Zoom and then listened to all recordings again to check that the transcripts were accurate, making changes if necessary and making the document more readable by deleting unnecessary spacing. Next, I read over all the transcripts to get an overall impression of the tone, ideas, and meaning of the data. While listening and reading through these transcripts, I kept an interview journal where I jotted down my impressions of the participants' answers and some general thoughts about their answers.

After reading through the transcripts to get a general impression of its content, I started coding the data by uploading my transcripts to MAXQDA, a coding software used by many writing researchers (Geisler & Swarts, 2019). To code, I used a word or phrase to capture an aspect of the data, ideally a word or phrase from the actual language of the participants (Creswell & Creswell, 2018, p. 194). Both prefigured codes and emergent codes were used depending on the data, where prefigured codes are the interview questions and emergent codes are developed through the coding process. For example, my prefigured codes were "recruitment" and "assessment" and some of my emergent codes were "flyers," "website," "LMS," "Admissions Department," etc. The next section summarizes my findings from my two prefigured codes with my emergent codes called out throughout the narratives.

Recruitment Findings

This section of the article examines different methods of recruitment strategies used by my participants which include providing recruitment materials to the Admissions Department, local high schools, and community colleges; speaking about the TPC program in general education courses and TPC service courses; targeting undeclared/undecided majors; revising the institution's website to include robust content and videos; delivering recruitment materials to key campus stakeholders like non-English departments, Career Services, Academic Advisors, and the Registrar's Office; and using simpler methods like word-of-mouth as well as physical and digital flyers.

To sustain a program, institutions need students to be in that program. It seems like a simple concept, but many small TPC programs struggle to get students into their programs. Several of my participants felt that their recruitment efforts were largely a waste of time and were a massive time suck to their teaching responsibilities. Two participants did not realize that recruitment was going to be part of their job responsibilities until starting work at their institution (Izzy, Amy). And while a few participants found successful ways of recruiting, the majority were frustrated with themselves and their institution in regard to supporting the TPC program. After finishing three of my interviews, I even had three participants (Doug, Theodore, Ron) specifically inquire about my initial findings on recruitment in other small TPC programs; and when asked what the biggest challenge for her TPC program is, Elizabeth responded, "Probably recruitment, and having the time to do it. So it's hard when you make the program, make the course, flyers, reach out to faculty. Hard to know sometimes how to communicate and how best to get the word out to recruit people from other majors." Elizabeth's musings summarize

many of my participant's frustrations.

One type of recruitment frustration that participants discussed was through the Admissions Department. It might be assumed that the Admissions Department at the institution is in charge of recruitment—their full-time job is to get students on campus and into majors. Out of my twenty-six institutions, eleven of them mentioned the Admissions Department in some way throughout the course of the interview. Elizabeth wished her Admissions Department actually recruited for her program, and Wendy wished her Admissions Department was not so picky about only using admissions-approved presentations. Amy and Jane both felt that all of the focus goes to the health sciences and engineering that they are not even sure the Admissions Department knows about, let alone values, their program. While commenting on her own recruitment initiatives through her Admissions Department, Jane said,

So you know we try to recruit [...] we take part in open houses and we do things. It's getting students here that seems to be the problem. So you know I have great presentations about the practicality of the degree and the success of our alums because they're gainfully employed. They're happy. I have great materials to show to these students and their parents, but I don't have the students and the parents to show them to, because people aren't coming to the open houses. You know, and that's just a multi-faceted problem.

Jane attributes the failure of her recruitment efforts to a combination of state demographics and her Admissions Department's high turnover rate of staff.

But there were some success stories related to the Admissions Department. In Sarah's situation, they had admissions counselors reaching out to them to set up meetings to ask more questions about her TPC program; they found these meetings productive in helping admissions articulate her program. And in Diane's situation, she has a wonderful relationship with admissions and receives names, numbers, and emails to correspond with prospective students. Others also mentioned attending admissions events throughout the school year. Diane goes to two admission events every year, Amy attends three events per academic year, Manuel goes to an admissions recruiting event once a month on Fridays, and Ron does one Saturday a month. In Diane's institution, local high schools bring in buses of high school students, and Diane is able to conduct a forty-minute session with them to explain her program and demo some technical writing practices through fun activities with dominos and Lego. And in Bert's institution, they are able to have a presence at the robotic state competition for high school students which is hosted by her Engineering Department.

While the Admissions Department might be expected to take on the brunt of recruitment, there are also recruitment efforts that exist outside this sector of campus. For example, a few of my participants go to local high schools and community colleges to recruit students into the major, though their results are varied in success (Jane, Sarah, Sandra, Amy, Wendy). Through the National Writing Project, Sarah puts together each year an event at a local high school where they

were able to host a technical communication session where the students played with Lego. Sandra regularly sends flyers to the high schools about her TPC program, and Wendy's institution is going through a recruitment initiative where all faculty reach out to local high school teachers and recruit for the major. Similarly, Amy also reaches out to high schools by sending them what she calls "a major in a box" that includes swag from the institution and information about the professional writing program. She sends the boxes to the high school counselors that she has the best repour with and then goes to the high schools that show the most interest in her program. Jake has reached out to several local high schools to come and be the "Professor Guy" who talks about creative and professional writing; but so far, no teacher has taken him up on his offer. In regard to community college outreach, Wendy has found it to be more productive to talk to the newspaper staff at her local community college rather than attend classes.

Getting students to come in as TPC majors their freshman year is only one form of recruitment. Many programs have had successful initiatives recruiting students into the program who came into the institution as a different major—specifically through speaking in different general education courses about the TPC program. For example, Sandra has a lot of success recruiting out of her institution's Introduction to Business and Professional Writing course that is required by several majors across campus; additionally, Sandra and her colleague have attended various courses to give a presentation on their program, but she is not sure how effective those presentations are since she believes only a few people found the program that way. Sean teaches an Introduction to Technical Communication class where he gives his students a survey of the different types of TPC in the workplace, and he tries to get the students who are most interested in the class to take on the minor. But he also realizes that "if you're a good teacher sometimes you'll get students who just like you and want to take more classes with you"—something that can be accomplished in a small school where professors teach sometimes exclusively undergraduate classes. Diane also recruits through attending courses; but instead of her presenting in different courses, she has her TPC students in the major present a pitch about the TPC program in different first-year English classes in hopes of recruiting more students to her major.

Other participants of my study decided to target exclusively undeclared/undecided majors (Theodore, Hannah, Amy, Izzy). Theodore has academic major events in his institution's gym where freshmen and students who have decided to attend the institution participate in a majors fair where they can talk to different professors about their program. And Amy gets a list of all undeclared/undecided majors who have been accepted to the institution so that she can individually email them about her program. Hannah goes a step further than Amy by getting the list of all undeclared majors (ideally with strong English placement scores) on campus as well as their dorm addresses and then individually writes them letters addressed to their mailboxes on campus. She commented, "they [students] love snail mail in the dorm. So busy getting texts and getting email. And I'm like, let's just see how this goes, so I did a handwritten note to each one personalized." As the chair of the English Department, Hannah also helps students who come in as English majors but have not picked their emphasis within the program.

While some of the professors I interviewed focused on talking and reaching out to students individually, other professors decided to recruit more indirectly by putting more time and effort into their institution's website that provided information about the program and into different social media platforms that also promoted the program (Melissa, Wendy, Amy, Hannah, Izzy, Manuel, Jane). After asking and being denied a recruiting budget for three years in a row, Amy was finally able to get a \$9700 grant from her institution to employ her TPC students to rewrite their TPC website to include videos. She finds that she is able to get more financial support through her institution if she can frame the request as student learning. Melissa was also about to create videos for her TPC program only to be told by administration that they would have rather her start an undergraduate journal than work on recruitment for the major. Jane posted videos of interviews she conducted with the successful alums of her program and posted them to her TPC program's website page at her institution. When Manuel arrived at his institution, there were only two sentences on the institution's website about his TPC major, and one of those sentences was just about how many credits were in the major. Manuel blames the lack of information on the website as the cause behind having no incoming freshman who wanted to major in TPC. Over the last ten years of Manuel's employment, he has gradually added something to the website every year and now he consistently has incoming freshman every year who declare the major from the start of their academic career. Lastly, Wendy has made several videos in conjunction with the Admissions Department for them to show at different admissions events. Both Izzy and Manuel mentioned social media as part of the recruitment efforts but did not go into detail about how they used it.

Besides indirectly recruiting through the internet, some participants found additional indirect recruiting methods through other academic departments, career services, and the registrar's office. To get more people in her minor, Sarah regularly attends departmental meetings other than their own to promote their minor and answer any questions they may have about their program. Sarah claims the biggest obstacle of their minor is that faculty just do not know about it. Likewise, other departments at Tracy's school advocate for the applicability of her program which brings students to her minor. Krista found a lot of success by sending her career services department flyers about her program; they promoted the program to the students they worked with because they see her program as a strong line to put on one's resume. Sadly, Doug has not found as much success with his institution's registrar's office who continually forgets that he has a program.

Though this point is not surprising, it is worth mentioning that a few people talked about recruiting students into their program through switching tracks in the English major (Jean, Ron, John). Jean specifically targets English Education majors that realize that they do not like teaching but still love the English field. And even if they do not want to switch tracks, Jean's friend who is the advisor for the education major still tries to convince them to take a TPC minor. Similarly, Ron addresses English majors' concerns when they are interested in English but do not want to become teachers; he has a pitch to all English majors about what they can do with their English majors that is not teaching related.

Other recruitment topics that participants discussed during the interview was word-

of-mouth and public readings. Five participants (Bert, Mary, Rose, Stacy, Tracy) mentioned that many of their students find their program through word-of-mouth. Bert and Mary both discussed how they believe that most of their students find their department from current students talking to their peers about the program. Stacy would also agree with Bert and Mary's statement but would add that some students hear about the program through word-of-mouth from alumni of the program or even some high school teachers that think highly of Stacy's program. In a very different approach to recruitment, Theodore has found a lot of success getting the word out about his program through public readings of creative writing. He says that many students find out about his program through students inviting their peers to this event, and then they become interested in the English majors on campus and the literary journal that the professional writing students edit.

Most participants just answered my question about current recruitment practices, but other participants wanted to spend more time during the interview reflecting on the challenges of recruitment specific to their contexts. Wendy spent quite a bit of time during her interview reflecting on how much the first-year writing program affects TPC recruitment. For example, when a program has TPC professors teaching in the FYC program, they are more likely to talk about their major and the benefits of the TPC career. Unfortunately, at Wendy's institution, most FYC courses are now taught by adjuncts who do not have as much investment in the program or institution, so she correlates this change with declining numbers in her program. Wendy also laments how common it is now to come into college with AP and dual enrollment classes that bypass any chance of interacting with TPC professors in FYC, losing the opportunity to engage with the best writers at the institution. Besides Wendy, Sarah discussed the challenges of having the TPC program buried within the English Department where seemingly no one can find it, and William addressed the challenges of a 17-year-old audience who gets their understanding of the world through their parents, siblings, movies, TV, and the internet—where a professional writing degree does not exist in the cultural imagination.

One of the surprising emergent codes from my data was flyers. Out of the 26 institutions that I interviewed, 10 of them brought up the use of flyers in their recruitment strategies (Elizabeth, Hannah, Jean, John, Krista, Ron, Rose, Sandra, Sean, Amy). While many of the participants did not give extensive details about their use of flyers, it is interesting that these small schools saw the use of flyers for the advertisement of their programs and classes to be a successful way of reaching future and current students. These flyers consisted of physical flyers that professors stapled to buildings around campus, digital flyers that professors sent out to current students through the weekly student email blast about things happening around campus, and admissions flyers that professors handed out during admissions events that included statistics like job placement percentages. Krista even made the point to make sure that all advisors on campus had a flyer so that they would be aware of her program while advising for different majors.

In conclusion, this section has demonstrated the ways that TPC programs in small undergraduate universities sustain their program through recruitment efforts, revealing the ways that many program directors still struggle to get students into their program because they are not sure how they should recruit students and if

their recruitment efforts are even working—a similar sentiment of any institution. As these narratives reveal, it is hard to assess which recruitment efforts are working and which ones are not. Based on this small sample size, it seems that creating flyers and updating the university's website for TPC is the best way of recruiting students into the program according to a labor-to-results ratio, and going into high schools for recruitment seems like the least effective method of recruitment according to a labor-to-results ratio. Given the continual decline in people going to college and/or people in the 18-25 age range, the problems of recruitment are not going away regardless of institutional size. I hope that all size institutions can read this section and reflect on the affordances of their Admissions Departments, administrative attitudes, English Departments, TPC classes, TPC faculty, etc. to see what would optimize the best recruitment strategies for their program's situation.

Assessment Findings

This section of the article summarizes assessment practices in the small institutions that I interviewed, revealing how all of the program directors are in some way grappling with the why and how of assessment. I first delve into a discussion of the problems and challenges of assessment experienced in the small institutions of my study, including coursework, programmatic, and administrative frustrations; and then I present the success stories of some program directors that have found a lot of meaning and purpose in assessment practices for their TPC program.

Problems and Challenges

“What do we want these students to graduate with? And how do we know that they're getting them?” (Rose). “Don't you want to know that your students are actually able to do the things that you promise they can do?” (Stacy). These quotes from two of my interviews uncover some of the ways that program directors are thinking about assessment. Assessment is a complex, rhetorical situation with an array of audiences with potentially opposing objectives. In an ideal world, there would be no disagreements between accrediting bodies, administration, departments, professors, and students, yet this is not the academic reality that most professors work in. My study shows that program directors generally grapple with two main questions about assessment: (1) Why should we assess? and (2) What should we assess? The first question is complex because it reveals the motivations behind assessment. If the motivation to assess is only to receive accreditation status, a program's assessment might only assess the program's major because some accrediting bodies do not care about assessing minors and certificates (“SACSCOC: Substantive Change Policy and Procedures,” 2019, p. 41). If the motivation to assess is to argue to the administration that the program should exist, a program's assessment might focus more on quantitative data from student, alumni, and employer surveys rather than instructor graded portfolios (Rose). And if the motivation to assess is to track student progress in meeting Student Learning Outcomes (SLO) over the course of their college, then a program's assessment might focus more on capstone classes and portfolios (Izzy, Krista, Rose, Sarah, Doug). The second question, which is informed by the first question, is the question of what to exactly use to measure whatever it is the program is measuring, like surveys, students' work, instructors' grades, nationwide statistics, internships, job

placement, learning outcomes, etc. In short, assessment is contextually situated, evidenced by the fact that none of my participants have the same exact assessment procedures. But many had one aspect in common: their frustrations.

People had a lot of negative comments regarding assessment, calling it “not useful” (Sean), “redundant” (Melissa), “myriad of chaos” (Hannah), “going through the motions” (Ron, Adam), and “Oh god, that’s a mess” (Amy). The gambit of these negative comments included complaints about not enough assessment, too much assessment, not enough administration involvement, too much administrative involvement, too much qualitative assessment, not enough quantitative assessment, not enough program assessment, not enough course assessment, not enough instructor assessment, not enough time to do assessment, etc.

Some people of my study feel that they do not do enough meaningful assessment that benefits their program (Doug, Sean, Ron). During Doug’s interview, he said, “To be like frank, this is one of my least favorite aspects of our program. While we are certainly doing an appropriate amount of assessment for our accreditor and for everyone else, it’s difficult to get a beat on what students are learning.” Doug went on to discuss his desire for “a more robust assessment regime” that does not rely so much on informal conversations with his colleagues and more on quantitative data. He sees the real problem of his TPC major in that there is not one class that all TPC students take, which is wonderful for students’ flexible schedules but harder for assessment practices.

Likewise, Sean also feels frustrated with assessment and has taken steps to get out of assessment for his program because he argued to his administration that the program is too new with not enough students for actual assessment. He says,

Yeah, I have problems with assessment. Anyways, it always seems weird to me; I’ve yet to be convinced or see a real use. Not that I’ve been everywhere, you know, but what are we really assessing: the students, the lectures, the program? How does this work? How are changes made? I mean, certainly there’s readings out there to say this is the way you do assessment things like that. Yeah, in practice again. I’ve only taught it in a couple of places, but it’s very hard. It’s very hard to and properly in a useful way [and] I want to get it right.

With the newness of his program and small sample size, it is hard for Sean to see any meaning in putting labor into assessment. He believes that a program needs to have a regularity of classes to implement sustainable and useful assessment; and his program just does not have that component.

Ron also struggles with the meaning of doing assessment when he only has six students to assess. He said, “I feel bad saying it, but I kind of just go through the motions because I’m asked to. I’ll read the eight reflection papers and check a box here. Sure, but I’ll be honest about it, but it’s just such a small sample size.” Another factor that adds to the meaninglessness of his assessment is administrations’ ability to lose data. Supposedly, the university had all of the assessment data in cloud storage but somehow a third of the data went missing.

While Ron always keeps a backup on his computer, he finds it frustrating that the university who demands assessments also loses assessments.

Other participants are on the other side of the spectrum of assessment. While Doug, Sean, and Ron lack assessment, Hannah, Melissa, and Jake criticized their institution's over-assessment. For Hannah, she has two major assessments due every third and fifth year in which she collects data on the individual, course, and programmatic levels. Every year, Hannah collects data from courses, peer observations, student reviews, graduating senior survey, and conversations with her colleagues during department meetings as data for her assessment that is given to the Governance Committee for evaluation. Unfortunately, the pandemic postponed assessment deadlines so she now has three five-year assessments due for her current school year. Hannah calls this assessment procedure "cumbersome," "arduous," and "awful" that gives up a healthy work-life balance for "ultra-assessment." She comments, "There's a general consensus among the faculty that we're over-assessing ourselves, that we made it too hard and convoluted and difficult, that we should be simplifying our assessment process substantially." Yet even with her disdain for the current assessment procedures, Hannah still spends significant time and effort filling them out because she knows that it means the success or failure of the program—despite the reality that she spends more time assessing than actually making changes to the program.

Similar to Hannah, Melissa and Jake also find their institutions' assessment procedures a waste of time. Melissa talked about the redundancy of her assessment where she has to upload her assessment documents to multiple systems for her to get credit for doing the assessment. She attributes this "replication of energy" to her chancellor's lack of classroom knowledge: he has neither classroom experience nor an advanced degree. For Jake, he states, "I feel more assessed than anything else." Every year, he chooses new assessment tools in the fall semester to be implemented in the spring semester; then, at the end of five years, he compiles all of his data to indicate the health of the program. It is this assessment that indicated to Jake and the institution that the TPC program needed to be eliminated.

Others take a less hostile approach to institutional assessment and just approach assessment with a "just got to do it" philosophy (Wendy, Theodore). Wendy concludes that if she is forced to do assessment for accreditation purposes, then some of it should at least do something for her program. Theodore takes a similar approach with his institution's assessment tool of reflection. Every year, he has to reflect on the program's goals, accomplishment of those goals, and improvement of the program. Though most faculty do not like filling these assessments out including himself, Theodore greatly appreciates that the institution actually reads them but does not overly critique his program by telling him exactly what to do which allows him to keep his autonomy and authority concerning his expertise and program.

Amy has an interesting story in regard to assessment, because her story is one of declining assessment procedures despite her desire for robust assessment. When she first came to her institution, there were robust assessment guidelines from the university. Both university and programmatic outcomes were clearly defined, where university outcomes were general objectives (e.g. ethics, communication) that

needed to be imbedded in all programs and programmatic outcomes were objectives created by individual departments. What altered all of this was the change of administration. The institution got rid of its assessment coordinator and the office of assessment being replaced with a Vice President of Faculty Relations and a Vice President of Faculty Affairs who is now supposed to be in charge of assessment but there is still no talk of any student learning outcomes like there was before or any student learning outcomes at all. To this situation, Amy commented, "Nobody knows what's going on [...] I'm serious like nobody knows." Amy explained that she is supposed to assess her students according to her program's programmatic outcomes at the end of the year; but when I asked Amy what the assessment form looked like and what percentages were involved like "70% of students score a B or better in the outcome of collaboration," Amy replied, "That's a good question. We don't know." At one time, one component of assessment was supposed to be a student portfolio that they turn in at the end of their college career. But in the five years of Amy teaching at her institution, she has only seen two portfolios. There still is a course in the catalog for the portfolio class that is supposed to include a committee to review the portfolios, and Amy has no idea what happened to any of that.

Solutions and Successes

The previous section focused on the problems and challenges of assessment—a section that does not include many positive aspects of assessment. This section takes a turn in the discourse of assessment by summarizing the ways that program directors are positively approaching assessment in ways that they find successful.

One way that Rose was able to positively use assessment was in the actual creation of her TPC minor. When Rose initially put in the paperwork for her new interdisciplinary minor in TPC, administration rejected it because it needed clearer outcomes and assessments. They specifically wanted more details on how Rose was going to assess the program to ensure this program was actually going to work at her institution. This rejection from administration was an opportunity for Rose to rethink the structure of her program to include a portfolio requirement that met the needs of administration but also did not require her to assess every single one of her new TPC courses which was too much for her as the only TPC professor at the time of the program's creation in 2001. With this change, Rose's program was approved because her assessments were perceived as strong by administration. While reflecting on her program during my interview with her, Rose made a point to tell me that programs need to use assessment to "fight the fight about why this program should be saved if it's so small." In other words, see assessment as more than just a menial task required by administration.

Another way that program directors in small undergraduate programs find success in assessment is through indirect and direct methods of data collection. In my study, most people defined indirect methods as referring to alumni surveys, employer surveys, and student exit surveys, and direct methods as TPC professors directly assessing students, like capstone classes or portfolios. For indirect methods, Jane was given by administration alumni survey answers pertinent to her program that she was able to include in her assessment report. In Krista's assessment, she

collects employer surveys of experts evaluating the work of her TPC students. And Krista, Rose, Stacy, and Hannah all stated that they use student exit surveys as part of their assessment report. Krista, Hannah and Rose use the survey as a form to have graduating senior TPC students reflect on their time in the program. Stacy takes this a step further in her exit survey and asks students to describe what the program is missing; for example, Stacy began to see a pattern of students wanting more practice and instruction on html so she added more of this component to her digital writing course in the program.

As for direct methods of assessment, some participants specifically mentioned using capstone courses and portfolios as writing artifacts to assess and measure (Izzy, William, Krista, Rose, Sarah). Sarah uses the seniors' portfolios to both evaluate students' performance and their program's outcomes; likewise, Krista also makes her students do a portfolio in her capstone class where she only assesses the portfolio and not the course. She believes that courses should not be assessed because instructors are already doing that with their grades.

Something unique happened in Doug, Annish, and Theresa's interview (all colleagues in the same program and institution). They do not have a capstone or portfolio component as part of their program, but they used the space of the interview to brainstorm ways to change this element. Doug mentioned that "at present there is no PW exclusive course that all PW students would take," and Theresa commented, "and it would be cool if we could assess just the professional writing concentration in a more structured way." All three agreed that having a class that all TPC majors took would make assessment easier; Doug ended the assessment conversation with "I don't know how much capacity we have to add something to the curriculum per se without taking something out, but that's something we should certainly consider looking at. And I'm certainly open to the idea; I love the idea. I hope we're able to do it." Here, Doug who is the chair of the department is using the space of the interview to brainstorm his department's assessment practices.

Similar to how Doug, Theresa, and Anish solved problems through conversations and reflections, other participants also found these informal chats with colleagues that reflect upon teaching and the curriculum to be highly effective forms of assessment (Elizabeth, Hannah, Tracy, Wendy, Sandra). In Elizabeth and Dorothy's institution (colleagues from the same institution), they are not required to assess their minor; and with all of their duties, there is no time or energy to assess a minor other than talking informally with colleagues about the minor's outcomes and if students successfully met them. Dorothy identifies her colleagues and herself as "highly reflective teachers" whose reflective practices inform future iterations of courses and programs. In Sandra's English Department, these reflective talks happen with her colleagues in intentional faculty focus groups and in conversations with the assessment committee. Both Tracy and Hannah talk about their programs anecdotally with colleagues, chatting about what is working and what is not in their curriculum. And Wendy talked about improvements that her and her colleagues made to their catalog's course descriptions to better help advisors understand and articulate the curriculum – these changes coming from informal department discussions.

Other successful conversations did not just happen in the department but also with administration. While there were plenty of program directors' complaining about their administration as mentioned earlier in this section, there were also other program directors had positive interaction with their administration through their Assessment Coordinator (also named, Assessment Committee, Office of Assessment, Office of Academic Affairs, Office of Institutional Effectiveness) (Diane, Hannah, Jane, Krista, Sandra, Bert, Stacy). Jane's Office of Academic Affairs sends her a scorecard of data for her to cumulatively assess: data such as student evaluations, alumni surveys, cost of the program, average class size, etc. Administration requires Jane and her colleagues to evaluate the report, talk about it, and then report a follow-up report about ways to improve the program. Diane also works with her assessment coordinator but in a different way. Her assessment coordinator collects all of the data from faculty individually rating their students' work based on the programs chosen outcomes, and then the assessment coordinator produces course averages for all of the TPC courses. Unlike Jane and Diane who work with their university administration, Bert works with their engineering department's administration. Though they are not required to fill out assessments for the engineering department, Bert chooses to submit their assessment as part of the ABET accreditation, and their program is repetitively marked as one of the exemplar programs in ABET's accredited engineering programs.

The participant who raved the most about her program's successful assessment was Stacy. Notably, Stacy was the most excited participant to talk about assessment and the program with the most students compared to all of the other programs I collected data from. Stacy's assessment plan evaluates her programmatic learning outcomes (PLO) on the course level by requiring faculty to implement PLOs in the final assignment of TPC courses. Then, with a Canvas (LMS) tool, faculty assess other faculty members implementation of the PLOs and how students score according to the PLOs; Stacy was adamant that faculty never assess their own courses. Stacy is looking to see if students are making the benchmark goals set by the department and to see if her instructors have implicit bias. What was particularly unique about Stacy's assessment is that she collected information about the students such as gender, transfer, native, ethnicity, etc. which allowed her to see if her instructors were harboring implicit bias against a certain student populations. She is not as concerned with one semester's data as she is with examining patterns overtime. So far, she has not found any alarming biases that she has needed to address, but she continues to add to her Excel spreadsheet of data every year.

In conclusion, this section has shown what many scholars already know: that assessment can work effectively. Assessment can certainly have its challenges, but this section presents hope of effectively using direct and indirect methods of assessment that can bring visibility and improvement to a TPC program. I believe this section on the successes of assessment presents a different narrative to the first section on the challenges of assessment. Sometimes TPC program directors just need to see how other programs are approaching assessment to give them new ideas to implement in their own context – moving their programs from mere survival to actually sustainability.

Discussion

In this section, I summarize and discuss the implications of my findings concerning recruitment and assessment and then provide reflective questions that TPC program directors can use to think critically about their own recruitment and assessment practices.

Recruitment Discussion

My participants discussed recruiting students to their programs and the difficulties of just getting students into their programs. The reasons for these difficulties were varied. Many of my participants had a tenuous relationship with their Admissions Departments, making it very difficult to know their expected relationship with the Admissions Department or even recruitment efforts in general. Several participants said that their recruitment efforts to high schools were a large waste of time with little return on the exorbitant amounts of time spent attending high schools. While Manuel was able to recruit some students to come in as a TPC major, Manuel admitted that the few students who came in as majors were definitely fought for with a lot of time and resources.

Thankfully, there were several success stories in my data. According to my participants, updating the institution's website and handing out physical flyers on campus were the most successful ways of recruiting students to the program. Instead of wasting time on small audiences in high schools, program directors who spent time and resources into creating, maintaining, and growing the information about the TPC program on the institution's website saw rewards for these efforts, and some program directors even had current TPC students help with the project. Turns out that actively thinking, contemplating, maintaining, and growing a TPC online presence was highly successful. This result reinforces Roundtree's (2016) finding that optimizing an institution's website with robust content about the program's courses and faculty can correlate to higher recruitment success. The other success was through placing physical flyers around campus. Most participants found more success in getting students into the program after a student had been admitted to the university because students found the program through FYC courses, TPC courses, creative writing readings, and word-of-mouth. This might suggest that recruitment into the TPC program is fundamentally different from other academic programs, or it might suggest that TPC is still so nascent of an academic program that people have not heard of it until college—or possibly a mixture of both. Regardless, flyers were a successful recruitment effort that was exclusively targeted at students who were already attending the university. While there is no scholarship on TPC physical flyers, Felicia Chong and Aimee K. Roundtree (2021) discovered that students most desire the presentation of practical and research skills in TPC advertisements that use strong visual and document designs. I did not ask my participants exactly what they included on their websites or flyers, but these elements should be considered by TPC programs that want to increase their recruitment efforts that get students into their programs without having to give up exorbitant amounts of time. This finding does deviate from Roundtree's (2016) white paper report that prioritizes personal connection in recruitment strategies like personal emails, phone calls, campus visits, etc. but it may be that today's students

prefer more robust content than personal connection in its recruitment efforts.

The other successful recruitment effort discussed in my data was having a strong relationship with career services, registrar department, and academic advisors. While this topic by no means was talked about as much as websites and flyers, a few people discussed positive relationships with these key campus stakeholders that actually garnered more students. Though a follow-up study would need to be conducted for me to actually make a definite conclusion about this topic, it is interesting that faculty taking the time to explain their program to select individuals on campus—especially people who help students choose their majors and minors—has a great effect on the numbers in TPC programs. This small finding also pairs well with the reality that many current TPC majors found the program once they arrived at the university, and not before.

Assessment Discussion

My assessment section largely reiterates similar points from Kelli Cargile Cook's (2003) article "How much is enough? The assessment of student work in technical communication courses." While her study surveys assessment practices of ATTW members at both the undergraduate and graduate levels, there are several overlapping findings between my study and hers: (1) diversity of curriculum assessment, (2) diversity of assessment practices and activities, (3) burden of assessment, and (4) frustrations pertaining to class sizes and course loads. It seems that the problems that TPC program directors faced in 2003 are still the same problems that TPC program directors face in small institutions today.

One of the biggest drawbacks to a TPC program in a small institution is class size. It frankly is not motivating to complete an assessment checklist for the few students that tell the program director little to nothing about the success or effectiveness of the curriculum and teaching. Several participants talked about going through the motions on assessment because of this reason—filling out the assessment paperwork for eight students in the program does not seem like meaningful data. Unfortunately, further exacerbating the problem, small class sizes could potentially disrupt the course rotations because administration only allows classes to run if they have a minimum number of students, possibly canceling the class due to low enrollment. This reality makes the assessment issue worse because not only do programs not have enough students, but they also do not run classes on a regular basis—making assessment tools frustrating and meaningless. In a field where TPC professionals care about quantitative assessment, it feels meaningless to even get mere qualitative assessments complete. Stacy by far was the most excited participant to talk about assessment (she has over 100 students in her program), so she has a lot of trends and data to analyze while other TPC program directors do not.

For my participants, assessment metrics worked if they could find meaning in their assessment practices. Even if there are only eight students in the program, assessing their skills against academic and industry standards was meaningful assessment for Theodore. If the assessment requirements from administration are being met but TPC professors find them lacking like in the case of Doug's

department, then the TPC professors need to figure out better assessment metrics that actually help them know what their students are learning like creating a capstone course. Finding meaning in assessment—believing that the assessment was worth conducting and produced valuable results—seemed to be the first step in successful assessment methods.

But of course, just because a faculty member finds meaning in assessment does not equal good assessment practices. Some participants talked about never reading or experiencing good assessment practices which could obviously affect the effectiveness of their own assessments. I wonder if this reality is because directors are not reading great scholarship on assessment, graduate schools are failing to address assessment in their curriculum, or just the reality of small schools that do not have access to a lot of resources or time to spend on bettering assessment. I am not sure that some of my participants had considered the vast array of assessment practices available to them or the types of assessment that could be used in a TPC program like indirect assessment such as alumni surveys, employer surveys, and student exit surveys. While most programs had some sort of programmatic outcomes, many participants were unenthusiastic about the process. Since many times programmatic outcomes are required by the administration, maybe the administration could put more time and effort into explaining assessment practices and strategies that benefit the program and not just check the box for different accrediting bodies.

And while several participants mentioned how much they enjoyed reflecting on their practices rather than filling out paperwork, I think we need to be careful as TPC scholars to solely rely on anecdotal information from classes. Yes, the stories from classrooms are important but they only show a small picture of the program. For example, how would Stacy be able to assess instructor bias from just hearing stories from her instructors? By no means should TPC program directors throw out wonderful qualitative data in assessment practices, but directors should acknowledge that they can also use their reflective skills to reflect on quantitative data in addition to personal anecdotes. If TPC professionals have the skills to user-test and research the quality of their work, then so do TPC professors.

While a few of my participants had wonderful success with their assessments like Bert who goes above and beyond in their assessments for ABET, many still felt that assessments were a massive time suck and largely unproductive. Many professors in small institutions would benefit greatly from Schreiber and Melonçon's GRAM method and Brady et al.'s participatory approach to assessment. I believe the struggles with assessment might be particularly exacerbated in small institutions with TPC programs, but these resources from scholars could provide a helpful framework and model so that small schools are not starting from scratch on building their own metrics with time that they might not have.

Reflective Questions

In this section, I provide some reflective questions to help TPC program directors and faculty think about their local contexts and how they can work towards sustainability. One aspect of conducting interviews that was particularly interesting

to me was the amount of reflection done during the interview itself. I was only asking questions about what was going on in these individual programs, and yet many of my interview sessions turned into reflective sessions where participants were metacognitively thinking about their programs; for example, one participant mentioned that he now has several new ideas for his program based on my set of questions. In education settings regardless of size, it is easy to get into a mindset of survive-or-die where there is no room for reflective thinking about one's programmatic vision. The interview space ended up being a place where participants were not just thinking about how much grading they had to do or what class time was going to look like tomorrow; rather, the interview space was a time to put on a programmatic lens to understand purposes and actions of their programs. In some of my interviews, some participants even wrote down things that they wanted to change about their programs based on my questions. For example, my question about assessment (How do you assess your program?) is not particularly implying the need for improvement, yet some participants left the interview with new ideas for their program—and I did not give them any new ideas.

Questions can move a program towards sustainability which is why I have decided to present a list of questions that any TPC program director can ask themselves in order to work towards sustainability. The questions that I pose are based on my participants' answers, so I am directly pulling from the voices of my study. While the following questions come from voices at small institutions, there is nothing preventing medium or larger TPC programs from also reading these questions and reflecting on their own unique educational spaces:

Category	Questions
Recruitment	<p>How are your recruitment efforts navigating the different audiences of administrators, parents, and students?</p> <p>What is your relationship to your institution's Admissions Department? Do they know and advertise for your program? Would a stronger relationship help bolster your program?</p> <p>What are ways that you can target strong writing students who took dual enrollment classes before college and might have never heard about the TPC program or interacted with TPC professors?</p> <p>Is there a way for students to be exposed to the TPC program in general education courses? What kinds of TPC service courses could provide more visibility to the program?</p> <p>Is it possible to receive a list of undeclared/undecided majors to email them with information about the TPC program? Are there digital flyers that can be sent to these students?</p> <p>Is the institutional website updated with the latest TPC programmatic information? Is the information robust and inviting?</p> <p>Do key stakeholders on campus know about the TPC program? (non-English departments, career services, registrar's office, academic advisors, etc.)</p> <p>Would flyers be a good medium for getting the word out about TPC courses and programs?</p>
Assessment	<p>What are the different goals and audiences of assessment and how can assessment practices navigate those expectations?</p> <p>Is the TPC program too reliant on conversations, anecdotes, and/or qualitative data? Would embedding quantitative metrics help support the program?</p> <p>Is there enough regularity of courses and/or specific assignments so that TPC program directors can track trends over multiple years?</p> <p>Are there opportunities to interact with administration to ensure that departmental assessments are useful and not just checking the box for accreditation purposes?</p> <p>On the spectrum of under-assessing to over-assessing, where does your TPC program lean more towards? Are there places where you can create more robust assessments or cut down on unnecessary redundancies?</p> <p>Are there ways to ensure that assessment metrics increase the ethos of the program?</p> <p>Are there culminating projects and/or portfolios in at least one of the required TPC courses to aid in assessment metrics?</p> <p>How does assessment metrics not only assess students but also instructors? Could assessing for implicit bias in instructors be implemented into assessments?</p> <p>What are the different direct and indirect assessment metrics that can be used to assess the program effectively? (alumni surveys, employer surveys, student exit surveys, TPC professors directly assessing students' assignments, capstone classes, portfolios, etc.)</p>

Table 1: List of Reflective Questions

Conclusion

This article has summarized results concerning recruitment and assessment practices from twenty-six small institutions in the US, revealing frustrations and successes of trying to get students into one's program and evaluating that program. My study's participants voiced their disappointments with failed recruitment efforts that required significant labor contributions with little return, but they also explained some successes where the labor that went into creating websites and physical flyers did impact the number of students in their program. And my study's participants also voiced their disappointments with meaningless redundant assessments that seemed to produce no benefit to the actual program, but they also explained some successes where software and multiple stakeholders could provide meaningful assessment that better the program and reveals what students are (or not) learning.

There are several limitations to the results that this article provides. I was not able to interview the whole population that I was studying, nor did I provide a comprehensive critique of all data that I gathered. Additionally, readers might wonder why I did not compare my study to recruitment and assessment practices in small institutions to recruitment and assessment practices in large institutions to figure out if there are insights that are specific to small schools. While I believe this comparison could be interesting, I also believe that it goes outside of the scope of my research question; but if I did decide to address this comparison, I believe it would be better addressed in its own research article where a literature review could adequately summarize all of the recruitment and assessment practices in larger institutions—possibly even conducting an additional study where I interviewed TPC program directors at large institutions about their recruitment and assessment practices. For me, I believe the sole focus on recruitment and assessment practices in small institutions required its own focus and provides valuable insight without needing to compare them to large institutions. I am aware that many of the frustrations and successes presented in this article are probably realized at larger institutions; but for the sake of scope, I wanted my main focus to be on small institutions only.

Even with these limitations, the body of knowledge and reflective questions in this article still provides valuable information about current TPC program directors' practices about recruitment and assessment, both the good and the bad. As we continue to ask questions about the field's sustainability in the current educational climate, it is important that we gather this data so that we can learn from our failures and successes—and sometimes this valuable data comes from the smallest of institutions.

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Pervasive Practices: Pedagogical and Programmatic Influence of Biometric Technologies as Surveillance

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Abstract: Introducing students in higher education to issues of surveillance within technical and professional communication courses creates an opportunity to reflect, analyze, and interrogate students' digital literacies. This article contributes to imagining what the creation of a technical and professional communication course that centers topics and common issues in surveillance studies may look like. The article includes foundational readings, example assignments, and a case scenario that guides students in exploring how surveillance impacts their daily lives. Due to the global rise in digital privacy and surveillance concerns, as well as increasing implementation of emerging technologies in various sectors, this article argues that higher education courses should implement issues involving surveillance as a core learning outcome.

Keywords: technical and professional communication, surveillance, biometric technology, privacy, data

An Exigency for Intervention¹

Surveillance is a key writing and thinking activity that impacts our day-to-day lives in a multitude of ways; this article guides instructors across disciplines and institutions in its impact within the technical and professional communication (TPC) classroom space. One of the roles of technical communicators, functioning as knowledge-makers, creators, and instructors, is to communicate with audiences regarding how surveillance impacts their daily lives. Since technical communicators are advocates (Jones, 2016; Walton, Moore, & Jones, 2019), then advocating for historically excluded and multiply marginalized individuals and groups becomes an important part of a technical communicator's teaching. Instructors should discuss with students how and why bodies are impacted by surveillance technologies and implement programmatic and

¹ As a condition of the grant received to pay nurses from the Council for Programs in Technical and Scientific Communication, this article is revised from Chapter 6 of my dissertation study.

pedagogical initiatives to contend with topics such as digital and civic literacy, and design.

This article extrapolates pedagogical and programmatic takeaways from a year-long research study. Grounded in surveillance studies and technical communication, I define biometric identification technologies as personal identifiers of the body (Banville 2023). The following suggestions, resources, and content derives from a study that answered: What are neonatal nurses' usages and perceptions of biometric technology in healthcare? To answer the research question, I explored the connection (or tension) between neonatal nurses' perceptions and usage of biometric technology in healthcare, and the communication materials developed by biometric solution companies. The study focused specifically on how neonatal nurses use and perceive such technologies within the context of the United States healthcare system. The study was conducted in three parts: I compiled a corpus of communication materials from biometric companies, distributed questionnaires, and conducted ten interviews with neonatal nurses. The study found that major themes (convenience, safety, security/compliance) from the data collection can be fruitful for implementation into the technical communication classroom (see Banville, 2023). To assist with providing context for the scope of this article, the following are the results and takeaways of this study:

- Technical communicators are not just those who create documents or design web content. Neonatal nurses are technical communicators: they communicate and negotiate specialized information. We can further redefine what it means to be a technical communicator.
- Technical communicators can engage in a participatory approach between those who create communication materials, and those who implement it. This is necessary to attend to issues of security, compliance, and efficiency in healthcare.
- Technical communicators and designers of biometric technologies should articulate cultural, political, and biomedical realities in its activist discourse.
- Technical communicators can engage in the design process through participation, and informing biometric companies about the ways they may actually communicate informed consent, even if "opting out" is not an option.
- Technical communicators can engage in the ethical design of the technology, but we also need to advocate for awareness (through proper informed consent) and transparency of data collection practices.
- Technical communicators can intervene in the tradeoff fallacy² and privacy paradox³ through the creation and design of materials that communicate transparently (through localizing knowledge) about privacy, data, and surveillance concerns.
- Technical communicators can intervene in the design of both texts and technologies.

2 The false misconception that Americans are aware of their data collection, especially as it relates to surveillance in healthcare.

3 The privacy paradox refers to the "conflict between individuals express[ing] concern over privacy and their apparent willingness to surrender that privacy in online spaces in exchange for very little of value" (Colleen Reilly, 2021, p. 33).

One takeaway that may be of interest to TPC programs is how biometric companies communicate their products to consumers emphasizing efficiency, compliance, and safety, often without accounting for a person on the other end of and/or using the technology. The neonatal nurses interviewed in my study adopted language based on the communication materials used for training(s) in the healthcare setting, which were very similar to the language on the biometric websites themselves. Similar to what Isidore Dorpenyo (2022) found in their analysis of documents, the corpus I collected also encouraged users to constantly engage the specific biometric solution, suggesting task-oriented instructions and language that, in this study, would then be communicated to patients. These styles are adopted to enable users “to quickly and efficiently complete the task at hand” (Seigel, 2013, p. 71). Such documents ultimately make a case for why it is necessary to adopt biometric technologies: convenience, safety, and/or compliance.

Biometrics as Surveillance: An Intersection with TPC

Despite the poised necessity of convenience, safety/security, and compliance, the themes are useful to use in the TPC classroom to guide students in considering how to approach design and critical analysis of emerging technologies. Such themes and takeaways, such as convenience, safety, and compliance, are foundational to guiding and shaping the sample implementation of resources into the TPC classroom, as design and documentation is of particular importance and interest to students studying in technical and professional communication.

Convenience

As instructors, scholars, and participants in society we must prepare students to enter the workforce, addressing the purpose of implementing biometric technologies, how they are defined, and the ethical implications such as who they protect and harm. For example, the concern with data privacy has recently extended to focus on biometric usage in social media. TikTok’s CEO Shou Zi Chew explained that the social media application determines the age of its users by scanning videos (Perez, 2023). This feature is labeled as convenient for parents/guardians [and the company] to monitor age restrictions. However, as TPC instructors, we may encourage students to ask follow-up questions to this example such as what specific facial recognition or other technologies TikTok uses, and whether those technologies were “built in-house” or if the company relies on “facial recognition tech built by third parties” (Perez, 2023). Efficiency/Convenience, which technical communicators have extensively critiqued (Frost, 2016; Scott, Longo, & Wills, 2006), often refers to the ability to complete or produce something quickly without wasting materials, time, or energy.

Emerging technologies are designed to make a task “easier” or convenient. An article written by Senior Product Designer Taras Savytskyi (2022) documented the reasoning behind the design of the origin story of Sony Walkman, Mini Cooper, and the iPhone. How does this relate to biometric technologies? The research and vision are the same: create technologies for ease of use and access. Savytskyi (2022)

writes about the Mini, "Every decision they made during the build phase was aimed at saving space and improving efficiency" (n.p.). Instructors can use biometric technologies to exemplify why data privacy is so important; including discussions of past and emerging technologies' being introduced as convenient.

Safety and Security

With some of the 'positive' aspects of biometric technology poised by corporations and mass media alike, it can be difficult to think past the sometimes-invisible implications of such technologies. Often, these shiny, new technologies are poised as a means for additional "convenience" or "efficiency," or even "safety." A quick Google search asking "why use biometric authentication" provides a long list of webpages advocating for verification of identity, their convenience, added security measures, and an emphasis on faster authentication (or efficiency) (see Figure 1). Security is defined as protection or measures taken to guard against unauthorized entities from accessing information, accounts, or other personal information.

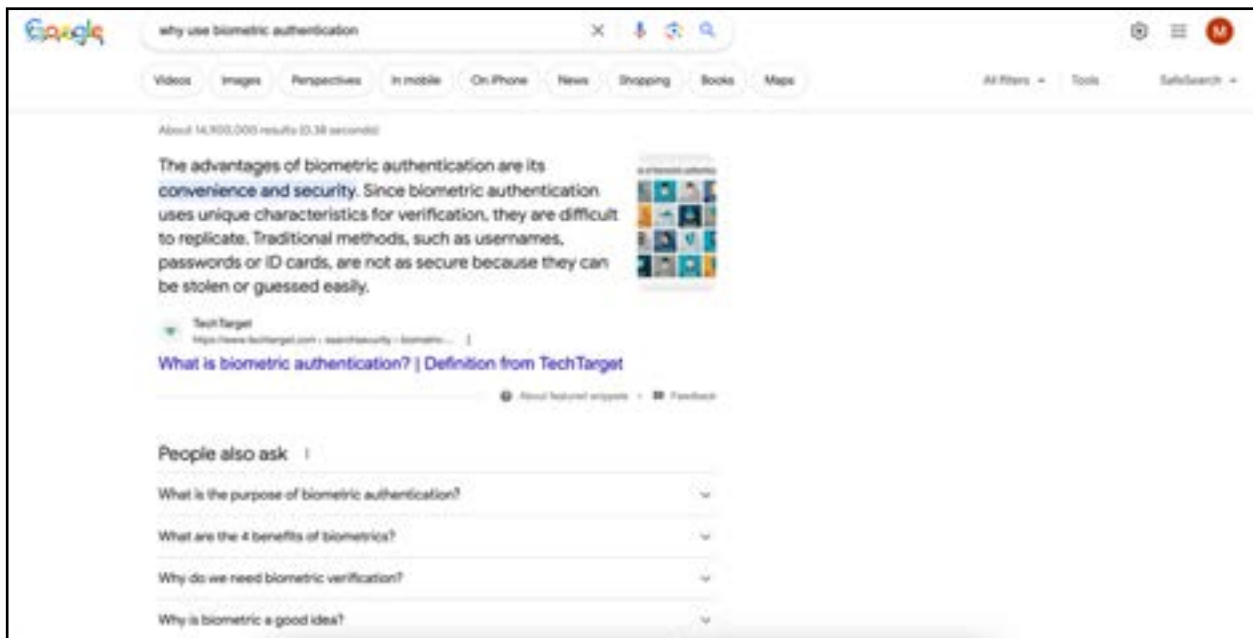


Figure 1: Example screen-capture taken on December 28, 2023

One doesn't need to look too far to witness numerous examples of biometric usage paraded as secure and efficient in the consumer arena: a study from 2017, for example, suggested that "70 percent of consumers believe that biometrics are easier, and 46 percent think they are more secure than using passwords or PINs" (Visa, 2017). There are increasing introductions of biometrics into the consumer space; however, the classroom space is one site of intervention where students can help to consider the implications of who the technology is identifying, protecting, harming, and how such are implemented. Oftentimes biometric technologies are not just used for identification, but also for securing information. There is a huge disconnect between the perception of safety and security, and the actual implementation of such. Where does the information go? How is it stored? What third-parties or other parties have access to this information? What can they

do with the information? There are gaping holes in the links between what is perceived safety, versus true security. And this is the problem with deceptive design. Deceptive design, also known as “dark patterns,” is commonly referred to as tricks used in websites and apps that make you do things that you didn’t mean to, like buying or signing up for something (Brignull, 2023). Isidore Dorpenyo (2019) mentions how technical communicators should consider the socio-cultural context surrounding when/where the biometric technologies are used. This would mean considering aspects such as “weather conditions, spatial relations, knowledge of users, social practices of users, the nature of work in which users are engaged, and how the work they do might affect successful use of the technology” (Dorpenyo, 2019, p. 373). Such socio-cultural conditions can affect the ways in which biometrics may deceive users and authentication/identification processes, impacting their safety/security and deeming them ‘non-compliant.’

Compliance

The way biometric companies discuss convenience, security/safety, and compliance as well as how they define biometric identification, and the respective technology is a component of digital literacy in the technical communication classroom. For example, security firm BioCatch provides tools for companies to “learn employees’ digital behavior and identify when an unauthorized person is trying to access information” (Larson, 2018). Companies can add BioCatch software to apps and websites. It runs in the background to build a ‘behavior profile’ of a user, and “learns activities like how someone holds the phone, whether they type with one or two hands, and how they scroll or toggle between screens” (Larson, 2018). Students should be aware of the ways in which they may be ‘required’ by companies to act in certain ways to be “in compliance.” Compliance generally refers to following set rules, regulations, and laws that relate to practices. Compliance is often discussed in terms of safety, specific standards or procedures, and ultimately risk management. Compliance therefore regulates; surveillance tools such as biometric technologies exacerbate compliance initiatives in the ways that the technology becomes an embodiment of the person. Are you who you say you are? If you do not consent to use the technology, are you non-compliant? In the TPC classroom, students can approach understanding compliance as always contextual. Further, compliance is not always positive (or always negative). Discussing biometric technologies as they relate to compliance prepares students for the emerging technologies they may encounter in the workplace, as well as how to navigate such technological implementation. For example, a medical patient who is willing to comply but whose circumstances prevent complete adherence to a protocol is out of compliance: their (willing) attitude is at odds with their (noncompliant) (in)actions, their intentions out of alignment with the effects of such actions (Banville, Clark, and Sharp-Hoskins, 2025).

Administrators and instructors in technical and professional communication can utilize biometric technologies as a relevant example in understanding sites of surveillance. The focus in the curriculum might emphasize how biometric companies position themselves and their product (through communication materials), as well as students exploring what they perceive the role of a technical communicator to be in this exchange. Themes such as convenience, compliance,

safety and security, are of interest to technical and professional communication (TPC) programs across the globe and can be used to guide curriculum and class discussions. My course proposal is specific to the United States, however, global TPC undergraduate and graduate programs could also benefit from introducing issues related to surveillance, data privacy, and informed consent, as they relate and impact communication and design materials in various industries.

Programmatic Promise: A Biometric Revolution

I propose that upper-level technical and professional communication courses across institutions would benefit from critically analyzing and studying biometric technologies as influential and integral to defining the role of technical communicators (and subsequently, the field of technical communication broadly construed). As Oriana Gilson (2021) explains, many students will enter professions that help shape who is able to “access, use, enjoy, contribute to, and interact with online material” (p. 179). These same students view technologies as neutral and unbiased, which is why curriculum should be developed as a “site for action and an area for enacting theory; it is a nurturing ground for critical, functional, and socially just technical communication” (Agboka & Dorpenyo, 2022, p. 60). Technical communication programs and curricula must be sites for engaging social justice issues and enabling students to critique and address systemic inequalities and disadvantages.

The following resources outline how surveillance studies may intersect with technical communication and social justice in the classroom, with the goal “to address issues of power and agency as they manifest in communicative practices and texts” (Jones, 2016, p. 343). This article adds to understanding(s) of how instructors may expose students to “everyday issues of injustice that affect students or in which technical communication might play a role” (Agboka & Dorpenyo, 2022, p. 62). I use the following questions to guide my resources and curriculum:

- How do (and can) technical communicators communicate and design surveillance technologies in industries that reflect students’ interest and trajectories?
- How do technical communicators advocate for and resist emerging technologies and their disproportionate hyper-surveillance and impacts on bodies?
- How do technical communicators intervene in their respective roles?

Social justice approaches to TPC are “practical and applied” not merely “theoretical or ideological stances,” thus critically analyzing and creating action plans to address emerging technologies is a crucial component of the technical communication class and curriculum (Rebecca Walton & Godwin Agboka, 2021). Biometric surveillance is not just enacted as routine surveillance, but also within other systems, contexts, and institutions including higher education. This article includes example materials such as assignments, reading list(s), and a case example that explores ethical considerations and technology as they manifest in sites of surveillance. In the courses or lessons, whichever instructors decide, students will

be able to consider the ways surveillance is integral to many of our foundational structural systems, “ones that breed disenfranchisement, and that continue to be institutionalized” (Dubrofsky & Magnet, 2015, p. 7). Surveillance practices and technologies normalize and maintain whiteness, able-bodiedness, capitalism, and heterosexuality (see hooks, 1994). The curriculum itself has practical application(s) especially as surveillance technologies such as biometrics have increased as a result of the COVID-19 pandemic, which makes it a useful and timely example to translate into technical communication classrooms across the United States.

Biometric Surveillance in the TPC Classroom

Our goal as educators and users is to empower ourselves and our students to be well-informed citizens. Technical communication instructors and administrators (broadly defined) may be interested in introducing topics of surveillance and privacy within technical communication programs. The following sections outline the ways in which biometric surveillance may be introduced to technical and professional communication classrooms. First, biometrics can be discussed in terms of surveillance and its complex history, especially over the past couple of decades. Further, biometrics can be discussed in terms of their perceived justice, and subsequent injustice. Combining these approaches informs the next section, which outlines a sample course overview.

Surveillance and Complex Histories

Instructors cannot discuss biometric surveillance in theory and application without spending time discussing the history of surveillance. The connotations of surveillance are largely nefarious, complicated by the ways in which surveillance is poised as a “necessity” for “security” and “safety”; students will notice this overlap in communication about biometrics as surveillance tools, as well. Public response is often to dismiss issues of surveillance, security, and privacy; however, as writers, professional and technical communicators, and members of society, it is important to understand how we may become more empowered citizens. One way we may equip our students to become more empowered is by understanding the impact of surveillance technologies in our lives, in our writing, and in our practices. In this area, we can ask:

- What is the purpose of implementing such technologies? Why was this technology initially created, and what is its modern use?
- Who do they protect and harm?
- What are the ethical implications?

Biometric (In)Justices

When we, as instructors and technical communicators, teach about technical communication, biometric technologies, and social justice, we also need to address the ways in which emerging and past technologies (digital and not) have become complicit in injustice. As Dorpenyo (2022) has noted, technical communication about technology has continued to maintain and reproduce “dominant narratives about technology while it obscures and delegitimizes the knowledge of unenfranchised/disenfranchised groups” (p. 292). As such, TPC classrooms may

be structured to consider biometric technologies as an example of how and why communication surrounding emerging technologies has severe implications. For example, students might learn about the “social justice turn” in TPC (Walton, Moore, and Jones, 2019), using biometric influence to explore how certain groups are hyper-surveilled over others through the linguistic and rhetorical choices we make. Kelly Gates (2011) has argued that in surveillance studies advocating for privacy rights can be viewed as problematic. Rachel Hall points to how “welfare recipients, people living in poverty, and queers have never been entitled to privacy,” as well as the fact that privacy has not always kept people, especially women and children, safe because violence “often occurs in the home” (2015, p. 149).

Solely focusing on privacy as the only concern related to surveillance and biometrics is a narrow scope that often obscures other pressing concerns. Students in the TPC classroom may consider the ways in which people in various situated contexts have the ability to “opt in/out.” Hailey Reissman (2023) posits that because so many Americans view internet privacy as near to impossible to comprehend—with “opting-out” or “opting-in,” biometrics, and VPNs—they don’t trust what is being done with their digital data. For example, opting in/out presupposes three claims: that people are informed; that they understand what is happening to their data; and that they’ve provided consent for it to happen (Reissman, 2023). Instructors may use this example to bridge the digital and informational literacy gap to an action plan for students outside of the classroom space. For example, more than 8 in 10 Americans believe, incorrectly, that the federal Health Insurance Portability and Accountability Act (HIPAA) stops apps from selling data collected about app users’ health to marketers (Reissman, 2023). Along with privacy concerns, an even larger concern is based on how biometric technologies are impacting people disproportionately, a conversation instructors could initiate with students:

- Why do we need to identify, or authenticate our bodies?
- Why do we need technologies for ease of use, when we know they are fallible and discriminatory?

This brief overview and introduction to biometrics as surveillance technologies informs the following example course, as well as potential outcomes and assignments that instructors could use in the TPC class and/or curriculum and assessment design.

Example Course Overview, Outcomes, and Assignments

Course Overview

In the course—which can be adapted as needed for an undergraduate or graduate curriculum—instructors will examine sites of surveillance as they relate to professional and technical writing. Examination of such sites of surveillance (such as healthcare, the classroom, and other spaces we commonly occupy) will focus on the ways in which emerging (and past) technologies (digital and not) hyper-surveil bodies, predominantly those who are Black, people of color, Indigenous, disabled, and LGBTQIA+. We will read and respond to topics including (but not limited to), algorithmic bias, disability and AI, data mining, surveillance capitalism, privacy, and more. This course will emphasize critical reading, writing, and listening to scholarly

and popular texts that center historically excluded and silenced voices. Assignments will include original research writing; responses to readings, case scenarios, and peer writing; collaborative discussions; and multimodal projects.

Students will rhetorically analyze sites of surveillance as they relate to professional and technical writing and their career goals/trajectories, responding to them in socially relevant ways (including various modes/mediums of response, recognition of language other than Standard Written English, and more) for a range of audiences. Some curriculum guiding questions may explore⁴:

- What is surveillance, and how does it impact technical communicators?
- How, as digital users and technical communicators, does surveillance (and tools, such as biometric technologies), impact professional writing?
- What are the implications of surveillance for historically excluded groups such as those who are marginalized due to race, class, gender, sexuality, and disability?

To align with the curriculum guiding questions, learning outcomes may be adapted as follows.

Learning Outcomes⁵:

Students will...

- Learn how emerging technologies such as biometrics impact groups of people within specific sites of surveillance as they relate to students' future career paths and interests.
- Acquire a conceptual toolkit for analyzing issues related to technology, accessibility, and social justice, as they relate to technical and professional communication.
- Gain experience collaborating with other students to investigate the political, social, cultural, and economic impacts of emerging technologies.
- Analyze both explicit and implicit messages in professional documents.
- Think rhetorically about one's own writing choices and those of others.
- Identify bias and consider its implications in professional and organizational spaces.
- Write for multiple audiences and purposes and in multiple media contexts.
- Communicate effectively, ethically, and responsibly.
- Demonstrate skills, strategies, and conceptual knowledge and practices related to composing and communication tasks (research, revision, collaboration, editing, organization, design, etc.)
- Theorize a variety of reasons, using rhetorical language, for why a responsibility to the public is important for professionals in order for their writing practice to be useful and effective.

Since this course focuses on the intersections of surveillance studies and technical communication, the readings will reflect the specific ways that students (technical

4 This could, and should, be an interdisciplinary course that reflects students' interests.

5 Adapted from Torin Monahan's *Technology & Social Justice Course*, 2022. I would also suggest reading Monahan's latest book, *Crisis Vision: Race and the Cultural Production of Surveillance*.

communicators) may intervene in their respective career-paths to address issues of surveillance and biometric implementation. The readings will be assigned during thematic weeks, which may include: Power and Legitimacy; Disability and AI; Design and Usability; Healthcare Inequities; Surveilling the Classroom, and more.

To give students an introduction to both technical communication and surveillance studies, I compiled the following assigned readings based on readings that I found especially helpful for grounding work during my own comprehensive exam process as a graduate student. For example, within the intersections of technical communication and surveillance studies, there is only one edited collection (*Privacy Matters: Conversations about Surveillance Within and Beyond the Classroom*), and one monograph (*Working through Surveillance and Technical Communications*). Despite this, other than the assigned list, important insights about surveillance have been made by scholars of rhetoric. Researchers have investigated:

- Surveillance as a gaze (Erin Clark Frost & Angela Haas, 2017),
- Data aggregation and commodification (Charles Woods & Noah Wilson, 2021),
- Technological impacts on race and gender (Ruha Benjamin, 2019),
- Wearables (Morgan Banville, 2020; Les Hutchinson Campos & Maria Novotny, 2018),
- Physical tracking through biometric data (Gates, 2011; Banville, 2023),
- Issues of authorship and copyright (Jessica Reyman, 2013; Timothy Amidon et. al, 2019),
- Assumptions about access (Virginia Eubanks, 2011),
- Classroom implications (Morgan Banville & Jason Sugg, 2021; Estee Beck et al., 2016; Gavin Johnson, 2021),
- Professional workplaces (Mark Andrejevic, 2007); and more.

The following readings build off this investigation and should be viewed as a starting place, but by no means an extensive list.

Assigned Readings⁶:

Amidon, Timothy R.; Hutchinson, Les; Herrington, Tyanna; & Reyman, Jessica.

(2019). Copyright, content, and control: Student authorship across educational platforms. *Kairos* 24(1). <http://kairos.technorhetoric.net/24.1/topoi/amidon-et-al/index.html>.

Banville, Morgan C. (2020). Resisting surveillance: Responding to wearable device privacy policies. *Proceedings of the 38th ACM International Conference on Design of Communication*.

Beauchamp, Toby. (2019). *Going stealth: Transgender politics and U.S. surveillance practices*. Duke University Press.

Beck, Estee; & Hutchinson Campos, Les. (Eds). (2021). *Privacy matters: Conversations about surveillance within and beyond the classroom*. Utah State University Press.

⁶ This list is certainly not extensive: these are solely suggestions and would shift based on students' interests and goals.

- Benjamin, Ruha. (2019). *Race after technology: Abolitionist tools for the new Jim code*. Cambridge, UK; MA: Polity Press.
- Browne, Simone. (2015). *Dark matters: On the surveillance of blackness*. Duke University Press.
- Clarke, Roger. (1988). Information technology and dataveillance. *Communications of the ACM*, 31(5), 498-512.
- Dubrofsky, Rachel E.; & Magnet, Shoshana A. (2015). *Feminist surveillance studies*. Durham and London: Duke University Press.
- Eubanks, Virginia. (2011). *Digital dead end: Fighting for social justice in the information age*. MIT Press.
- Gates, Kelly. (2011). *Finding the face of terror in data. in our biometric future: Facial recognition technology and the culture of surveillance*. NYU Press.
- Kafer, Gary; & Grinberg, Daniel. (2019). Editorial: Queer surveillance. *Surveillance & Society* 17(5), 592-601.
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- Marx, Gary T. (2015). Surveillance studies. *International encyclopedia of the social and behavioral sciences*, 2nd Edition, 733-741.
- Moore, Kristen R.; Jones, Natasha; Cundiff, Bailey S.; & Heilig, Leah. (2018). Contested sites of health risks: Using wearable technologies to intervene in racial oppression. *Communication design quarterly review*, 5(4), 52-60.
- Noble, Safiya U. (2018). *Algorithms of oppression*. New York: New York University Press.
- Young, Sarah. (2023). *Working through surveillance and technical communication*. SUNY Press.
- Zuboff, Shoshana. (2019). Age of surveillance capitalism: The fight for a human future at the new frontier of power. *Public Affairs*.

Some of the ideas for course assignments were adapted from Beck, et al. (2021) who wrote about implementing critical digital literacy with undergraduate students. It is important to note that what is included in this article are merely examples. Instructors can, and should, adapt the examples as they see fit, particularly as the readings and assignments relate to students, their positionalities, and their interests. The readings and learning outcomes help prepare students to respond to assignments that center their goals and interests.

Course Assignments⁷:

- 1. Keyword Report:** From the reading list, students will select one concept or keyword to further explore. The report must: 1) succinctly define the concept, 2) offer an example of how it could be applied, 3) state how it relates to the course focus on technology, accessibility, and social justice, 4) provide a full citation, and 5) include a multimodal component (an audio description, visual, etc.).

7 Course Assignments 1 and 3 have been adapted from Torin Monahan, 2022.

- 2. Case Studies:** Case studies are similar to discussion boards. Each week, students will either have a discussion board or a case study to respond to. Case studies will explore a specific instance of surveillance and/or privacy concerns in the technical/professional workplace. Students will be responsible for utilizing assigned readings, alongside with outside research, to determine the best course of action given the scenario. This project will allow students to identify problems, audiences, and appropriate genres to write in to respond to a case.
- 3. Technology Justice Project:** The final project will be a team-based research project, presentation, and reflection. Students will be asked to select a specific social justice concern with technology, formulate research questions, decide upon appropriate research methods to answer their questions, analyze collected data, and compose an accessible final deliverable (i.e., professional report, website, documentary video, podcast, community resources). Sample areas of inquiry might include manufacturing, workplace surveillance, institutional surveillance (CCTV, etc.), algorithmic bias, healthcare inequities, (in)accessible spaces, borders and barriers (airport security, etc.), or other topics that appeal to them.

To assist instructors in introducing some of the listed assignments into their classrooms, I created a mock example of the case study assignment.

Case Study Example⁸

My case study is an example of one of the three major assignments I have designed for the surveillance course. The case contributes to understanding the social justice implications of how different communities are surveilled. Social justice research in technical communication investigates how “communication broadly defined can amplify the agency of oppressed people—those who are materially, socially, politically, and/or economically under-resourced” (Jones, 2016, p. 347). With the shifts in disciplinary focuses in technical communication, students (regardless of major) should center social justice in their approaches to teaching, work, and being in the world.

The Case

This case example is implemented in an upper-division undergraduate technical and professional communication classroom. The prompt for the case asks students to envision four different respective roles in a local company/organization, and how they may communicate in their roles (including specific genres). That is, they may choose any organization in this scenario; regardless of where they choose, there will be an employer, manager, employee, and customer.

In this case, the organization of their choosing is contracted to solve community-based problems; one problem in particular noted a breach of client information. Based on the four different roles, students must respond to the problem:

There is an internal incident where an employee was meeting with a client using

⁸ This Case Study Example has been piloted successfully in undergraduate upper division writing intensive courses called, “Writing for Business and Industry” and “Business Communication.”

Microsoft Teams. The employee did not realize that any messages sent within the chat feature would be viewed by other employees within the company who had access to the channel. It is important that the organization maintains a positive relationship with all clients. Part of this relationship is oftentimes guaranteeing a level of anonymity, as well as confidentiality for client projects and conversations. The company recognizes a need for outlining and communicating best practices for privacy for clients, as well as determining potential risks, consequences, and ethical implications. Your suggested best practices will be read and utilized as internal company policy addressing digital privacy; however, it will also have external application with current and potential clients.

Surveillance and privacy occur within the workplace in different ways—both apparent, and often invisible ways. This example scenario is intended for students to explore best practices of communicating the impacts of surveillance and privacy within the professional workplace, through the perspective of different stakeholders. How do employees communicate about a data breach, versus a manager, for example? This case also demonstrates how instructors and students may approach how technical communicators understand and communicate about biometrics: that is, the information collected such as driver's licenses and passports (among other documents), are personal identifiers of the body and can be distributed. The classroom is one place where instructors and students may analyze the way efficiency is monitored by biometrics—both through how the institution surveils, and the surveillance they may encounter in the workplace. For example, efficiency and biometrics are most often seen in the classroom space with third-party applications, where instructors (and eventually employers) view speed and time as a measure of success. Measures of success, as often determined by "efficiency," manifest through monitoring in learning management systems, or workforce software such as Kronos. They also manifest through remote proctoring such as Respondus and Proctorio, and other third-party software that's introduced within the institution.

Based on this case scenario, students may consider:

- What does efficiency mean to the company, what is considered best performance/practice and by whom?
- How is privacy and surveillance implemented in today's workforce? How are companies defining and enforcing (aka compliance) personal information and biometrics?

Instructors may utilize this activity to spark conversation with students about engaging in digital activism and/or enhancing digital literacy by alerting their peers of how they may be surveilled in the workplace, and also holding employers accountable for how they enact monitoring practices. This case also gives students an opportunity to engage in their own research, exploring questions in their (four) respective roles about privacy leaks:

- What data is at risk?
- Who is most at harm?
- What management plan is in place, and how will clients know that you are in control of the situation?
- What are best practices for maximum efficiency?

- What and which bodies are considered the “norm” that the data is “measured” up against?

This particular classroom case example could lead to a wide range of topics about surveillance and the workplace. Due to recent shifts in surveillance technologies, students and instructors in technical communication must call attention to and explore technological ethics including:

- describing how data and information are collected,
- who has a right to privacy and why,
- and communication exchanges between employer/employee and the public.

Of particular importance and emphasis, students might consider how biometrics as surveillance are utilized in their careers (or future careers). How are biometrics used, perceived, and communicated? How do they (students) view their responsibility (both personal and professional) to communicate about biometrics, and to whom/for whom?

Case Study Implications

By exploring biometric technologies as a case study example of workplace surveillance, students will be able to demonstrate how surveillance is an embodied process, and how they may advocate for individual/user awareness. This classroom scenario is transferable across TPC courses in higher education and institutions. For example, many biometric technologies classify and categorize “like characteristics” often including race and gender identities, which is why it would be much easier to scan a database searching for “like characteristics” to identify, rather than scanning an entire system without categories. Despite the appearance of and communication to consumers of “efficiency,” technical communicators should note that this sorting and categorization only serves to contribute to existing forms of biological racialism and sexism, in which “race and gender are imagined as stable biological properties that can be reliably read off the body” (Dubrofsky & Magnet, 2015, p. 15).

As I have written previously (Banville & Sugg, 2021), speaking broadly, the basic tenet of Panopticism is the power of control—control over norms—wherever they may be found. This provides those with power—actual and assumed—to manipulate non-conformity into the authority figures’ idea of conformity, thus normalizing the function of surveillance. Employees who surveil can negatively affect trusting relationships between employers and employees. Additionally, surveillance in the work environment places emphasis on achieving success and often puts success over care (Wheeler, 2019). This case scenario seeks to bring awareness to various stakeholders of how society has been slowly turning into a hyper-suspicious assemblage based on the assumed necessity of safety and security, as well as the ways in which biometrics are used to sort and categorize bodies. Technical communicators are well-poised to intervene in language creation and decision-making related to the design of technologies that do not account for, “everyone.” Everyone does not benefit from the technology.

Surveillance Pedagogy: Across TPC Programs

Though surveillance is not solely understood as digital, many of the technologies that put bodies on visual display are not new and are rather associated with longstanding forms of oppression. As Agboka and Dorpenyo (2022) note, the social justice turn in TPC has inspired much discussion about programmatic and curricular efforts. At the core of both feminist and social justice methodologies are principles such as access, equity, rights, and participation, all of which facilitate inclusivity, collaboration, diversity, and justice.

As I've argued (Banville, 2023), part of recognizing roles, such as that of a technical communicator, comes from understanding/unpacking actions that are interpreted as privileged. As both instructors and professionals, Rehling argues that professional communication programs prepare students for careers as "writers, editors, document designers, presentation developers, and information managers in technology industries, other businesses, government, and nonprofit organizations" (Kynell-Hunt & Savage, 2004, p. 89). Due to the wide range of careers that students and instructors/administrators are involved in, issues of surveillance must be explored in the classroom space to show how surveillance is not "universally and uniformly applied to all human bodies and, furthermore, monitoring occurs with different degrees of specificity and intention" (Dubrofsky & Magnet, 2015, p. 59). Technical communication instructors are in unique positions to teach students how to analyze and inform audiences of the varying degrees that surveillance is applied to bodies, especially within the professional workplace.

As media scholars danah boyd and Kate Crawford have noted, "Data sets that were once obscure and difficult to manage—and, thus, only of interest to social scientists—are now being aggregated and made easily accessible to anyone who is curious, regardless of their training" (2012, p. 664). Amanda Licastro and Ben Miller (2021) argue that "What's 'big' about big data, then, is not the information itself, but the number of people able to access and interrogate that data" (p. 4). Licastro and Miller (2021) discuss the ways that institutions and writing programs are increasingly using repositories for student data (amongst other data points); however, this may be applied to other structural institutions such as the government or corporations utilizing biometric identification. These institutions, corporations, and governing bodies lack transparency in the process of opting into participation in these systems, which further contributes to ethical concerns about privacy and security. Such topics are apt for consideration when designing technical communication courses, especially since students are stakeholders in these systems (particularly in their future careers) and inform decision-making processes such as the ability to opt out.

Rebecca Dingo (2012) posits, "[Rhetoricians] must examine how rhetorics travel—how rhetorics might be picked up, how rhetorics might become networked with new and different arguments, and how rhetorical meaning might shift and change as a result of these movements" (p. 2). Considering the history and ethical implications of introducing biometrics to different sites of surveillance (different industries students will encounter and/or their specific career paths) is an important aspect

of rhetorical theory and meaning. Rhetoricians and technical communicators alike are well-poised to analyze, intervene in, and reimagine the impact of emerging technologies in various sites. Mais Al-Khateeb (2021) specifically focuses on tracing biometrics, and notes that their “discursive, material, and technological practices” reveal how “such discourses and their promises materialize on bodies of refugees and shape their encounters as ‘others and other-others’” (p. 15). Sara Ahmed writes that “others” are those who are marked as different and live within the national body; while “other-others” are those who are different but “may yet be expelled from the national body” (2000, p. 106). This biopolitical control is only one of many ways biometric technologies may be referred to or considered dark or deceptive design, topics of which are commonly discussed in technical and professional communication courses. Biometric technology’s introduction through state sanctioned use, often on multiply marginalized people during times of fear and disguised as a necessity for safety, is part of understanding the means through which rhetorics travel. Further, according to Heather Murray (2007), biometric technology is “gauged to the idealized bodies in a given culture, producing as ‘abnormal’ those who do not correspond to the idealized model...Biometric technology has been made therefore, with a normative notion of ‘body’ in mind; a culturally constructed notion of embodied identity...” (p. 351). Because of the ways the Panopticon and biometric technologies are designed, the systems give those with power—actual and assumed—the expected norm to measure “non-conformity” to, thus contributing to the everyday form of surveillance.

Introducing students to issues of surveillance within technical and professional communication creates an opportunity to reflect, analyze, and interrogate students’ digital literacies. Our identities are inextricably linked and tied to the digital age; digital spaces provide for world-making (Jose Muñoz, 2009). This article contributes to creation of a TPC course including readings and assignments, and focusing on a case scenario to guide students in exploring how surveillance impacts their daily lives. Biometric technologies are one aspect of surveillance that impacts our (as instructors and students) everyday lives. We should discuss with students how and why bodies are impacted by surveillance technologies, especially because technical communicators are, “uniquely poised to function as public intellectuals” (Bowdon, 2004, p. 325). The goals of creating such a course or introducing objectives to curriculum design, are to enact change through intervening in decision-making protocols to advocate and create awareness and transparency of the ways surveillance is heavily intertwined in every aspect of our day-to-day. Due to the rise in digital privacy and surveillance concerns, as well as increasing implementation of emerging technologies in various sectors, higher education courses should address issues involving surveillance as a core learning outcome. This conversation, though situated within the context of higher education courses, can surely extend into secondary education spaces, as well as through workshops for instructors and training materials for technical communicators. After all, surveillance manifests in our everyday life, for everyone.

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On Developing a Technical and Professional Communication Program Graduate Orientation

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Abstract: While graduate student orientation is an important form of technical and professional communication (TPC) for students entering graduate school, providing specialized information to help them succeed in academia and industry, many are not program specific. The main research focus of this study is to determine what currently enrolled graduate students and alums in a TPC program believe is necessary for an orientation program to be successful. This article reports on a survey of current students and alumni of East Carolina University's (ECU) Ph.D. in Rhetoric, Writing, and Professional Communication (RWPC) program. Students wanted orientation to excite, motivate, and guide them. Findings suggest improving graduate student onboarding, including peer-to-peer and faculty-student support for socialization. Key points that graduate students need in an orientation include academic professionalization, faculty and student networking, department or program standards, social and peer connections, and transition and lifestyle changes, amongst others. This study emphasizes the importance of context-specific TPC program orientation; thus, departmental and program orientation needs to be designed to meet the needs of specific programs' TPC graduate students. The project advances TPC professionalization scholarship and informs effective orientation programs for TPC graduate students. This research is intended for TPC program faculty and administrators to consider its implications for their program's emphasis.

Keywords: Programmatic research; Graduate orientation; Professionalization

Graduate student orientation programs get specialized information to graduate students during onboarding (defined as a process of integration into an organization, which can begin before an official admittance or start date) and orientation (defined as an introductory one-time event or series of events that help the official newly welcomed get started). Graduate student onboarding and orientation events give students expectations of the program, offer necessary trainings and meet and greets with other students and professors, and get students prepared to enter their roles as students/student teachers, amongst other

purposes. The goal is that students will use the information provided through onboarding and in orientation to complete their degree and thus successfully join the ranks of academia and industry leadership. Graduate orientation can thus be informed by the theory and practice of technical and professional communication (TPC). Standard definitions of technical communication usually include transmitting data and information to a particular target audience for a particular purpose. Orientation is, therefore, a form of technical communication. In graduate school orientations, the audience is the diverse body of graduate students. Most programs leave orientation to the graduate school. However, these orientations are not program-specific.

This study aims to determine the graduate orientation needs of graduate student users in a specific TPC program, namely East Carolina University's (ECU) PhD in Rhetoric, Writing, and Professional Communication (RWPC). This addresses the gap in research because it focuses on the specific needs of the program rather than looking at graduate needs on a larger university scale. Current research suggests a correlation between campus-wide graduate orientation and student success (Benavides & Keyes, 2016; Hardré & Pan, 2017). Less scholarly attention has been given to department or program orientation. This study addresses this gap in research on graduate orientation by focusing on a specific university graduate program in technical communication. The main research focus of this study is to determine what currently enrolled graduate students and alumni in the program believe is necessary for an orientation program for them to succeed in their graduate programs. It is important to note that what students and alumni believe is necessary and what constitutes success. Many scholars would argue that students do not always know what is best for them—it is best, they say, if those trained in pedagogy design curricula, including things like orientations. However, scholarship on user experience testing shows that users know what they want sometimes better than designers do (Krug, 2000). It is therefore crucial to provide students with the opportunity to voice their opinions on what they want in an orientation program, as they are the users in that context. I value graduate students' experiential knowledge, as these students are trained pedagogues in their own right. These students feeling supported by being provided what they want is indeed an indicator of a successful orientation.

To capture a more nuanced and local understanding, graduate students and alumni in the RWPC program at ECU were surveyed about what they would like or would have liked to be included in an orientation in order to be successful. The findings of this study add to the body of knowledge on graduate orientation more generally and TPC student success by examining departmental orientation programs and activities, which are thought to increase motivation and graduate student engagement.

The current study addresses the importance of tailored orientation to meet the needs of graduate students entering TPC programs. As a form of technical communication, orientation must address the needs of specific university populations. Thus, departmental and program orientation needs to be designed to meet the needs of specific programs' TPC graduate students. Orientation programs have the potential to alleviate student difficulties by providing information and

resources that help students successfully adjust to the university’s culture and expectations.

As a Ph.D. student in ECU’s Rhetoric, Writing, and Professional Communication program, I conducted research under the mentorship of Michelle Eble. Eble’s work has focused on the social justice turn in technical communication work. This project contributes to the social justice approach to research graduate orientation needs. I recruited current students and alums to complete a survey on their orientation program upon entering their graduate studies. Acknowledging student and alumni narratives and moving into action to address those needs through formal and informal methods is an act of social justice, ensuring that those who come through TPC programs are heard, and their needs are seen as valid and important.

Positionality

I am a Black woman in a female presenting body who uses she/her pronouns. I am a member of multiple marginalized groups, including those with hidden disabilities. I am also a nontraditional graduate student, who began my graduate studies 9 years after completing my bachelor’s degree, and while with two children. Graduate school was hard to navigate as a lot of things were not readily apparent, hard to find, difficult to understand, or just not culturally relevant or tailored to my unique needs. I do this research to help future graduate students’ needs be heard and met in a way that mine were not/are not.

Background

Below is listed a variety of the onboarding activities and Graduate School campus events offered to help new graduate students acclimate¹ to East Carolina University and their graduate education:

Orientation Program Name	Sponsor	Required or Optional
Canvas Orientation Course	Graduate School	Optional
Graduate School Orientation	Graduate School	Optional
Virtual/Online Events	Graduate School	Optional
Graduate Teaching Assistant Orientation	Graduate School	Optional
New GTA Orientation	Director of Writing Foundation	Required

¹ Studies suggest to “acclimate” into a university and graduate school means adjusting to new academic and social environments, which includes developing professional preparedness, managing various responsibilities, overcoming personal and institutional challenges, acquiring new learning strategies, and transitioning from previous educational settings (Fernandez et al., 2019; King et al, 2015; Ryan et al., 2008). Acclimating into a university and graduate school involves adapting to a new academic environment, which includes understanding the expectations, culture, and responsibilities associated with higher education. This transition is crucial for students to become successful in their academic pursuits and professional development.

Orientation Program Name	Sponsor	Required or Optional
English Department Graduate Student Orientation ²	English Department	Optional
Professional Development Seminar	Ph.D. Program Coordinator	Required Course

Table 1. East Carolina University Graduate Student Onboarding and Orientation Programs

As shown in Table 1, only a select few of these trainings are required. While the Canvas Orientation Course orients students to the learning management system, the Graduate School Orientation and Virtual/Online Events are geared toward attending the university at large as a graduate student. The Graduate Teaching Assistant Orientation is aimed at new graduate teaching assistants in the first-year writing program at East Carolina University. The Department Graduate Student Orientation and Professional Development Seminar are both for graduate students in the department, however they vary in purposes. The English Department Graduate Student Orientation is a program for all graduate students (master’s and doctoral levels) in the department, while the Professional Development Seminar is a course designed for new PhD students in the RWPC program. I argue that departmental and program orientation needs to be designed to meet the needs of specific TPC programs’ graduate student users. First, I examine the literature. Then I discuss research methods and outline the rationale for the coding categories I used to analyze the survey results. Next, I discuss the results. Last, I conclude with the importance of socialization and professionalization in TPC orientation programming.

Literature Review

Scholars have examined how graduate orientation programs and activities have the potential to increase motivation and graduate student engagement. Carl Stiles (2012) shows a significant difference between the level of satisfaction with institutional choice of those students who participated fully in all the graduate orientations and those who did not. Shannon Patiño (2022) asks, in higher education, how do faculty and administration improve new student onboarding programming to increase the sense of belonging during the early stages of graduate students’ onboarding experience?

Patiño proposed the following: frequent check-ins and refreshers, the incorporation of restorative circles³ into the onboarding process, requiring one class to be taken

² As a result of the pandemic, the RWPC doctoral program had no formal orientation for doctoral students entering the program from the beginning of quarantine to Fall of 2022. In the Fall of 2022, the faculty hosted both a graduate student orientation and a Ph.D. orientation, which were not required, but which were informed by preliminary results and recommendations from this study.

³ According to Patiño, p. 31: “Restorative circles are a ‘carefully constructed, intentional dialogue space’ that allow everyone the opportunity to share, be heard, and be supported (Boyes-Watson & Pranis, 2015, p.60). This means that dedicated and thoughtful preparation is needed to

as a whole cohort, and providing resources and opportunities to build a foundation and academic confidence. These resources to help ease the graduate student transition into graduate school could look like programs giving incoming graduate students a list of books, articles, etc., to read to get familiar with the program's language and terminology before the semester starts, and departments could also offer incoming graduate students a sample course with sample assignments (Patiño, 2022). This article addresses another proposed solution by focusing on orientation, one of the first resources graduate students receive. This study explores the orientation needs of doctoral students and how departments can best meet those needs.

Recent trends in technical and professional communication can inform the importance of developing graduate orientation at the department and doctoral program levels. Scholars in technical communication and TPC graduate program directors are interested in this research because of the need for professionalization of graduate students and faculty in TPC programs (Bloch, 2012; Pennell, Frost & Getto, 2018). By professionalization, I mean the process of becoming a part of the academic field, such as transitioning from a PhD student to that of an emerging scholar in TPC. The implication is that graduate students need specialized knowledge in order to become active agents in the field. Interesting to note is that presenting specialized knowledge is in itself the use of technical communication. Thus, as a field and a practice, technical communication can be found working in many areas and disciplines.

Miriam Williams & Octavio Pimentel (2016) support transdisciplinary work, hence the use of sources in the fields of education, social work, and others to inform this study. Scipio Colin & Talmadge Guy (1998) address programmatic development from a decidedly Afrocentric and anti-racist paradigm. Although not in the TPC field of study, Colin and Guy's work yields useful information for approaching and addressing issues and problems essential to the Black identity, resulting in culturally grounded programs (McKoy et al., 2020).

This study employs the literature's emergent themes, which outline the primary areas where graduate students face difficulties, to inform and categorize student needs and effective interventions, including those from within and outside university programs. The remaining literature review is structured as follows: Diversity and Social Justice, Modes of Graduate Orientation, and Onboarding, Socialization, and Transition.

Diversity and Social Justice

Julie Watts (2019) states that face-to-face college orientations are currently provided for many groups, including "freshman, transfer students, graduate students, first-generation college students, minority students, honor's students,

tailor a circle to the needs of the group. Circles focus on balancing developing action plans, getting acquainted, addressing issues, and building relationships. In a circle, participants sit in a circle and there is a keeper of the circle who acts as the main facilitator helping all participants move through the circle process, makes sure the circle is upholding the values and guidelines established, guides the circle through reflection, and ensuring that quality of the circle is one of respect and safety."

athletes, commuter students, white students, and others” (p. 255). The similar primary objective of these programs is to familiarize students with the “intellectual, cultural, and social” aspects of the institution (Boykin et al., 2015, n.p). Studies point to the benefits and challenges of designing and implementing university programming that meets diverse student needs (Twale, Weidman, & Bethea, 2016; Hardré and Pan, 2017, Watts, 2019). According to Michael Pooock’s (2002) study, “social and academic needs are best met through departmental activities, whereas information on campus services is best provided through campus-wide efforts. These results vary, however, when examining specific populations, such as women and students of color” (Pooock, 2002, p. 231). Similarly, there is also the recognized need in the TPC field for more research on the unique requirements and perspectives of underrepresented TPC students and the current lack of racial and ethnic diversity in TPC programs (Dayley & Walton, 2018; Savage & Matveeva, 2011).

Per previous research cited in Pooock (2002), the experiences of students of color in graduate education are unique and often face social isolation, so studies advocate for campus-wide orientation programs to reduce social isolation among non-White graduate students and find that non-White graduate students may experience social isolation and alienation in predominantly White institutions (PWIs). It is established in the field that traditional technical communication practices may neglect already vulnerable populations (Savage & Matveeva, 2011; Jones & Walton, 2018; and Zamparutti, 2022) because these so-called objective and neutral practices are Western European and white male dominant. Scholars in the field of technical and professional communication now largely acknowledge that TPC is not neutral or objective and is often employed to uphold and reinforce systems of oppression. Overall, orientation programs can help address the unique needs of students of color. Multiple studies address the social needs of underrepresented student populations and highlight the significance of race/ethnicity in graduate student socialization (Barrera, 2020; Colin & Guy, 1998; Montgomery et al., 2014). Thus, studying orientation programs becomes especially pertinent considering the social justice turn in TPC as a field (Walton, Moore, & Jones, 2019).

Nieto & Bode (2017) describe social justice as an equitable philosophy, approach, and actions that embody treating all people with fairness, respect, dignity, and generosity, and affording each person real opportunity to achieve their potential, to the point where each person has access to goods, services, and social and cultural capital. Note that the PhD is social and cultural capital in many US contexts, including education.

A social justice approach to designing orientation amplifies the agency of oppressed and under-resourced people and takes action to redress inequities. Williams & Pimentel (2016) propose the use of new approaches which will build the institution and program’s cultural competence. Per previous research, as noted in Barrera (2020), another critical element of graduate student preparation for persons of color is mentoring since it offers emotional, social, and career-focused assistance (Davidson & Foster-Johnson, 2001). Our field of technical and professional communication uses terms like “inclusive” interchangeably with social justice at times, recognizing that social justice is doing the hard work. Ethical technical

communication should deliberately support, create, maintain, and sustain diversity and, therefore, equitable graduate orientation programming by addressing the needs of all graduate students. A social justice-oriented orientation will address the conditions that produce and sustain unequal academic outcomes.

Modes of Graduate Orientation

One way to support diverse student needs is through a variety of graduate orientations. As noted, scholars such as Poock (2002) and Stiles (2012) study and evaluate the needs and methods of delivering a graduate student orientation. Researchers recognize that both departmental and campus-wide orientations can be pivotal and assist students in the transition into graduate school (Poock, 2002). This could be because the different orientations may cover different facets of integrating into the institutions. For example, campus-wide orientation could cover institutional services available to students, while departmental orientation may cover academic information (Poock, p.242). Poock's (2002) study also shows graduate students in general valuing department efforts as more important than the campus-wide orientation, seeing as they view the "academic department...as having the primary responsibility for addressing adjustment issues such as meeting new and current students and creating an atmosphere where new graduate students feel welcomed" (p. 240). However, campuswide orientation was preferred by students of color, as academic departments can be racially underrepresented, as Poock notes. Benavides and Keyes further the notion that interaction with instructors and chances for social networking foster stronger links among students and provide students with a sense of community (Benavides & Keyes, 2016).

Online options

As noted, a range of student needs can be effectively supported by offering an array of graduate orientations. In-person options can range from a full-day workshop to recreational team-building activities, but there are alternatives to this format. Scholars such as Joyce Carter (2013), Julie Watts (2019), Patiño (2022), and Amelia Pavlik (2020) have investigated online vs. in-person programming. There are many issues that incoming graduate students may consider when choosing different modes of orientation. These include the ability to attend in person (Pavlik, 2020), distance education students (Jones, 2013), desire to make connections with classmates or socialization (Weidman, Twale, & Stein, 2001; Watts, 2019), time management (Jones, 2013), and practice using technology (Dixon et al., 2012; Jones, 2013). However, Patiño (2022) found that both the in-person and virtual orientations were satisfactory at providing resources for navigating the transition into graduate school. Jones (2013) aimed to address the lower retention rates for online courses by implementing a mandatory online orientation for an online course, developing self-paced modules on computer requirements, being a successful online student, online student services, and navigating and communicating with the learning management system (LMS). In this case, the orientation is updated twice a year through summative and formative evaluations using qualitative and quantitative student feedback, helpdesk tickets, and faculty/staff feedback.

In keeping with the theme of variety in orientation options, Fan Yu et al. (2020)

and Katie Richards-Schuster et al. (2019) discuss alternative graduate school orientation. Yu et al. (2020) examine virtual reality while Richards-Schuster et al. (2019) explore the massive open online course (MOOC) as another way to orient graduate students. While traditional online graduate student orientation programs typically have admission requirements, fees, and an application process (Richards-Schuster et al., 2019, p. 314), MOOCs are open to all and don't require any qualifications or applications, and they are free to take. Any form of orientation to online graduate study, whether fully online or face-to-face, is beneficial (Watts, 2019). This allows students to better prepare for graduate-level learning experiences.

Lisa Meloncon & Heidi Harris (2015), Moon-Heum Cho (2012), and Jean Taylor, Margie Dunn, & Sandra Winn (2015) suggest preparing students for online instruction. The RWPC doctoral program hosts several online courses, which students need to be oriented into. Canvas, East Carolina University's main learning management system, has orientation options for all graduate students, including online and in-person options at ECU, to familiarize students with the learning management system and provide student support with technical issues. All this suggests that orientation options vary widely and there is no one-size fits all approach, which points to the need to study specific population's student needs in order to develop the best approach.

Mandatory Orientation

Orientations have been shown to increase student retention and warrant compulsory attendance (Braxton et al., 2014; Watts, 2019). Surprisingly, Watts (2019) found that some students would want components of their onboarding to be mandatory for accountability purposes. Scholars have recommendations for required orientations (Braxton et al., 2014). Jones (2013) presents a mandatory online graduate orientation developed within the college's LMS to improve retention.

Onboarding, Socialization, and Transition

Scholarly literature addresses the purpose of onboarding programs in general and graduate orientation more specifically. The overarching goal of orientation remains the same in the literature: to expose students to the "intellectual, cultural, and social facets of the institution" (Boykin et al., 2015, n.p. As cited in Watts, 2019, p. 255).

Onboarding

As noted, onboarding and orientation are similar yet distinct. Whereas onboarding involves a process of integration into an organization, which can begin before an official admittance or start date, orientation is an introduction, one-time event, or series of events that help the officially newly welcomed get started. Onboarding programs and orientation sessions are essential in promoting engagement, academic success, and a sense of belonging in graduate programs. They provide interaction with peers, facilitate socialization, and equip students with tools for navigating new challenges (Benavides & Keyes, 2016; Fakunmoju et al., 2016, as cited in Patiño, 2022, p. 10). Orientation also helps students connect with professors, make friends, and learn about campus resources (Patiño, 2022; Jones,

2013). Onboarding programs with socialization activities and faculty advising have been shown to increase engagement levels and promote academic success (Benavides & Keyes, 2016). However, creating programming that meets diverse student needs can be challenging (Watts, 2017; Benavides & Keyes, 2016).

Orientation programs that utilize academic achievement resources and program chair presentations can result in fewer students receiving grades below expectations and promote academic and social integration (Benavides & Keyes, 2016). Including extra materials such as graduate program success advice, individualized meetings with academic advisors, and review sessions can increase the success of orientation programs (Benavides & Keyes, 2016, p. 120). Graduate onboarding programs can also promote a sense of belonging and shape commitment to the field through activities that foster openness, trust, and deeper relationships with peers (Perez, 2016). While belonging has been studied among undergraduate students, limited research has been done among graduate students (Pascale, 2018; Patiño, 2022).

Socialization

Graduate students transition into graduate school and learn how to interact in a way that is acceptable to graduate school and society as a whole, a process known as socialization. Perez (2016) examined graduate students' transition experiences, contributing to understanding students' initial graduate experiences. Colin and Guy (1998) identify "three paradigmatic curricular" (p. 43) orientations, advocating that programs opt for the self-ethnic liberatory and empowerment approach to curriculum and course development, which seeks to establish a liberated and empowered community.

Graduate students encounter unique challenges during their transition and socialization to graduate school, such as time constraints and financial issues (Patiño, 2022; Fakunmoju et al., 2016). Building social networks and engaging in activities can assist students in succeeding academically and post-graduation (Haggerty & Doyle, 2015). To improve retention, it is beneficial to assess student needs at various stages and provide intentional check-ins during onboarding (Hardré & Pan, 2017). Non-traditional students may face particular challenges, and utilizing campus resources can help with successful study habits and social support (Hill & McGregor, 2012). Students of color may drop out due to a lack of social integration support, and employing cultural competencies can assist (Barerra, 2020; Davidson & Foster-Johnson, 2001). Orientation programs with a clear mission and high student participation may aid in decreasing dropout rates (Benavides & Keyes, 2016).

Transition

Graduate students need to socialize not only in graduate study, but also in their respective academic disciplines or professional fields. Orientation design should therefore include information networks connecting students to their advisors, faculty mentors, the graduate community, the institution, and their academic disciplines. TPC scholarship has explored the professionalization of the field, including the difference between explicit and implicit professionalization and how it contributes to student success. Studies such as Pennell, Frost, and Ghetto (2018)

and Haggerty & Doyle (2015) have highlighted the importance of graduate student professionalization for success after graduation. Additionally, Montserrat Castelló et al. (2017) have addressed how student experiences affect attrition and the motives behind why students drop or consider dropping out of doctoral programs.

Graduate students experience distinct challenges during their transition and socialization to graduate school, including balancing school with life demands, financial difficulties, and challenging relationships (Fakunmoju et al., 2016; Patiño, 2022). A sense of belonging contributes to students' academic integrity, self-esteem, persistence, and program satisfaction (Patiño, 2022). Establishing relationships with faculty, investing in a graduate degree, building friendships, and balancing graduate school with life demands are all factors that influence a graduate student's sense of belonging (Pascale, 2018).

Orientation programs play a crucial role in graduate students' transition and can help combat high attrition rates in graduate education (Haggerty & Doyle, 2015; Benavides & Keyes, 2016). The study aims to contribute to the scholarship on TPC professionalization while tailoring graduate student orientation programs to meet students' diverse needs. This research study amplifies those diverse student perspectives, gleaned from RWPC doctoral students and alumni, to inform program orientation.

Research Questions

Poock (2002) encourages involving current students in planning both departmental orientation programs and campus-wide orientation programs. According to Poock, "[g]athering input from those for whom the orientation programs are designed is the only way to ensure the desired ends of the program are being achieved." Gathering user input from those for whom the content is designed is one of the technical communication standards that this project implemented. This article reports on just such a survey of current students and alumni of a specific doctoral program. As part of this study, I sought to answer the following two main questions:

- What are doctoral students' particular graduate orientation needs?
- What do graduate students in the RWPC program at ECU want in terms of orientation?

There are also two sub-research questions:

- What would current students and alumni have liked to be included in an orientation to be successful?
- How can the English department best meet those needs?

Research Methods

User-Centered Approach

Steve Krug (2000) states the best way to find out what users want is to ask them. Michael Poock (2007), Patiño (2022), and Chris Dayley (2020) all got feedback from graduate student participants either through surveys, interviews, or both.

Several studies have been conducted on the needs of graduate students and how universities can adapt their programs to meet those needs. These studies focus on the socialization experiences of different populations of graduate students, including those from diverse racial, ethnic, or educational backgrounds (Hardré & Pan, 2017; Mears et al., 2015). Research has shown that the diverse experiences of students significantly affect attrition and retention. Recent scholarship in TPC has addressed the field's internal needs for diversity, inclusion, mentoring, and social justice (Dayley, 2021; Dayley & Walton, 2018, Jones, 2016). Scholars suggest student-developed and student-led orientations as a way to provide feedback that helps new students avoid common pitfalls during the degree program, answer common questions, and ensure students graduate on time (Patiño, 2022; Dixon et al., 2012).

The survey question design, which is informed by the literature review, is enhanced by incorporating open-ended questions and allowing respondents to provide their own answers. Open-ended survey questions, along with quantitative data ranking, amplifies the narratives and needs of the participants in the survey results. Jones (2016) highlights that TPC research on social justice aims to empower oppressed individuals and address issues such as inequality, access, privilege, individual rights, and the collective good. Acknowledging the narratives of students and alumni is a form of social justice as it ensures that program participants' voices are accepted and their needs are recognized.

Methodology/Design

The survey project aims to foster diversity and social justice as fairness for all and balancing unequal power dynamics. East Carolina University is classified as a PWI. Therefore, it is imperative to provide students of color with a platform to articulate their distinct requirements. Nontraditional students constitute an additional marginalized demographic. The data scope and study design are optimized to align with the principles of social justice in TPC programs and the design of student support systems by incorporating the self-identified needs of all graduate students and alums. Catering to the specific requirements of students' need for program-level graduate orientation is user/student advocacy.

This IRB-approved study employs a mixed methods approach. Following Alexander Thayer et al. (2017), I first empirically examined the characteristics of literature on orientation programs generally, and graduate orientation programs more specifically, leading to "emergent coding" (p. 8). I arranged the scholars' work into themes that can be made into coding categories. An example is presented below, where themes emerged from the scholarship regarding the needs of graduate students:

Twale, Weidman, & Bethea (2016) focus on the socialization needs of African-American doctoral students, while Hill & McGregor (2012) address similar challenges faced by older, non-traditional, and international graduate students during their first year of graduate school. These challenges include <i>balancing family, funding, work, and school schedules and adapting to the culture of the program</i> (emphasis mine).
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Aligning with Colin & Guy (1998) and others writing on diversity, anti-racism, and social justice, Barrera (2020) supports an “orientation model that eases new Latinx graduate students’ anxieties, through *concerted community-building* and *discussion of the hidden curriculum* (i.e., *unspoken rules and norms*) of higher education, both of which are critical to establishing a strong foundation for graduate school” (p. 48, emphasis mine)

Table 2. Emergent coding from excerpts of examination of the literature on graduate student orientation

For the research methodology, I employed a grounded theory approach as informed by Thayer et al. (2007). As Thayer et al. (p. 268) described, I sensed a number of common themes, first from the research literature to develop the survey (see Table 2), and next from data from the survey. I then developed a systematic, empirical way to code those themes. I adapted content analysis to research purposes, providing explicit instructions to define each coding category (see Appendix B).

As stated, I identified a preliminary set of coding categories used for this data analysis. Using grounded theory methodology, I surveyed the primary research articles on graduate student orientation to see what is being done in orientations. Keywords search were “graduate,” “student,” and “orientation.” Sources were first chosen on their relevance to the project, which yielded out-of-field journals; however, they were pivotal to the subject at hand. Then, updated literature was searched for within the last 10 years from 2022, the time period of the study. Some in-field journals searched included *Technical Communication*, *Technical Communication Quarterly*, *Journal of Technical Writing and Communication*, and *Programmatic Perspectives*. From these resources, I came up with a list of the most important topics for graduate orientation according to the literature. I did this through a process of emergent coding to empirically examine the data.

Diversity in TPC	Programmatic Social Justice	Race	Recruitment & Retention of Under-represented	Modes of Orientation
Dayley & Walton (2018)	Colin & Guy (1998)	David & Foster-Johnson (2001)	Poock (2007)	Poock (2007)
Montgomery et al. (2014)	Haas & Eble (2018)	Montgomery et al. (2014)	Benavides & Keyes (2016)	Stiles (2012)
Williams & Pimentel (2016)		Barrera (2020)		Watts (2019)
Twale, et al. (2016)		Twale et al. (2016)		Patiño (2022)
Hardré and Pan (2017)				Pavlik (2020)

Diversity in TPC	Programmatic Social Justice	Race	Recruitment & Retention of Under-represented	Modes of Orientation
Barrera (2020)				

Table 3. Preliminary emerging themes for the literature review

As shown in Table 3, preliminary emerging themes in this study encompass various aspects of Table orientation, including programmatic social justice, diversity within Technical and Professional Communication (TPC) programs, as well as a focus on issues related to race. Additionally, the study considers recruitment and retention of underrepresented students, while examining various modes of orientation.

Funding	Relationships	Time management	Transitions	Socialization
Hill & McGregor (2012)	Hill & McGregor (2012)	Hill & McGregor (2012)	Hill & McGregor (2012)	Benavides & Keyes (2016)
Fakunmoju et al. (2016)	Fakunmoju et al. (2016)	Dixon et al. (2012)	Twale et al. (2016)	Watts (2019)
Mears et al. (2015)	Mears et al. (2015)	Jones (2013)	Patiño (2022)	Patiño (2022)
	Smith (2014)	Fakunmoju et al. (2016)	Dixon et al., (2012)	Pascale (2018)
		Patiño (2022)	Perez (2016)	Mears et al. (2015)
		Pascale (2018)	Haggerty (2015)	Castelló (2017)
		Smith (2014)	Mears et al., (2015)	
		Castelló (2017)		

Table 4. Preliminary coding categories for data

As shown in Table 4, the preliminary categories were funding, relationships with peers and family, time management and work/life balance, transition and adapting to program culture, and socialization.

I formulated survey questions and research protocol based on the literature on orientation programs, including questions that asked participants to rank the importance of these orientation topics. I then used inductive coding of the data collected from survey respondents. In the first round of coding, I employed an emergent coding process by highlighting keywords and phrases in each participant's short answers to the survey questions. An example is provided below in Table 5:

<p><i>Q2: What do you believe are the most important things to know when beginning a graduate program generally and a PhD program specifically?</i></p>	
<p>I think the PhD seminar classes are fundamental in orienting students to the world of PhD school. The most important thing to know is who your advocates are, and when and how to reach for support if needed.</p>	<p>I think knowing the support systems that are available on campus is important, and I also really think it's important to know all the faculty in the department, even if a student won't be working directly with that faculty member right away. The networking experience can lead to possible collaborations later. I personally was really grateful I knew a faculty member in literature late in my PhD because I had to replace a member of my diss committee at the last minute and her expertise outside of my focus really brought an excellent new perspective to my work.</p>

Table 5. Emergent coding process

While using an inductive strategy to code while reading participant responses, I sensed many of the same orientation topics were present in the literature as themes emerging from the data. In the second round of coding, I color-coded the coding categories and used that to code the keyword and short phrase data from round 1 into the preliminary categories that had emerged from the literature, adding categories as necessary. Important themes emerged through various questions asked about what students responded important to them in a graduate orientation. An example is provided below in Table 6:

<p><i>Q5: What changes would you like to see in our PhD in RWPC program orientation efforts?</i></p>	
	<p>Color Code</p>
<p>I think a lot of orientations focus heavily on policies, which quickly becomes overwhelming. Those first few days you're in a haze, and (at least in my experience) you get a pile of information about resources that are available for different situations, none of which you remember months or years later when those situations actually arise. I'd put links to all that on a readily-accessible website or Canvas page, and then devote orientation time to 1) helping new students build relationships so they have experienced people to go to when questions come up, and 2) practical, "what happens on Monday" advice and guidelines</p>	<p>Purple (Department or program standards & culture)</p>

Q5: What changes would you like to see in our PhD in RWPC program orientation efforts?	
Non trad students need their own orientation. This student population is very different from the MA student that's gone straight through from BA to MA to PhD.	Yellow (Transition and lifestyle changes)
We NEED to meet all phd faculty. It's wild that the department only "knows of" people rather than actually knowing them. Then how do you choose committee members if you don't know them!?	Green (Faculty and student networking)

Figure 6. Data Analysis of graduate student and alumni survey responses

I also performed quantitative analysis by averaging the respondents' rankings of the importance of the orientation topics and what percentage of respondents answered in certain ways to survey questions. The survey questions collected quantitative data ranking the top program orientation topics gleaned from the literature, along with qualitative data from short answer questions asking about the students' recollection of orientation efforts at the department, college, and campus level.

Participant Recruitment

I recruited participants to respond to a semi-structured survey (see Appendix A). To recruit, I shared the call-for-participation via listserv/direct individual email invitation to Ph.D. students or recent graduates via the help of Michelle Eble and our department administrator. Participants were recruited from 18 current students and 35 alumni. Participants completed the anonymous survey between March 31, 2022, and April 15, 2022. Due to the relative newness of the program and small potential participant size, I purposely didn't include demographics as it could inadvertently identify someone.

Gathering user input from those for whom the content is designed is one of the technical communication standards that this project aims to implement. Results from this project will allow tailoring of graduate student orientation programs and activities to meet unique graduate student populations' diverse needs while contributing to the growing body of scholarship on TPC professionalization.

Coding Scheme

After completing data collection, I used emergent coding (Thayer et al., 2007) to analyze the responses I collected, and I developed a coding scheme based on keywords emanating from the main concerns in participants' responses (see Appendix B). These are the emergent categories (in addition to the five previously identified through the literature).

Coding Categories and Content Analysis

The coding categories can be found in Appendix B.

I also performed content analysis by tallying the number of a specific type of response given by respondents to certain questions (such as the number of respondents who didn't remember an orientation to the number who did recall orientation).

Results

I sought the information current students and alumni wanted to know when they started the specific TPC program and how to meet these diverse student needs in their graduate studies in the program.

Summary of Results

Comprised of current doctoral students and alumni of the last 10 years of the RWPC program, 25 participants responded to the survey. 44% recall a specific department or Ph.D. orientation.

What are doctoral students' particular graduate orientation needs?

Doctoral students have diverse orientation needs when entering graduate school. The students themselves are diverse, as one described "a student new to the environment, new to ECU academic culture and perhaps new to the social customs."

Their responses suggest that department or program-specific orientation is crucial in addition to the Graduate School orientation, as campus-wide orientations often fall short in addressing certain aspects of graduate education, such as navigating administrative systems. Students emphasized the importance of receiving information about graduate school culture, unwritten rules, department and program standards, and administrative processes during department or college orientations.

One student provided a comprehensive list of essential topics for orientation, including research interests, financial aid, library services, research and teaching resources, professional organizations, and wellness support. While other students didn't create such detailed lists, these needs were consistent across responses. Overall, students expressed a desire for an orientation program that provides excitement, motivation, and clear direction. Their key orientation needs include academic preparation, curriculum details, cost and expenses, library resources, time management, writing skills, dissertation guidance, location information, faculty expertise, research interests, and financial aid options. They also seek information on teaching, research, campus resources, and professional organizations.

Key points that graduate students need in an orientation include hearing from current students and graduates, academic preparation, curriculum, requirements, cost and expenses, library services, required time and effort, adjusting to writing

different genres, dissertation process, location, key people in the department, research interests, and financial aid. Students wanted excitement, motivation, and direction from their orientation program. Pulling from the entire field of responses from Q1, Q6, and Q9, the following items were deduced. In a graduate orientation, graduate students need:

- **Academic Preparation:** Discussing the importance of academic preparation for a Ph.D. program, including the need for strong research skills, critical thinking abilities, and a solid foundation in the subject matter.
- **Curriculum and Requirements:** providing an overview of the typical curriculum and requirements for a Ph. D. program, including coursework, exams, research requirements, and dissertation expectations.
- **Cost and Expenses:** explaining the costs associated with a Ph.D. program including tuition, fees, and living expenses, and discuss options for financial aid and funding.
- **Library Services and Resources:** detailing the library services and resources available to Ph.D. students, including access to databases, journals, and special collections.
- **Time and Effort Requirements:** discussing the time and effort required to successfully complete a Ph.D. program, including the need for discipline, focus, and time management.
- **Writing and Dissertation Process:** describing the writing process and dissertation expectations, including the importance of organization, research skills, and feedback from advisors
- **Location and Housing:** giving information on the city, surrounding areas, and the options for places to stay
- **Faculty and Administration:** highlighting the key people and faculty expertise within the department, including mentors, advisors, and professors with specialized knowledge in the student’s area of interest.
- **Research Interests and Career Choices:** discussing the different career choices available to Ph.D. students.
- **Resources and Organization:** detailing the teaching, research, campus resources, and professional organizations available to Ph.D. students, including opportunities for networking and career development.

Orientation Topic	Rank
Navigating doctoral program (Course scheduling, career-related coursework, degree path, assistantship opportunities, etc.)	4.84
Academic professionalization (doctoral study preparation, study skills, tenure-track academic jobs & long-term career goals)	4.52
Time Management	4.24
Faculty and student networking	4.04
Graduate school culture, the “unspoken” rules	4.04
Technology support and resources	3.96
Department or program standards & culture	3.96
Navigating administrative systems	3.76
Social and peer connections	3.71

Orientation Topic	Rank
Stress and personal crisis management	3.68
Transition and lifestyle changes	3.48
Information about University Services and Campus Programs	2.96

Table 7: The respondents' rankings of importance were averaged (out of 5 being very important)

Table 7 shows the respondents' rankings of importance were averaged (out of 5 being very important). Based on the literature regarding doctoral attrition, time management was one of the reasons students dropped out that were separate from academic performance. These reasons could be outside of their academic life, including personal and family time constraints. So, while orientation cannot solve those issues, it can provide resources and support to support graduate student retention.

What would current students and alumni have liked to be included in an orientation to be successful?

Current students and alumni expressed their preferences for an orientation program that focuses on department-specific needs rather than general administrative information. They highlighted the importance of community building and the need for better connections and relationships within the academic community as “[y]ou can’t replace an on-campus experience for orientation.” One suggested “stories from previous graduates’ success” and “experiences/ tips from current students.”

Participants suggested additional orientations for graduate teaching and non-traditional students. One participant states they remember a college/department orientation as a “day long/half day long event where we could hear from different professors and meet with current students to talk about grad school. As a non-trad student, a lot of it didn’t apply for me.” Participants also emphasized the value of addressing typical Ph.D. academic activities such as conference participation, paper presentations, and professional development, including publishing.

The respondents emphasized the importance of clearly defining program goals, objectives, and purposes. They suggested including presentations by successful Ph.D. alumni to inspire and guide new students. Additionally, participants highlighted the need for preparation in navigating the complexities of “real” academia, including faculty-administration dynamics, budget constraints, grant management, and assessment processes. One participant says it is important to know “an understanding of grad life! timelines, what to expect, tips, etc. cognitively prepared for a PhD program, the reality of PhD school, the visible and invisible labor of obtaining a PhD; potential reality that even with a PhD degree, one may not be able to obtain a tenure-track position.” Another also referenced “the realities of entering the program,” which points to the “unspoken” or “unwritten” rules of academic life coded in the data categories.

To enhance the orientation experience, students and alumni proposed a more structured four-to-five-year plan, additional funding opportunities beyond

assistantships, and less formal socializing events. They also recommended adding leadership skills, networking with other programs, publication guidance, conference financing, and parking information to the campus-wide orientation, while removing department-specific graduate student testimonials.

What do graduate students in the program want in terms of orientation?

Graduate students in the RWPC program at ECU expressed a wide range of concerns and preferences regarding their orientation. These concerns span various topics, including “living on restricted budget, expenses, finding your niche early on and sticking to it, living in the city--reputable auto mechanics, child and pet sitters, electricians, repairpersons, internet providers; good study locations; doctor’s offices that are in-network with university insurance-- anything you can avoid researching on Yelp to give more time for class work.” They requested “Campus Resources to support Work-Life Balance / Wellness / Mental Health.”

Students noted that campus-wide graduate orientation fostered valuable social and peer connections, as well as faculty interactions. They didn’t recommend removing any content from the Graduate School’s orientation. They recommend “orienting students to the world of PhD school” and “[p]rep[ping] students for ‘real’ academia.”

They also offer insights in to how they want a TPC graduate orientation to make them feel: “Knowing that I am not alone in my struggles is the most helpful,” stated one participant. Another also said “empathy was another practice that helped me be successful in the program... I could sense it and feel it in a very real (tangible) way.”

Information regarding department or program standards and culture from the Graduate School orientation was particularly helpful for students as they transitioned to graduate school. Some students recalled specific orientation efforts by the ECU English department, including the year-long Professional Seminar course, GTA orientation, and virtual meetings with Ph.D. students and faculty professors. As one participant offers, “the PhD program also created a course related to professionalism. Although not an orientation, the course was also extremely informative.”

There seems to have been a more formal orientation provided by the department in the past, as one respondent mentioned one such orientation in 2010. Students expressed a desire for easily accessible links to all policies, a focus on relationship-building, practical advice for immediate needs, meetings with all Ph.D. faculty (as “networking experience can lead to possible collaborations”), and online resources that can be accessed at convenient times.

They emphasized the importance of in-person networking events to form stronger connections compared to online experiences, as one participant notes “several informal get-togethers for grad students or grad students and faculty—that really helped us get to know people and build a support network quickly.” Another had “direct contacts I could ask for information or answers to questions.” These connections span outside the program and across the department level as well: “I remember the faculty introductions most of all—that really stuck with me. I just

wished to have met more folks across the department." Another stressed "office admin staff" who can be "a major asset."

Other participants offer insights on the most memorable part of their orientation into the program: "Orientation began with formal presentations and sessions on campus, but what I remember the most (what stands out as the most valuable part of orientation for me) was the off-campus meet-and-greet with other graduate students and professors hosted by Dr. Eble after the official orientation." Key faculty members proved to be valuable resources in orientation.

There are several cautions as well. For example, things graduate students may NOT want in orientation. These include: "the first year teaching orientation that was way too long and overwhelming" and "meeting one day with a bunch of people talking." Timing was another issue. A student stated that "a lot of orientations focus heavily on policies, which quickly becomes overwhelming. Those first few days you're in a haze, and (at least in my experience) you get a pile of information about resources that are available for different situations, none of which you remember months or years later when those situations actually arise." Again, regarding timing of orientation, a respondent suggested "[a]n event each semester (or each year) tailored to where someone is in a doctoral program would be much more useful. At that first orientation, I was two full years of coursework away from all of the other parts of my program, so having more info about exams/prospectus/etc. closer to the time I needed them would be much more useful. Same for the dissertation research and writing stages."

A respondent suggested "making the program shorter and providing links to information that is already online instead of stretching out a presentation." One participant is noted "recommending grad students come way before their first responsibilities may have helped me a little. I was juggling life and GTA orientation at the same time. If I had moved ... earlier, it would have been better for me." Another caution is learning through experience even though one has had orientation. As one participant put it: "No amount of orientations can emulate the experience of being a participant of complex rhetorical situations within the environment of PhD program. PhD school can be liberating and oppressive at the same time, and PhD school is an educational environment, which means that learning often comes in the form of failing."

Discussion

This research has several important implications, especially its findings compared to other research in this area. These results can be used by TPC graduate students at the departmental level, filling in gaps in TPC research.

How can the department best meet those needs?

To best meet the needs of graduate students in the RWPC doctoral program at ECU, several key strategies can be implemented:

- **Incorporate Department Standards and Culture:** Ensure that the

orientation includes information about department or program standards and culture.

“While the graduate school now has tons of resources on their site, there wasn’t much to look at when I started the PhD program in the English Department. To be honest, it didn’t matter to me whether ECU’s Graduate School had information on their site or not. From my way of thinking, what I needed to know was going to be explored in my departmental orientations.”

One student stated, “the orientation should reflect the goals/purposes/objectives of the program.” This department orientation will help students acclimate to the specific academic environment and expectations within the department.

- **Help Students Navigate Administrative Systems:** Address the need for guidance on navigating administrative systems. Providing clarity on administrative processes and procedures within the department can alleviate potential confusion for incoming students.
- **Facilitate Social and Peer Connections:** Prioritize opportunities for social and peer connections. Organize events and activities that encourage students to build relationships with their peers and faculty members. These connections can provide valuable support and a sense of belonging.
- **Support Faculty and Student Networking:** Introduce students to various faculty members across the department. This exposure can help students identify potential mentors and build a network of academic support: “The relationship with my professors helped me succeed in the program more than anything else.”
- **Support Transition and Lifestyle Changes:** Recognize that graduate students may be going through significant lifestyle changes. Provide resources and support to help them manage the transition into graduate school effectively. For example, one participant stated they “worked full time, had two little kids at home...maybe an online orientation that I could have gone through after I put my kids to bed would have been helpful.”
- **Facilitate Effective Communication:** Maintain open lines of communication with program directors. Ensure that students are aware of the support systems in place and feel comfortable reaching out for assistance as needed.
- **Orientation for special populations:** Such as nontraditional students, as one participant noted that “[n]on trad students need their own orientation. This student population is very different from the MA student that’s gone straight through from BA to MA to PhD.” Also, programs should “try to serve both the in person and off campus students at the same time with a variety of different formats.”

The project contributes to the growing scholarship on TPC professionalization and provides valuable insights for designing effective orientation programs for graduate students in technical and professional communication programs. Aligning with TPC graduate orientation studies (Watts 2019), survey results show that students want peer-to-peer interaction. The results of this study have important implications for the professionalization of TPC doctoral students. The findings suggest that different types of professionalization, including the academic path and community-building activities, are essential for students’ success in future careers (Saul Carliner, 2012).

Another implication of this study is that TPC can focus on programmatic efforts to aid the transition to graduate school in addition to initiatives such as Pennell, Frost and Getto (2018) for early career scholars and new faculty. This is similar to Perez (2016) noting explorations of early socialization experiences that tend to focus more heavily on the transition to practice than they have on the transition to graduate school. Aligning with research (Patiño, 2022), findings show participants concerned with improving the graduate student onboarding procedures, facilitating and building socialization through peer-to-peer support. A tiered model of current and previous graduate students can help design customized orientation programs tailored to students at different stages of their studies. Orientation programs have the potential to improve student motivation and satisfaction, as shown by previous studies (Benavides & Keyes, 2016).

The results of this study highlight the importance of team-building exercises in student retention and the need for adaptable elements in orientation programs, such as flexible timing, presentations by faculty, refresher courses, and updated session content. These findings are in alignment with published literature on graduate orientation, such as Benavides & Keyes (2016). These suggestions align with previous research findings and can help to improve the overall experience of TPC doctoral students.

Overall, the project results contribute to the growing body of scholarship on TPC professionalization (Carliner, 2012) and provide valuable insights for designing effective orientation programs and activities for TPC graduate students. In accordance with previous research, to better meet student needs, important elements need to be adaptable, such as changing orientation times to allow more attendance, more presentations by faculty and adding refresher courses for academic research writing and statistics (Shore, 2016), and updating session content (Benavides & Keyes, 2016).

Delivery Methods

Effective delivery methods for improving the experience of TPC doctoral students include team-building exercises and adaptable elements like flexible timing, faculty presentations, refresher courses, and updated content to enhance student retention.

Preliminary results suggest that a half-day orientation program can introduce essential aspects of the graduate program and academia, supplemented by ongoing support through the Professional Development Seminar, Canvas Course (ECU's preferred learning management system), and workshop series to provide more in-depth knowledge and guidance over time. Respondents preferred a combination of a Canvas course and workshop series/brown bag lunches for orientation, emphasizing the importance of both online and in-person elements in meeting students' needs. This aligns with the use of a LMS course for orientation in other institutions, promoting effective online learning experiences (Taylor, Dunn, & Winn, 2015). Additionally, community-building and social events were identified as vital components, making an in-person half-day orientation valuable for addressing both formal and informal information needs.

Faculty/Student Interaction

The importance of faculty/student interaction, especially for traditionally marginalized graduate students, is emphasized. Research by Montgomery, Dodson, & Johnson (2014) highlights the distinction between advising and mentoring, underlining the need for meaningful and honest relationships to support individual students. The findings suggest that graduate orientation should provide both program rules and expectations and opportunities for student/faculty interaction. Additionally, Patiño's research aligns with these findings, emphasizing the significance of peer-to-peer and faculty/peer relationships for student support and a sense of belonging. Alumni involvement in orientation is recommended for networking and program success, while organizing a LMS course based on students' time in the program aligns with web-based graduate orientation research.

Formative Assessment

To enhance orientation and professional development for TPC graduate students, it's recommended to involve the students themselves in the process, strategically time the information provided, and seek regular feedback and evaluation from them, similar to existing practices in other universities. Implementing an assessment method through surveys and focus groups aligns with the literature on student-developed orientation, and forming a development team with graduate assistantships can contribute to the development of online course orientation materials in the department.

Cross-Campus Collaboration

Continuing with recommendations informed by study results, it is suggested that TPC faculty and administrators include a collaborating interdisciplinary team with offices and faculty across campus. Graduate school administrations and student success programs can offer practical advice to program administrators. Remind graduate students of the resources available on campus. Invite the offices that provide those resources to hold workshops or brief sessions to introduce their points of contact at orientation. Patiño (2022) admonishes academic advisers to notice when students appear burnt out and struggling to balance their workload during check-ins. Connect with the writing center or center for academic success that can offer graduate workshops. These cross-campus workshops with other student success initiatives can help students find balance in completing readings and writing more quickly, for example. Another example would be if beginning graduate students frequently experience imposter syndrome. In that case, advisors and mentors should check to see about the counseling or wellness center wants to offer imposter syndrome workshops during orientation refreshers and check-ins. Also, provide orientation and onboarding programming before the start of the semester to build a programmatic foundation so that orientation efforts are not condensed on the first days before or after the semester begins. As Patiño points out, graduate students need time to establish strong connections with their peers, academic advisors, and faculty.

Making a Mandatory Online Orientation

Mandatory online orientation is recommended to ensure students do not overlook it,

with quizzes included to ensure engagement, as shown by Jones (2013). However, University of Central Florida's example offers a more flexible, non-mandatory online orientation with modules that students can choose based on their needs, including a welcome from the dean and success tips from current students and faculty (Pavlik, 2020). To compensate for the lack of in-person engagement, additional relationship-building events and online workshops on personal and professional development are suggested to foster connections among graduate students (Pavlik, 2020).

Building Relationships and Peer-to-peer Connections

Feeling supported is one indicator of a successful comprehensive graduate orientation program. The survey findings align with existing literature emphasizing the importance of fostering peer-to-peer connections and supportive communities for graduate students. Montgomery, Dodson, & Johnson (2014) advocate for more effective mentoring models, particularly for underrepresented individuals, emphasizing the integration of teaching, research, and service activities. Pennell, Frost, & Getto (2018) suggest hosting social gatherings to create program culture and model professionalization practices. Patiño's (2022) research highlights the impact of peer-to-peer support, faculty engagement, and institutional resources on students' sense of belonging, with cohort-based programs fostering stronger bonds and interactions among students. Programs that mandate similar coursework and aspirations tend to facilitate smoother transitions to graduate school.

Social Justice and Diversity

Embedded in this survey project is the aim to promote diversity and social justice by being inclusive of graduate student's self-identified needs. East Carolina University is a primarily white institution. As such, students of color have unique needs and need an avenue to express them. Nontraditional students are another marginalized population. The data scope includes students in these populations (as the researcher has personal knowledge of many of the participants), and the study design aligns with social justice in TPC programs through a justice-oriented design for student support systems.

Limitations

One limitation of this study is that it takes place in one program, namely the PhD in Rhetoric, Writing, and Professional Communication at East Carolina University. While this may lead to results not being generalizable to TPC as a field, I know that local context matters. Local context includes the specific graduate programs' students, programs, and departments, and also the projected academic and professional career paths of said graduate students. Local context could even include geographical information, for example, in places where social events could look much different than in other areas of the world.

The survey form was anonymous, so answers are not linked with individual identifiers. This choice limited the study because marginalized and under-represented users' or students' needs were not explicitly identified in the study, due to the survey population being relatively small and these identifiers at a PWI could lead to responses being connected to individual participants. The study did not

collect personal identifiers from study participants such as race and gender. Because participants cannot be identified, this approach would not be useful for seeing what could be done to orient certain populations, such as international students, Black students, or specific intersectional identities of race, ethnicity, gender, sex, orientation, etc.

As noted in Pennell, Frost & Ghetto (2018), those who self-select for studies like this are likely to share other features in common, which could lead to trends in professionalization that are not truly representative of the general field. For example, respondents may share a commitment to disciplinary service work, the value of studies based on reporting experience, or the capacity to set aside time for being research participants. Also, "it has been documented that people experience professionalization differently depending on identity characteristics" (Pennell, Frost, & Getto, 2018, p. 80), so some perspectives or particular trends may be limited or overlooked.

Future Research

More sites of inquiry for graduate orientation in a TPC program include differences in students' time in the program, such as during onboarding and the first semester of their studies, through the professional development seminar, and in-person, on campus, and in the LMS. The feasibility of a social media campaign to help build social presence and community among prospective students and alums should also be researched and assessed. Assessment surveys, such as in Watts's (2019) article on course-embedded online student orientation, are another possible study agenda.

Similar to Perez's (2016) recommendations, future research should consider methods to gain a deeper understanding of socialization contexts (p. 775). Additionally, longitudinal data could observe correlations, if any, with students attending department graduate orientation and doctoral attrition over time. While Richards-Schuster et al. (2019) have developed MOOCs in social work, there is currently no MOOC available in the TPC field. Future research could focus on innovating and implementing a MOOC in the TPC context to engage more learners and help them understand the foundations of TPC.

The study's contributions could be enriched by addressing the complexities of balancing diverse student needs in the research design. Despite well-meaning efforts, administrators and faculty may inadvertently overlook marginalized students' requirements in orientation systems. General survey outcomes may not adequately capture these needs.

To enhance the research's social justice aspects, a more focused approach on one TPC program could benefit from qualitative methods like interviews and additional participant background inquiries. Moreover, participatory design strategies such as UX workshops and pre-orientation surveys could provide a deeper understanding of students' experiences and preferences. These methods would help identify and address the challenges faced by marginalized students, fostering inclusivity in academic settings.

I intend to conduct further research on graduate orientation to enhance the existing dataset. Specifically, I desire to delve deeper into potential mismatches between the expectations and experiences of program/department administrators and graduate students. This future research aims to expand the scope of respondents beyond graduate students to include various stakeholders such as graduate school administrators, department directors, writing center administrators, and staff members of other relevant offices. By including these diverse respondent groups, the study aims to explore differing perspectives and identify areas where there may be discrepancies or alignment in expectations between administrators and students. This approach would enrich the understanding of graduate orientation processes and enable a more comprehensive assessment of the needs and challenges faced by all stakeholders involved. Moreover, extending the research across different programs and regions could provide valuable insights into how orientation practices vary in different contexts, contributing to the broader understanding of graduate education and student support initiatives.

Conclusion: Socialization And Professionalization in TPC Orientation Programming

Orientation programs play a critical role in helping graduate students transition into their academic and professional communities. Socialization issues, such as isolation and a lack of connection, can hinder students' sense of belonging and academic success. Emphasizing socialization through peer-to-peer and faculty-student support, along with a focus on both enculturation and professionalization, can enhance the effectiveness of orientation programs. In addition to professionalization as defined earlier, enculturation in the context of graduate programs, particularly in technical and professional communication, refers to the process by which individuals become integrated into the cultural and professional norms of their field. This involves the acquisition of specialized knowledge, skills, and behaviors that are characteristic of a particular community of practice. According to Catherine G. Latterell (2003), enculturation in technical and professional communication graduate school programs involves socializing new PhDs into the values and real work of the institutions where they will find employment.

These programs should prioritize building a graduate community and providing informal mentoring and social gatherings to help students integrate into the academic culture before focusing solely on professionalization.

Continuously Adjust in Response to Changing Conditions

This article surveys current and former TPC doctoral students, namely ECU Ph.D. in RWPC students, to explore their perspectives on what constitutes an effective and supportive orientation program. Positive user experiences are indicators of success. Recognition of students and alumni's narratives and taking action to meet their needs through formal and informal means is social justice, ensuring that program participants are heard and their needs are valued.

Orientation is an important form of technical communication that addresses the

specific needs of university student populations and assists in their transition into graduate school. Poock's (2002) pivotal orientation study additionally indicated that students valued departmental orientation over campus-wide programming. Different terms have been used to describe the process of students being oriented into academic cultures, including student success, socialization, and enculturation. Studies on graduate student professionalization, socialization, and enculturation studies can inform a departmental orientation program that prioritizes graduate student development. Departmental and programmatic orientations can help graduate students transition to graduate school, though departmental orientation has been the subject of less scholarship.

The first year is one of the hardest and most important times in graduate degree completion (Hardré & Pan, 2017; Fakunmoju et al., 2016; Patiño, 2022) . Graduate students' needs shift over time (Hardré & Pan, 2017). Thus, formal academic job market training could wait until the incoming cohort is acclimated to their program. Ph.D. students benefit from orientation at the start of their program and continuing onboarding efforts throughout their time in graduate school. TPC program faculty and administrators must support graduate students, prevent institutional neglect, lower dropout rates, and improve doctoral programming. Prioritizing student development and addressing common graduate school challenges through orientations may benefit those in TPC graduate programs.

Orientation programs in graduate schools are essential for helping students transition into their academic communities, and they should be tailored to meet the specific needs of students entering technical and professional communication programs. While campus-wide orientation is important, departmental orientation is often viewed as more critical by students. These graduate orientation programs should prioritize student development, address common challenges during the transition to graduate school, and adapt to changing student needs over time to improve retention and improve program quality.

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Appendix A

TPC Graduate Student Orientation Survey

Help design ECU's RWPC doctoral student orientation. What do you wish you had known that would improve your graduate student experience? No one knows better than you what helps grad students succeed!

You are being asked to participate in a research study titled "On Developing a TPC Program Graduate Orientation" being conducted by Codi Renee Blackmon, a PhD student at East Carolina University in the English department. The goal is to survey 50 individuals in the PhD program in Rhetoric, Writing, and Professional Communication at ECU. The survey will take approximately 10 minutes to complete. It is hoped that this information will assist us to better understand how best to develop and implement orientation options for the PhD program. Your responses will be kept confidential and no data will be released or used with your identification attached. Your participation in the research is voluntary. You may choose not to answer any or all questions, and you may stop at any time. We will not be able to pay you for the time you volunteer while being in this study. There is no penalty for not taking part in this research study. Please call Codi Renee Blackmon at (252) 328-6378 for any research related questions or the University & Medical Center Institutional Review Board (UMCIRB) 252-744-2914 for questions about your rights as a research participant.

I confirm that I voluntarily agree to be a part of this study, and I understand that I can withdraw my consent at any time.

I agree

Q1: According to Upcraft and Farnsworth (1984), 'orientation is any effort on the part of an institution to help entering students make the transition from their previous environment to the collegiate environment and to enhance their success in [graduate education]' (p.27). Tell me about any orientation efforts you remember your department or college providing.

Q2: What do you believe are the most important things to know when beginning a graduate program generally and a PhD program specifically?

Q3: According to the literature, these are some components to be included in an orientation. Rank them using the following scale.

Five-Point Scale: (1) Not important, (2) Slightly important, (3) Fairly important, (4) Important, (5) Very important.

On Developing a TPC Program Graduate Orientation

Information about University Services and Campus Programs

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Time management

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Navigating doctoral program (Course scheduling, career-related coursework, degree path, assistantship opportunities, etc.)

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Graduate school culture, the "unspoken" rules

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Social and peer connections

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Academic professionalization (doctoral study preparation, study skills, tenure-track academic jobs & long-term career goals)

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Department or program standards & culture

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

On Developing a TPC Program Graduate Orientation

Faculty and student networking

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Stress and personal crisis management

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Navigating administrative systems

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Transition and lifestyle changes

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Technology support and resources

	1	2	3	4	5	
Not Important	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Very important

Q4: You might remember a PhD program orientation. What, if anything, do you remember about a departmental/PhD graduate student orientation?

Q5: What changes would you like to see in our PhD in RWPC program orientation efforts?

Q6: What kind of information is helping or helped you succeed in ECU's RWPC program?

Q7: You might remember that ECU Graduate School offers a campus-wide orientation with both online and in-person options. What, if anything, do you remember about graduate student orientation?

Q8: Did the information presented in the ECU Graduate School orientation help you as you began graduate school? If so, how, why, or why not?

Q9: Did/does the information presented in the ECU Graduate School orientation

help you to complete graduate school? If so, how, why, or why not?

Q10: Thinking back, is there anything you would have liked to be included in the ECU Graduate School orientation?

Q11: Do you feel any information needs to be added to the ECU Graduate School orientation? Do you feel any information needs to be deleted?

Q12: Do you feel all the information in the ECU Graduate School orientation was relevant and necessary at the beginning of your program? If not, when would be the best time to receive this information?

Q13: What is your preferred method(s) of delivery for a PhD Program orientation?

- Canvas course
- In-person half-day orientation
- Workshop series/brownbag lunches on key topics
- Other

Q14: Do you have ideas for orientation options to add?

Appendix B

Coding

Coding Categories: Emergent Themes from Literature & Data	Coding Description
Academic professionalization	The inner workings of studying, planning, and building a career in higher education. Doctoral study preparation, study skills, tenure-track academic jobs & long-term career goals
Time management	Students ability to comprehend and manage the amount of time needed to invest in doctoral work and to prepare their schedules to accommodate doctoral study and all outside responsibilities, including cutting out activities where necessary while in doctoral program
Technology support and resources	The understanding of and access to the technological tools needed to be successful in both in-person and online coursework, and where additional technology, both hardware and software, is available to them as a doctoral student
Faculty and student networking	Professors in the doctoral program and department being active in mentoring, networking, and researching with students and serving as dissertation chairs and committees
Graduate school culture	The “unspoken” rules: Informal base of knowledge towards graduate student success, including how graduate school works overall and the particular tips and tricks to be successful in graduate school
Department or program standards	Formal knowledge base specific to doctoral program and departmental culture
Navigating administrative systems	Procedures for bureaucratic requirements
Social and peer connections	Being introduced to and able to get to know others in your program and field outside of formal academic spaces and topics

Coding Categories: Emergent Themes from Literature & Data	Coding Description
Transition and lifestyle changes	Moving from one stage of the process to another, such as from being accepted to moving locations and starting the program as a new graduate student, or from being a Ph.D. candidate to being on the job market. Adjusting to and settling into the new requirements and realities of the next stage in the process
Stress and personal crisis management	Problems, issues, and concerns outside of, but not divorced from, doctoral and academic study that impact one's ability to navigate the program requirements easefully and may acquire accommodations or additional aids to overcome
University Services and Campus Programs	Information about Campus-wide resources, provided by the university, available to all students, and usually paid for in student fees
Navigating doctoral program	Specific choices offered by student's doctoral program which can be tied to student's future career goals—course scheduling, career-related coursework, degree path, assistantship opportunities, etc.

Author Information

Codi Renee Blackmon (she/her) holds a BA in English and a master's degree in Professional and Technical Writing. She has experience in various fields, including high school and university libraries, writing centers, and after-school programming. She is currently pursuing her PhD in Rhetoric, Writing, and Professional Communication at East Carolina University. Her research interests include professional and technical communication, anti-racist writing instruction, and Technical and Professional Communication (TPC) Black women's research and scholarship. She uses cultural rhetorics, digital media, activism, and Black digital feminist research methodologies to promote diversity and inclusion in professional discourse communities.

Writing for Organizational Change: A Programmatic Assessment of an On-Campus Service-Learning Partnership

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Abstract: This program showcase draws on the long history of client-based service-learning scholarship in professional and technical communication. The authors add to this conversation by focusing on two underexplored areas: writing toward workplace change and partnering with on-campus organizations. The authors argue that, when fully integrated into a professional writing program, course partnerships with evolving on-campus organizations may allow students to study and practice writing for change, perhaps more fully than they can when their client is an off-campus organization that may be less accessible physically and conceptually. To illustrate their argument, the authors describe a multiyear partnership between their university's writing center and professional writing program.

Keywords: service learning, client-based projects

In the past two decades, numerous Professional and Technical Communication (PTC) scholars have argued for the pedagogical and programmatic benefits of client-based service-learning projects that ask students to write for, with, and about community organizations. In the 25 years since Thomas N. Huckin (1997) argued for service-learning in technical communication, scholars such as Jeffrey T. Grabill (2004), J. Blake Scott (2008), and James Dubinsky (2010) have studied how we may engage our communities while providing professional and technical writing students with "real" audiences and purposes for writing the kinds of documents they may encounter in PTC jobs. In many cases, client-based service-learning projects are viewed as part of an ongoing job preparation process in PTC programs. When fully integrated into a PTC program, service-learning projects often function as learning locations where students can apply the theory they learn in the classroom in workplace practice.

This program showcase describes an ongoing multiyear service-learning partnership we developed in the professional writing program at the University of Alabama at Birmingham (UAB), a four-year public university situated in the heart of downtown Birmingham. By immersing them in an evolving organization, the partnership helps students learn to write toward change. More specifically, we describe how the partnership seeks to help students learn how professional and technical research and communication practices can help drive positive changes within a professional organization and manage those changes that are less ideal and/or beyond the organization's control.

We have both integrated client-based service-learning into nearly all our PTC courses, but we focus here on our ongoing partnership between the professional writing program and writing center for three main reasons. First, focusing on one partnership allows us to include detailed accounts of our rationale and methods. Second, this focus allows us to include detailed information about the types of projects our students have completed. Third, and perhaps most importantly, our different roles within the partnership allow us to offer different programmatic perspectives regarding the collaboration. Bacha, a professor in the professional writing program at UAB, provides the voice of the faculty member, while Wells, UAB's writing center director, provides the voice of the client. Increasingly, scholars include the clients' voices in their assessment and research about service-learning projects, but the scholarship overall still tends to focus more on the faculty members' perspectives. By presenting part of our argument as narratives from the perspectives of client (Wells) and instructor (Bacha), we hope to continue filling this gap and add to a conversation that integrates client and instructor views on service-learning. This approach also allows us to provide a model that readers can adapt for developing sustainable and mutually beneficial partnerships between PTC programs and on-campus organizations experiencing change.

Professional Writing and the Writing Center at UAB

Our courses include students with diverse goals and experience because our department offers several different options for focusing on Professional and Technical Communication (PTC). Professional Writing is one of four concentrations students can select when working toward a B.A. in English and one of two focus areas of the department's new B.A. in Writing and Media. Additionally, the English department offers a minor in Professional Writing, which is an attractive option for students from outside of English. Finally, all English majors must take one professional writing course as part of their degree requirements. The range of student goals and levels of interest in PTC can create challenges when selecting course outcomes. In one example, all PTC courses must include some overview of basic concepts because English majors who concentrate in literature, creative writing, and linguistics often come to the 300 and 400-level courses without any background in PTC. For these students, our courses may offer their only opportunity to practice writing for non-academic audiences and produce common workplace documents. On the other hand, students concentrating in PTC as part of the English or Writing and Media major may have lots of experience with professional writing, particularly if they have completed an internship as their

capstone experience, as many professional writing concentrators do.

Client-based service-learning offers many advantages within our program, including helping bridge and even embrace the knowledge gaps among our students. The collaborative nature of these projects means students with more PTC experience become group leaders who gain leadership experience while also helping less experienced students. Further, our experiences support Huckin's (1997) claim that service-learning in technical writing courses offers students "better writing skills and opportunities for civic education" (p. 57). We find our students' products are often much more sophisticated when they are paired with a "real" client, and the students often see their work as more than just a classroom project. Further, incorporating service-learning into many courses builds a human element into the PTC program overall, meaning that students leave the PTC major or minor with a strong sense of how professional and technical communicators work within real human contexts that can be messy, stressful, and ever-changing. Finally, service-learning provides our students an opportunity to conduct primary research activities discussed in most PTC handbooks and collections like those from Tim Peebles (2003) and James Dubinsky (2004). According to Kelli Cargile Cook (2014), requiring fieldwork methods like interviews, questionnaires, focus groups, and archival research helps students gain a stronger understanding of what their clients need and how their clients will eventually use the documents they create (p. 37-39). Our students have not only conducted these research activities but have also applied their research results as they worked with clients and made rhetorical choices. Primary research fits particularly well at UAB, given the strong university-city connection that even led to the "city as classroom" theme becoming a central part of our new core curriculum.

Along with the benefits, service-learning projects in PTC courses can also present pedagogical challenges, especially when students collaborate with off-campus organizations. Off-campus partners may offer only limited access that prevents students from becoming fully aware of the organization's external pressures, ongoing changes, and plans. Students may only interact with a few members of the organization (and sometimes only one). Further, students may have limited access to their clients' workplace when partnering with an off-campus organization. Even when schedules are considered well before a service-learning project begins, students may only visit the partner's site a few times. These limitations situate students "outside" the organization and can create a flawed sense of rhetorical awareness and rhetorical affordance.

If the students remain in the position of outsider for the duration of the project, the rhetorical artifacts they produce will not necessarily be user-centered. In our experiences, what the students produce often only matches the needs of the contact person they work with during the project cycle. Unless that contact person is the only person in the organization who will use those documents, the students may miss a fundamental principle embedded in most contemporary approaches to PTC pedagogy. To be truly user-centered, the documents need to match the needs of all the organization's employees in content, style, and reading level. That level of user-centeredness can only occur if the students interact with the organization's employees, learn the actual steps the employees take to complete work-related

tasks, and learn the discourse the employees use to describe their own workplace practices (see Clay Spinuzzi, 2003). These challenges may be particularly intense when the project's deliverables are connected to organizational change, since understanding how an organization is evolving requires even greater insider perspective.

Pairing students with an on-campus organization may address the challenges of access and outsider status and help better introduce students to rhetorical situations revolving around organizational change. The proximity and accessibility of on-campus partners allow students to become immersed in the organization's discourse in ways that help them see how that discourse contributes to changing workplace practices. Working with a university's writing center, for example, offers a situation where the students are already enmeshed—as university members themselves—in that organization's larger institution. This physical and intellectual proximity can help students better understand the institutional pressures that the organization faces and how the organization is responding. Perhaps more importantly, partnering with an organization whose broader institution is more familiar may allow students to go deeper into their study of how organizations use professional communication to deal with external pressures.

University organizations like writing centers certainly offer great examples of workplaces that are frequently pressured, and sometimes forced, to adjust their practices. Major changes can happen without notice and have immediate consequences. In one example, an increase or decrease in enrollment may alter the organization's budget. These changes may be hard for the organization to manage on its own, especially if a decreased budget means reducing payroll, but it does create an incredible learning opportunity for students to see first-hand how professional writing and research may be used to help organizations change, grow, and thrive amid external forces. And, this type of partnership often produces a high potential for the students to see how their work impacts the organization years after they have finished a client-based project. Such partnerships may help students understand how they can use the products they create to become agents of organizational change.

When working with an on-campus organization, students may be even more motivated to be agents of change, since the college or university is their primary community (or one of them). When they learn organizations face funding cutbacks and pressures, even when their tuition dollars are increasing, they may be even more likely to question what is going on in their community and even more likely to become agents of change than they would be for off-campus partners. From a programmatic perspective, partnering with a university-based client like a writing center may also allow the PTC program to function more as insiders and to develop a more varied array of client-based experiences for their students, such as internships, student organizations, and course-based projects that all involve writing and research toward organizational change. A partnership with a university-based client can provide students a fuller, more nuanced understanding of how language in action functions so that they may be better equipped to write and research for change. As our experiences will demonstrate, PTC students can be the kind of change agents that David Allen Sapp and Robbin D. Crabtree (2002),

Brenton D. Faber (2002), and Grabill (2004) described when they partner with an on-campus organization like a writing center.

Programmatically Reframing the Goals of Service-Learning Partnerships

In this section, we offer our perspectives as the client (Wells) and the faculty member (Bacha) in the service-learning project. We begin with narrative from Wells to provide context for why the UAB writing center provided the ideal client for a service-learning project focused on writing for change.

Wells: The UAB writing center underwent several major changes during the roughly four-year period that is our focus. These changes included the loss of a full-time staff person who was responsible for keeping records, scheduling appointments, managing the tutors' schedules, and communicating policies to students and faculty. Happily, I successfully argued for bringing back and ultimately even upgrading this position, but the interim period without the full-time staff member greatly changed the center's day-to-day operations. Despite losing this staff position, the writing center also expanded greatly during this time, often due to increasing enrollments and other changes that were beyond my control. Specifically, the center's number of tutoring sessions, clients, and operating hours all increased dramatically. New services were added, including synchronous online tutoring (the center had only offered asynchronous to that point). To manage the increased traffic, writing center budget increases were approved to hire student front desk staff and more tutors, and the center was permitted to adopt a commonly used online scheduling and record-keeping system, WOnline. In sum, the center was navigating the loss of a full-time staff position, the addition of part-time tutoring and front desk positions, a new online system for keeping records and scheduling, and increased usage, clients, and services.

Professional documents helped the tutors and me manage these changes. Writing center scholarship supports this observation—journals and blogs are filled with examples of how centers use professional communication to enact their day-to-day work, initiate change in their organization, and navigate the currents of their broader institutions. The topic even received book-length treatment in R. Mark Hall's (2017) *Around the Texts of Writing Center Work: An Inquiry-Based Approach to Tutor Education*. Hall argues, as I have observed, that print and digital documents play an essential role in the writing center, particularly in educating tutors and building community among a part-time, high-turnover staff. In one example, without a full-time staff member, the writing center needed internal documents to inform its part-time staff about workplace policies and procedures. Losing the full-time staff position also meant the center needed clearer external documents for writing center clients, since we no longer had a person to do the time-intensive work of communicating policies and services one-on-one when students called, emailed, or dropped by. WOnline, the scheduling and record-keeping system the center adopted, is not only important as a professional digital tool itself but also because of the professional communication required to help staff and clients use it. Finally, documents like annual reports and newsletters helped

communicate that increased funding for tutoring staff and resources were paying off and advocate for bringing back the staff position. Specifically, the writing center needed attractive, well-designed documents to share its success and to argue that further growth would be impossible without increased support.

Due to the sheer number of professional documents needed to support the center's many changes, some of the professional writing needs could not be handled internally. Most importantly, the center needed a living professional document all staff members could use to stay informed about the writing center's policies, services, and procedures. The center needed an easy-to-access policy library and manual that staff members could reference while completing day-to-day tasks. The same document also needed to help new employees adjust to their roles inside the organization. While I was navigating changes at UAB's writing center, Bacha was looking for ways to increase service-learning opportunities throughout the university's professional writing program. As described below, the center's professional writing needs fit perfectly with the pedagogical and programmatic changes Bacha was looking to make to the professional writing program through the development of service-learning partnerships.

Bacha: Before developing any client-based service-learning partnership, I start with a programmatic and pedagogical assessment of my course. This approach helps accomplish one important aspect of any client-based partnership, as Danielle Nielson (2016) argued, "Ideally, the service performed corresponds to the student's course work for the class in which the service is embedded" (p. 237). In other words, by establishing the pedagogical goals of the course before approaching a potential client, I ensure whatever the students produce will match those specific goals. Determining how students would be situated within a service-learning partnership with the UAB writing center was no different. Around the time Wells received the news that the writing center would be losing its staff member, I was redeveloping and preparing to teach a technical communication course. One of my main pedagogical goals, and one of our overall program goals, was to have students produce user-centered documents for actual people. I wanted to find a non-profit organization that would allow students access to the actual workplace environment so they could interact with the organization's employees while they worked.

The more I learned about the challenges Wells was facing in the writing center, the more interested I became in developing a service-learning partnership with the organization. As our conversations and the situation at the center progressed, it became clear to me that losing the full-time staff member would have long-term implications for the writing center. Based on Wells' descriptions of the situation, it appeared that the writing center was losing a pivotal aspect of how the organization functioned. From a technical communication standpoint, the organization was losing an important piece of how Wells communicated to the organization's staff and clients. It was this discovery and this gap in the center's technical communication needs that shifted our general conversations toward developing a service-learning partnership that focused on writing for organizational change.

Specifically, Wells wanted to produce what would become the *University Writing Center (UWC) Policies and Procedures Manual* to help the organization fill the technical communication gap associated with losing its fulltime staff member, gaining more part-time employees, and adopting a new online scheduling and record-keeping system. Wells' goal was to create a document that would become a shared repository of knowledge and that would help the organization's employees communicate to each other the policies they needed to follow when interacting with students and what day-to-day activities they needed to do to keep the organization running smoothly. In addition, the document would help Wells continue to establish a stronger community and an "everyone knows everything" mentality among the writing center's employees, which was necessary now that the center lacked a full-time presence to manage scheduling and other front desk work and keep employees on the same page.

Learning how to build and produce content for a policies and procedures manual directly corresponded to the learning outcomes I had developed for my technical communication course. Part of what I learned from talking to Wells about the organization is that many of the tutors and front desk staff often did not interact with each other for extended periods on a regular basis. As part-time employees, their schedules often do not overlap. The document would need to fill that communication gap as well so the employees could "talk" to each other even if they rarely saw each other. The document needed to be written from the perspective of the employees and, as much as possible, written in their own words. Large sections of the document needed to be written as a dialogue between two employees helping each other understand the in-context activities of their job-related duties, rather than as an out-of-context list of managerial expectations. Lastly, because of where the writing center was located on campus, students would easily be able to conduct the type of observation-based and interactive research activities I was looking for from a service-learning partner (see Table 1).

First Attempt: Technical Writing Course
Assignment Description
During the client-based project, we will be working with the University Writing Center to create the UWC Policies and Procedures Manual. Specifically, students will be assigned groups and each group will be given a section of the manual to research and then produce (your documents will contain both text and visuals). The document will be published and, starting next semester, will be used by the Writing Center employees on a regular basis. Although this is not a typical group project because each group will be solely responsible for their own sections, we will work as a class to edit each other's work to make sure it is consistent and can function together as one large document.
Required Research
Each group is required to schedule and conduct an intake interview and a follow-up interview with our client. The intake interview is your only chance to gather the information you will need to start working on your portion of the manual, so make sure you gain a clear understanding of what you will be writing about. During your second interview, you will share your work with our client. This step of the process must be completed because our client needs to approve your portion of the manual. In addition, students will also need to spend some time inside the writing center observing the organization's employees while they work and will need to collect visuals for their portion of the manual. Our goal will be to have at least one image on each page of the final document.
Required Deliverables
Weekly Progress Reports, Technical Editing, Final Document Design Proposal, The Final Document

Table 1 — Summary of assignment sheet provided to technical writing students during the first iteration of our partnership. This was a six-week project.

As Table 1 illustrates, my technical communication students were split into groups, each of which was assigned one out of nine predetermined sections of the manual. To complete their section of the document, each group needed to perform three different activities. First, the students needed to become subject experts. Second, they needed to find out how the organization functioned before it lost its full-time staff member. Third, they needed to understand how their specific section would help the organization's employees adjust to their changing workplace. The only way the students could complete those activities was by entering the discourse of the organization. In other words, the students needed to work directly with Wells and the center's staff. Those interactions and interviews would also need to happen multiple times.

After five weeks of working directly with Wells and the center's employees, the students compiled their work and began drafting a design for the 40 pages of content they had developed. As an instructor, I was very impressed with the content and Wells agreed that, as a first draft, the document my students had produced fit the needs of the organization. Part of what made the project successful— and different from other client-based service-learning projects I had previously run in

my classes—was how much time the students had to spend involved in discourse with each stakeholder group who worked in the writing center. To prepare content for their section of the *UWC Policies and Procedures Manual* that would successfully function within the writing center, the students needed to first become part of the organization’s discourse. The students needed to become “insiders” and, as Catherine Matthews and Beverly B. Zimmerman (1999) argued, “[this] may not be possible unless students spend enough time in [an] organization to take part in its daily activities and to see for themselves the people it helps and the services it provides” (p. 399). The students not only needed to use the organization’s vocabulary in their writing, but they needed to also base their instructions on how actual employees completed their work inside the physical writing center.

Getting the students to situate themselves inside the organization was what made their work different from some of the work students had completed in previous client-based projects. For example, if the students had not spent time interacting with and observing the organization’s employees, they may have missed learning about the staff members’ comfort with technology and may have mistakenly prepared their content for a more technologically advanced user population. In essence, the ethnographic research activities the students performed helped them craft a document any employee in the organization could use and would not exclude anyone from the “everyone knows everything” directive provided by the client.

Second Attempt: Technical Writing Course
Assignment Description
During the client-based project, we will be working with the University Writing Center and revising the UWC Policies and Procedures Manual. Specifically, working in pairs or working individually, students will be given a section of the manual to research and revise (your documents will contain both text and visuals). The document we will be creating will be published and used by Writing Center employees on a regular basis.
Required Research
During this project, you will need to schedule and conduct an intake interview with our client. Although you are free to try and talk to our client more, the intake interview must be completed by the end of week two (I will get a report from the client regarding how the interviews went). Your intake interview is the only way you can gather the information you need to start revising your portion of the manual, to check the accuracy of the document you are given, and to make sure if anything needs to be added or removed from your section. In addition, you will also need to spend some time interacting with and sharing your drafts with the organization’s employees.
Required Deliverables
Content Markup Workshop, XML Document, Plain Text Document, Formatted Images

Table 2 – Summary of assignment sheet provided to technical writing students during the second iteration of the partnership. This was a five-week project.

Second Attempt: Document Design Course
Assignment Description
During the client-based Professional Document Redesign Project, you will create documents working professional and technical communicators design on a regular basis. The goal of this project is to get you to create your own unique page design by redesigning an 8.5 X 11-inch document currently in public use: The University Writing Center’s UWC Policies and Procedures Manual. Obviously, this project has a real audience. The main challenge of this assignment is that you are not allowed to use any pre-formatted templates. Additionally, the color palette, text, and images you will be working with have already been prepared for you. Although this will not impact your grade on the project, the Director of UWC will select one design that best matches the organization’s needs and will use that design for the official document.
Required Deliverables
Design Sketches, Font Book, InDesign Page Templates, Fully Designed and Paginated PDF

Table 3 – Summary of assignment sheet provided to document design students during the second iteration of the partnership. This was a five-week project.

Admittedly, the first version of the *UWC Policies and Procedures Manual* was somewhat lacking. Balancing both content production and document design proved challenging for the students in a relatively short amount of time (six weeks). However, based on the success of the first attempt and because the writing center remained accessible, Wells and I decided to continue developing the partnership and provided an opportunity for other students to continue the work. As Table 2 and Table 3 illustrate, the second attempt was a little different. Using what I learned from the first project, I decided to take an approach other PTC scholars and theorists have suggested and split the work between two different courses (see J. Blake Scott, 2004; H. Allen Brizee, 2008; Giuseppe Getto, Liza Potts, Michael J. Salvo, & Kathie Gossett, 2013). As shown in Table 2, a new group of technical communication students with the same pedagogical outcomes I describe above would reexamine the document’s content. Students in a document design class I was developing, as shown in Table 3, would work on the document’s design. The work the document design students would need to complete to revise the design of the *UWC Policies and Procedures Manual* fit the pedagogical outcomes of the document design course I was developing. I wanted the students to design a professional document that required them to explore the context in which that document would be used and test their designs with actual users.

As with our first attempt, students involved in the second service-learning project had to work directly with the organization and its employees to successfully navigate the requirements of both courses. During the project, the document design students needed to understand how the manual would be used, where it would live once it was produced, and how much content it would eventually include. All that information needed to be provided by Wells, the organization’s employees, and the technical communication students. Meaning, for their work to be successful, the

document design students needed to interact with both the client and members of the technical communication class. On the other hand, the technical writing students needed to know how much technological expertise the writing center employees had, when the staff would most frequently use the document, and for what purposes they would need to access the content contained within the document. The technical communication students would also need to understand what changes within the organization their section of the document would be addressing and how closely the first draft came to helping the organization's employees adjust to those changes. In addition, the technical communication students needed to convert their work into XML and would need to use tags that exactly matched the InDesign style tags used by the designers in the document design course.

As with the first project, the final deliverables the technical communication and document design students produced were viewed as successful by Wells and me. Like before, part of what made the project successful was how much time the students had to spend involved in discourse with each stakeholder group within the organization. To prepare the content and to design a document that would successfully function within the evolving writing center, both sets of students needed to first become part of the organization's discourse. The students needed to become "insiders." They not only needed to use the organization's vocabulary but also to create a document that matched the client's "brand" and was appropriate for an audience with mixed technological expertise. In addition, the two sets of students had to communicate electronically with each other so they could work collectively.

The cross-course collaboration that developed by breaking the project up and having two sets of students from different courses work on the *UWC Policies and Procedures Manual* offered one of the project's most significant advantages. Students not only found themselves embedded within a client organization to understand its discourse and changes, but they also collaborated closely with another group to complete the work. This added another useful layer of complexity to an already complex project, but the complexity was logistically manageable because of the proximity of the on-campus partner. Students not only created "real" documents for a client to help them manage their organization's changes, complex as that exercise alone would have been; they also created documents amid their client's many changes, meaning that they had to get used to the idea that answers to their questions may shift as they were working. Further, they experienced working with another group of outside collaborators that mimicked a different department in a workplace. This complex situation may be replicable with a community partner, but working with a close, accessible, on-campus partner allowed students to more easily do the research and collaboration necessary to navigating this complex situation successfully. From the instructor's perspective, the proximity of the on-campus organization was incredibly beneficial for managing the workload of a complex, two-course service-learning project. Bacha and Wells met on many occasions to discuss the project, and being able to walk across campus compared to driving across town made the situation more sustainable for both, especially since Bacha had two different classes engaged in the service-learning project at the same time.

Some Conclusions: Preparing Professional Writing Students to Engage in the Discourse of Change

As we have demonstrated, the service-learning partnership we developed between our professional writing program and writing center has created an opportunity for our students to engage in activities that revolve around organizational change. At its core, the service-learning partnership we have developed stems from our belief that Professional and Technical Communication (PTC) students should be afforded as many opportunities as possible to interact with actual clients and produce rhetorical artifacts that “live” outside the classroom.

The partnership has proven mutually beneficial for the writing center and professional writing program. The document that was developed during our first attempts is currently being used by the writing center’s employees and has helped the organization overcome some of the challenges it faced when the full-time staff member’s position was eliminated. Even now that the full-time position has been reinstated, the document supports the center’s work by carefully outlining practices that may otherwise get lost in the shuffle of day-to-day busy-ness. In addition, the partnership has allowed us to further integrate other service-learning opportunities through our professional writing program. Programmatically, this potential for future work is one of the major advantages offered by the kind of on-campus service-learning partnership we describe, especially since its ongoing nature provides students with histories to look back on when they begin writing new organizational documents. Like the projects described in the previous section, all ongoing work has focused on helping the writing center to manage its ongoing changes.

How we developed and continued the service-learning partnership over the years directly relates to a number of conscious decisions we have made. Along the way, we have also both learned a number of important lessons associated with building this type of partnership. In what follows, we offer four recommendations for professional writing faculty and program administrators who are interested in developing similar on-campus partnerships. The recommendations also emphasize ways to build a sustainable partnership with the potential for ongoing work. Our hope is that readers will not only get ideas for course projects that help students learn to write for and amid organizational change, but also for thinking about how developing on-campus partnerships may help them manage new circumstances and drive exciting changes at their own institutions.

Our first recommendation is to be transparent with students about the kinds of challenges and changes the client is experiencing as early in the process as possible. Explaining to the students that they are about to engage in an activity requiring them to learn how to write for and amid change will influence how the students approach the assignment. Communicating this point early in the process helps establish an understanding among the students that even the most mundane documents they produce should eventually function as a means for the organization to manage change and promote positive change. As Stuart Blythe (2007) argued

when discussing the impact mundane documents can have on an organization, “Rhetorical action is a way of exercising transformative capacity because so much of an institution and its maintenance involves reading and writing” (p. 181). Making this point clear to students early helps them understand that they are using writing toward action, and more specifically, action focused on changing the organization or managing changes outside its control. For the students engaged in the types of assignments we discussed earlier, the documents they completed as part of their course work were the result of conscious decisions and rhetorical actions intended to transform and maintain the organization’s relationship with the larger institution.

Our second recommendation deals with student-client engagement. Quite simply, we suggest that instructors take advantage of the proximity of campus partners. Our partnership has worked in large part because Bacha encouraged students to visit the writing center regularly to observe and talk to staff members and Wells created an environment that welcomed these regular, and sometimes spontaneous, visits. As much as possible, the students were invited to see themselves as part of the writing center’s team, which was made easier by the fact that, as students, they were welcome to use the center and even apply for peer tutoring positions. When talking with students, we regularly underscored that learning how to write for the writing center meant learning about the center itself as an evolving workplace.

As we discussed earlier, when students are paired with an off-campus client during service-learning projects, the interaction between the students and the client may be rather minimal, perhaps too minimal to allow this kind of learning. Time constraints and travel concerns may limit the amount of time the students get to spend with the client and the amount of time they spend “on site.” Working with an on-campus organization is different. Although time constraints are still an issue, the issue of travel becomes less of a concern due to the shared location. This provides the opportunity for the clients and students to meet more regularly. Plus, the location of the organization provides the students with an opportunity to make more spontaneous visits, which allows the students an opportunity to engage with the employees and study the organization more fully. The students not only have a chance to work with a “real” client, but they also have the opportunity to practice examining how an organization functions, a skill they can later use during an internship or job.

Third, the type of service-learning partnership we have developed also works, from one perspective, because we have a shared sense of commitment and see our own participation as a mandatory part of the process. We both agree with W. Michele Simmons (2007), who claimed, “Our students must leave us believing that they have the power to bring about change because they are able to articulate their understanding of a situation and the audience affected by that situation” (p. 161). However, the type of understanding Simmons describes is difficult to replicate unless the students are actively involved in multiple discourses with actual stakeholders. We have both learned from our own experiences that students rarely arrive at this conclusion on their own. Whenever we present an assignment attached to the service-learning partnership we developed to students, we have learned it is best to first include engagement activities—ones the students must set up themselves and others we set up for them—into the requirements for the

assignment. Usually this includes an in-class introductory presentation by Wells, an intake interview completed before students start working, and a mandatory follow-up interview where the students take their work to Wells for approval before they submit it for a grade. As we demonstrated earlier, once a majority of the students become embedded in the project, most of them move beyond the required meeting times and start interacting with the client more frequently. The more interactions we can promote among the students, client, and instructor, the better. Understanding how an audience will be impacted by a situation means studying the situation and having direct knowledge of how the work they produce will change the workplace situation of the writing center employees.

Our final recommendation deals with having multiple classes and/or groups work on the same projects simultaneously and having students work on the same projects over multiple semesters. As we stressed earlier, when engaged in a service-learning opportunity, the students should work on projects that match the pedagogical outcomes established for the course or experience. This can be challenging if what the client needs at the end of the project requires multiple skillsets to complete. In many cases, this means the students would need to learn the skills they do not yet possess on their own time, which in itself is not necessarily a problem. However, if the students need to spend too much extra time learning a new skill not included in the course outcomes, they risk sacrificing time that should be spent on the actual course material. Additionally, the work they produce will often suffer, even if they are able to learn adequate outside skills to complete a project. To mitigate those concerns, for longer projects like the *UWC Policies and Procedures Manual* we discussed earlier, we have developed a practice where students in different classes are broken up into project teams. Thus, while working on the project the students are required to only work on the parts of the project that match the course outcomes.

Finally, we have found that having students work on the same project or revising the work other students have completed over multiple semesters is a necessity. Even small projects can work better across multiple semesters because such work can be more productive when viewed as part of a larger campaign that unfolds over time. Completing work in multiple stages over several semesters has many benefits beyond simply additional time. Pedagogically, the professional writing majors and minors who have taken our courses get to see *change* in action because they will more than likely work with the writing center on multiple occasions. The *UWC Policies and Procedures Manual* provides a great example of this. Some of the students in the document design course that redesigned the manual were students in the technical writing course that produced the first draft of the document. In this case, those students not only got to see how revising their own work would make the document a better fit for the context of the organization, but they also got to see how the text they produced was edited and changed. To continue this trend, we will once again be revisiting the *UWC Policies and Procedures Manual* project during the spring 2024 semester. Wells will once again serve as client, and Bacha's technical writing students will spend the first part of the semester immersing themselves within the Writing Center's organizational culture so they can update the document to reflect the changes that have occurred within the organization since it was last updated. These changes are many, as the COVID-19 pandemic significantly

changed the center's work, and the post-pandemic center looks different still. While the pandemic provides just one example, the overall takeaway is that on-campus organizations like writing centers will always be navigating changes that depend on effective, user-centered professional communication with which students may assist.

When we began writing this article, we wanted to avoid the article's take-away to be simply, "writing centers make good partners in client-based projects." This is part of our argument, yes, but we also wanted to show how this partnership offers strategies readers can use to get students immersed in and situated within an organization's discourse of change. Programmatically, the approach to service-learning we have described has helped our students gain a different perspective regarding the purposes and processes of PTC practices. Many of our students have come into our PTC courses with a view of writing as linear and static. They have often had an oversimplified view of the writing process that looks like: learn about the audience, learn about the purpose for writing, gather information, produce document. What our students have learned, much to their surprise, is that their very audiences, purposes, and circumstances can, and often do, shift as they work on a project in a professional setting. They have also been surprised by the number of unknowns they encountered while engaging in the type of research activities we have discussed. Learning to write about, for, and within these unknowns has become a key learning opportunity for students enrolled in our program. Unlike our previous attempts to incorporate service-learning opportunities into our individual course, collaborating with an ever-changing and accessible organization like the one we describe in this article has provided a sustainable partnership that provides those learning opportunities over multiple semesters and for multiple courses.

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The Value and Use of the Advisory Board

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Abstract: Many university programs rely on academic advisory boards for a variety of reasons. In this program showcase, we look at some of the literature surrounding advisory boards to provide a background of what programs in the technical and professional communication field should consider when selecting board members and how programs may choose to use an advisory board based on the program's goals. Then, we present our specific context, with details about the history of our advisory board, our current expectations of our advisory board members, and how we recognize and appreciate our advisory board members. We also detail the specific way our advisory board members regularly interact with our students, advise our faculty, and contribute to our overall program. Finally, we share some key takeaways that faculty and administrators in other programs may find helpful and what they should consider when building or improving their own advisory boards.

Keywords: Academic advisory boards, technical communication programs, academic portfolios

Students do not only learn through classroom instruction. They also make valuable connections and learn about their field through professional and co-curricular activities.

No matter how hard instructors work to mimic workplace scenarios in the classroom, students will always experience a gap between their studies and the work environment they will experience after graduation. And that's appropriate. The goals of the classroom are not the same as the goals in a workplace. However, we do want our students to be as prepared as possible once they search for and secure their first jobs.

There are many ways to demystify the workplace for students. Some programs seek real clients for classroom projects and bring in outside speakers that relate to the specific class topic. Many programs require students to complete internships to graduate (Meloncon & Henschel, 2013). Some students in our program work in writing jobs on campus, such as in information technology or the public relations

office, giving them valuable experience in a familiar context (their current university of study).

But one popular method of helping students understand the workplace and industry is through academic advisory boards. While terms may vary (industry advisory boards, advisory boards, academic advisory boards), we use academic advisory board to mean a group of professionals in a discipline who serve an academic program, provide ongoing feedback to students and faculty with the goal of improving the program and building connections between industry and academia (Benigni, Gerguson, & McGee, 2011; Temmerman, 2022).

These advisory boards will look different depending on the context of the university and technical communication program. For example, while there are core courses that make up a technical communication curriculum, each program has its own distinctives and emphases (Meloncon & Henschel, 2013). Our professional writing program at a private, Midwest university has had an academic advisory board since 1991, meaning the board and its practices have had time to develop as the curriculum and faculty have changed. In this program showcase, we discuss what we've learned from working with our advisory board and how the board members contribute to the student experience. However, we first look at the literature to see why a program might start an advisory board in the first place.

Academy and Industry Divide

Even 30 years ago, there was scholarship stating that industry and academia had for decades been "suspicious of one another because of fundamental differences that seem to preclude cooperation" (Bosley, 1995). And that's putting it nicely. Chu (1998) recalls a letter to the editor where a "workplace professional lashed out against academia." The relationship between faculty and industry professionals has not always been rosy, and yet, even other industries recognize that "Industry-academic collaboration is a strategic necessity in today's fragmented and turbulent economy" (Mandviwalla, Fadem, Goul, George, & Hale, 2015).

Those fundamental differences include the dissimilarities in setting (academic vs industry), ways of communicating and collaborating, and views on power and research, just to name a few (Blumenthal, Campbell, Causino, & Seashore Lewis, 1996; Dicks, 2002). Entire books and plenty of articles have sought to address how to overcome these differences and explain how academia and industry can relate yet remain distinct (Kynell-Hunt & Savage, 2004; Kline & Barker, 2012; Mirel & Spilka, 2002). The two have tried to work together, with the goal of mutual benefit, for a long time through structures such as internships and client projects (Grabowski & Harden Fritz, 2007; Meloncon & Schreiber, 2018). These practices are meant to provide students with experience and better prepare them for industry work, but they also give organizations opportunities to complete tasks at little cost. We've also seen discourse on how academic research can inform industry practice (Cooke & Mings, 2005; Spilka, 2000).

This program showcase does not try to bridge every gap between academia and

industry. Instead, it focuses on one connection that our program has made that has benefitted students, faculty, and industry members who participate.

Purpose and Composition of Advisory Boards

For a long time, there has been a push for faculty in technical communication programs to connect with industry colleagues through the formation of industry advisory boards (Hayhoe, 1998). These boards have been around for decades and are groups of people “who meet regularly over a long period of time in order to advise academic programs” (Brockman, 1982). Distinct from governing boards of business entities, academic advisory boards “do not have a fiduciary, governance or legal responsibility and typically focus on offering advice, fundraising, program development and institutional engagement” (Mandviwalla, Fadem, Goul, George, & Hale, 2015).

We have good information on why programs create advisory boards and what makes them successful, especially from Lars Söderlund, John Spartz, and Ryan Weber’s study (2017). In that study, the authors “interviewed both technical communication program administrators from universities across the US and members of a long-standing advisory board at a midsized, public, Midwestern US university.” (Soderlund, Spartz, & Weber, 2017). It is one of the most in depth studies of technical communication advisory boards that we’ve seen, and much of what we describe from our own program below overlaps with that study, though we do have some distinct elements. Below, we discuss how these boards are formed and how they often function.

Starting an advisory board requires support from leadership, most notably deans and chairs (Benigni, Gerguson, & McGee, 2011). There may be a financial component in bringing board members to campus, and those funds most likely come from a university budget. However, Benigni, Gerguson, and McGee (2011) got survey responses from 68 different department chairs and learned that administrators view these types of boards as prestigious, meaning they may see the value in financial investment without much persuasion. Deans and chairs are sometimes the people who coordinate efforts between faculty and the board, though this coordinator may also be a separate faculty member (Zahra, Newey, & Shaver, 2011).

While all boards have people from industry in them, some boards also contain faculty members and even students (Soderlund, Spartz, & Weber, 2017). Programs tend to want a diversity of skill set and industry experience on an advisory board, but finding the right mix of individuals is a significant challenge (Kilcrease, 2011).

Most commonly, faculty call on alumni to serve on their advisory board (Soderlund, Spartz, & Weber, 2017), which isn’t surprising: graduates may have less of a learning curve because they already understand the curriculum, faculty, and academic practices of a program. Penrose (2002) explained that his faculty wanted alumni because those graduates are “familiar” with their “situation.” They valued recent alumni who would know the current curriculum well.

Alumni also help faculty find board members who graduated from other institutions. Programs may also secure advisory board members through professional connections and organizations, such as the Society for Technical Communication (STC) (Soderlund, Spartz, & Weber, 2017). Choosing the right people to serve will depend on what the faculty and their leadership want to accomplish with the board.

That process begins with crafting a clear mission and set of expectations for the board (Soderlund, Spartz, & Weber, 2017). Without these elements, the group may be rudderless and accomplish little for the program, frustrating board members and faculty alike. Having a clear mission also helps faculty identify the kind of professional that will best serve the academic discipline's needs.

In determining their mission, programs may have many reasons to form advisory boards, including receiving feedback on curriculum and potential program changes, advocating for the program to university administration and the local community, and many others (Mandviwalla, Fadem, Goul, George, & Hale, 2015; Soderlund, Spartz, & Weber, 2017). They deliver another level of accountability for programs looking to grow and flourish (Schaeffer & Rouse, 2014).

A reason may also be specific to an academic discipline. Technical communication programs often seek guidance on curriculum (Soderlund, Spartz, & Weber, 2017) while business programs rank "enhancing the image of the department through publicity" as the most important contribution of advisory boards, according to 1,642 completed questionnaires of business faculty (Kilcrease, 2011).

Even within the same programmatic context, advisory boards may differ. Mandviwalla et. al (2015) studied four different Information Systems' advisory boards and found key differences in function and role. These differences also exist within the technical communication context. For example, Patricia Dorazio (1996) notes that faculty at her institution didn't only want advice on curriculum, they also wanted to know how to recruit better and legitimize new programs for various stakeholders. The latter two arguably take more time than the former. Other majors may not rely on advisory boards at all to bring in new students but instead want their board to focus on helping current students get jobs by reviewing portfolios (Dillon, 1997). Still others rely on board members to serve as adjunct faculty or guest speakers in the classroom (Penrose, 2002; Sides, 1998).

Regardless of what goals a program has, advisory boards can help faculty keep up with changing professional environments (Mandviwalla, Fadem, Goul, George, & Hale, 2015). In technical communication, the technology and work processes change frequently. Advisory boards give programs insight into the changing landscape of the field, a necessity when faculty have a depth of knowledge about the related topics but do not practice those concepts on a day-to-day basis (Martin, 2008). If used well, professionals on a board can contribute their time and expertise to address a program's weak spots.

Even with all this good information, we don't have many case studies or examples

of how individual institutions use their advisory boards based on their context. These examples could help faculty members identify new strategies for their own advisory boards or provide a starting point for others as they consider creating their own board. Explaining specific tactics can also help readers see how faculty in other programs have implemented broader strategies. For example, what does it look like to seek advice on a potential program change of significance, like a name change? In this program showcase, we show how one small program has used its board to better prepare students to get a job and succeed in the workplace and how that board has influenced decisions about curriculum and programmatic matters.

University and Program Context

Our university is a private institution in the Midwest. It has over 4,000 undergraduate students and more than 5,000 total students. The *Wall Street Journal* recently ranked it as a top ten school in the nation for student engagement. The university has three significant cities within an hour and thus, a lot of local jobs available to our graduates.

Our professional writing program has existed in some form since the mid-1980s when an English department faculty member created the initial five courses. It originally began as an emphasis in the English major, but by 1992, had grown into its own major. The program requires 64 credit hours and has two primary faculty members, though students are required to take a few courses outside the department.

Professional writing currently resides in the Communication department where it has been for over a decade. For the previous 25 years, it had been in the English department. Enrollment has fluctuated between 31-37 students for the last five years. Notable places where graduates have worked include Meta (Facebook), The Washington Post, Google, Procter & Gamble, and IBM.

The program has gone through three name changes. The last switch occurred during a major rebranding effort that has increased the number of incoming students each fall from a range of 0-4 to 8-10.

Advisory Board History

In 1991, the founding faculty member established an Industry Advisory Board of professionals in various areas of the field. From founding documents, the mission of the advisory board was to "assist faculty as they seek to prepare students for a professional career in the field of professional writing."

The members have obviously changed over the years and so have their responsibilities. Originally, the board met once or twice a year to offer advice on curriculum, including what software and corporate strategies faculty should integrate into the classroom. Board members had little to no interaction with students.

But soon after, the founding faculty member created a pair of one-credit courses dedicated to helping students prepare for the job application and self-branding process. The first class was designed for sophomores and the second for seniors. In both courses, students created or updated a resume, cover letter, and professional portfolio of their writing, editing, and design. In the early years, students created print portfolios.

In conjunction with the creation of these classes, the advisory board's responsibilities changed, becoming similar to what they are today. Their responsibilities included the following:

- Conducting and evaluating mock phone interviews with assigned students.
- Conducting and evaluating follow-up face-to-face interviews on campus with the same assigned students.
- Conducting portfolio reviews on campus with assigned students; meeting with individual students to evaluate how they present their portfolio during a job search.

We detail these activities and others the board currently does below. Originally, the founding faculty member recruited board members from her STC contacts. She was an active member in the organization, and for eight years she served as an Assistant to the President of STC in charge of academic and research programs. As the professional writing program matured, she also recruited from alumni.

Current Advisory Board Practices

At the current time we have eleven board members, but it has historically fluctuated between 8–10. As the program has grown over the years, so has the board. Board members are volunteers and do not receive traditional compensation, though we do provide them with meals three times a year.

Because professional writing has never had more than two full-time faculty members, we value the advisory board immensely. Even though our faculty have had plenty of professional experiences and continue to develop relevant skills in a variety of professional experiences outside of the university, they cannot possibly speak to all the career opportunities that students have in a discipline like technical communication.

Selection of Board Members

The strategy for selecting board members may differ by program and institution. Our goal has always been for the board to reflect the core areas of our program, "finding members from a diverse representation of the local technical communication profession" (Soderlund, Spartz, & Weber, 2017). As our curriculum evolves, we seek out new members that reflect those changes and who can offer guidance to students interested in those particular areas of technical communication or professional writing.

In the last eight years, we have added classes on the following topics:

- Editing in publishing contexts
- Writing for and managing publications
- User experience
- Content strategy
- Writing in various industries

Our professional writing program has changed significantly since its inception in the 1980s, and while all programs have common characteristics (Meloncon & Henschel, 2013), ours has some distinct elements as well. For example, we put a strong emphasis on editing and require four classes that we characterize as our editing curriculum relating to grammar, style, the mechanics of editing and editing in a publishing context.

The strong emphasis on editing needs to be reflected in the membership of our board, so we always try to have multiple members who are currently editors or do a significant amount of editing in their jobs.

Our curriculum also has multiple courses related to instructional design, and many of our graduates enter this field. Thus, we have several instructional designers on the board. As professional writing students have become interested in an even more diverse range of career outcomes, our board members have encouraged us to add professionals that reflect that diversity of interest. Some have directly stated that they don't always feel qualified to answer questions outside of their immediate expertise, even if in a related discipline.

When students interact with board members, they can either explore a career path they are unsure about or get a deeper understanding of something they are already pursuing. This strategy allows students to investigate both the breadth and depth of our field. This not only includes job descriptions but also the industries where these professionals work. We try to have board members from corporate environments, university settings, and nonprofit organizations because this reflects the environments where our graduates typically work. The current board has professionals from the following organizations:

- Local university
- Discover Financial Services
- Fifth Third Bank
- Kettering Foundation
- Medpace (2)
- Paligo
- Perforce Software
- Procter & Gamble
- Retired faculty member
- Yaskawa Motoman

Programs find board members from a variety of sources (Soderlund, Spartz, & Weber, 2017). We find ours in common ways: Some are graduates of our program who we invite to become members when they have had five or more years of professional experience in their professional writing-related discipline. We find this strategy to be beneficial because graduates of the program know, understand, and

value the culture of the university. For the sake of diversity, not all board members have been graduates of the program, but infusing some alums into the advisory board has benefited our students. Some programs have student members and faculty on their advisory boards (Soderlund, Spartz, & Weber, 2017), but while we have one faculty emeritus, we do not include any students on our advisory board because that approach would not support our mission.

Other board members are professional contacts the faculty have from current or past work opportunities or relationships in the community. Still others are referrals from current or past students or board members. Every one of them lives within an hour radius of campus because we require them to visit campus twice a year to work with our students and faculty.

Responsibilities and Expectations of Board Members

One of the more important elements to a successful relationship is that the board has clear responsibilities, knowing its role in achieving the program's goals (Soderlund, Spartz, & Weber, 2017). Our board members do not sign a contract, but they are presented with clear expectations when offered a position. Each member should attend the meetings in the fall and spring if at all possible and return student evaluation forms by the established deadlines (more on the evaluations below). It's not uncommon for members to miss meetings because of prior engagements, but we expect them to communicate with us as quickly as possible when they cannot attend. Board members who do not meet those expectations are not invited to serve the following year. Thankfully, this rarely happens.

Our board serves the students, professional writing faculty, and the program more broadly in several ways. In the next two sections, we discuss their service to our program.

Service to Students

Throughout the years, going to various technical and professional writing conferences, we have observed that other programs do not always use their boards to directly interact with their students. We believe that direct interaction allows students to benefit more fully from our board members' years of experience. Professionals currently in the field are best positioned to provide students with information on what employers expect from recent graduates (Temmerman, 2022).

Board members meet on campus to work twice a year: once during fall semester (typically in November) and once in spring semester (typically in March or April). In the fall, our sophomores and seniors take a class that prepares them to enter the job market where they create a resume and cover letter for an entry-level job (seniors) or internship (sophomores), and a professional portfolio of their writing, editing, and design. Once they've tailored their materials to a specific, attainable job or internship (approved by faculty), we provide them with professional information about each board member, and they select two board members to go through a mock hiring process with. The goal is for students to select members whose work responsibilities best match their own interests. Students send the board members their resume and cover letter and set up a time to do a phone or virtual interview

for a job posting that is relevant to their interests.

A week before the board members come to campus for our meeting, they conduct phone or virtual interviews with students, filling out an evaluation for each one (Appendix A). Prior to coming to campus, board members typically interview four students each and send their evaluations to the faculty member teaching the course. Their comments allow the instructor to address common issues that occurred during this part of the process. The faculty member also shares those comments with the students so that they can focus on improving the areas in which they struggled. Board members also critique each assigned student's resume and cover letter.

On phone or virtual interviews, there will typically be a time where the board member is "in character," pretending to interview the student for the position he or she has selected and is pretending to have applied for. After board members ask all their questions, they often "take the mask off" and provide immediate feedback to the student on what he or she did well and what he or she should work on.

This approach has served the program well. Students must go through the process of researching an organization, identifying potential questions, and doing other activities to prepare for an interview. Then they need to answer questions well and present themselves in a professional manner. Students have the anxiety that often comes with interviewing during this process; however, instead of receiving little or no feedback on their performance, each student gets verbal and written comments that should help prepare them to obtain an internship or job and help alleviate some of that anxiety for the future.

Once on campus, board members meet for a face-to-face interview with the same students that they spoke with over the phone or virtually. Having the students perform both their phone or virtual interviews and their face-to-face interviews with the same board members allows board members to see how the students have improved from the first mock interview to the second. It also helps to allay some of the anxiety the students feel about going through the mock interview process.

For the face-to-face interviews students dress as if they are interviewing for the company where they are seeking employment, and once again, board members play the role of hiring manager for these companies. There is an evaluation form for this interview as well (Appendix B), and board members are given time to fill it out between interview sessions, sessions that last 30–35 minutes. It is another experience where students receive immediate feedback on their interviewing performance, and often, there is time for them to ask questions, not only about the process they just went through but also about the discipline in general.

During spring semester, the board members return to campus to conduct portfolio reviews. This is not uncommon for technical communication programs (Dillon, 1997). Unlike the mock interviews in the fall semester, the portfolio reviews in the spring are not tied to a course, but they are still required of all students majoring in professional writing who have taken the job market preparation course at some

point in their academic careers. The students again select two board members to meet with, and a faculty member sends the advisory board members the students' portfolio links through email prior to the meeting day. We encourage the students to avoid selecting the same board members every semester to ensure that they are receiving a variety of input. Board members evaluate the portfolios before coming to campus, often bringing notes with them on what to discuss with the student. While on campus they meet with individual students who present their portfolios, talking through exhibits, how they completed their work, and what they learned through the exhibit's development.

In these interactions, students learn if their portfolio is easy to navigate and designed well for a specific job, whether they have chosen appropriate pieces, whether they have presented themselves professionally, and if they need to update specific pieces to improve their chances of getting a job or internship. They leave with a clear direction of how to improve their professional image online.

Finally, at both the fall and spring meetings, board members give students advice on how to accomplish their professional goals. This advice typically occurs while critiquing a student's interviewing skills or the quality of his or her portfolio, but it also happens in the between times — after members have filled out their evaluations but before the meeting time for the next crop of students. Board members also make themselves available to the students to answer questions throughout the year through avenues such as email and LinkedIn.

The board's work with our students has been invaluable. Our graduates often tell us how important it was to learn about the interviewing process and speak with professionals about their long-term goals. Even though it causes some anxiety for our students, they typically understand and appreciate the value.

Service to Faculty

Advisory boards "provide valuable counsel about future tactical directions the faculty might take," keeping in mind the goals of the program and institution (Temmerman, 2022). In both the fall and spring semesters, campus meetings typically start at noon with a catered lunch in one of the more elegant rooms on campus. It is our way of appreciating the board for their work and catching up with them personally, but it also affords us an opportunity to discuss potential changes to our program and receive feedback.

For example, in a meeting during the spring of 2022, professional writing faculty were considering creating concentrations within the professional writing program. During the spring meeting, faculty proposed the idea to the advisory board, talking through the vision and potential options. The board responded with comments about the challenges and opportunities this proposition would create. Their feedback contributed to the decision to abandon the idea of concentrations and instead more clearly articulate the potential career paths for students in other ways.

In another example from 2013, board members provided feedback on a faculty proposal to change the name of the major. The response affirmed that in our

particular context, it made sense to go ahead with the change, especially considering recent and coming adjustments to the curriculum.

We have also sought their feedback on creating new courses and dropping others, adding specific assignments, and altering our classroom approaches to address changing work environments, like the increase in remote work following the pandemic and the current use of artificial intelligence (AI) in the field.

Their perspective on these matters is not taken as gospel as it is dangerous for academics to discount their own expertise and other sources of information when making decisions (Gilberson, 1987). But their opinions are an important factor as we decide the future of the professional writing program.

The board also provides perspective on individual coursework and curriculum, an often-stated purpose of these groups (Penrose 2002; Yee 1994). Students “benefit from a timely curriculum that prepares them to function effectively in an organizational setting” (Dorazio, 1996). Our faculty facilitates a thirty- to sixty-minute debrief session with the board after they have interviewed our students (fall meeting) or reviewed their portfolios (spring meeting). In this session, we discuss how faculty can better prepare students for the job seeking process and what gaps may be present in our curriculum. The board sees our students’ best projects in their portfolios (Dillon, 1997) and gives feedback on quality and relevance of these projects to the current workplace.

In these ways, the board helps us keep our curriculum “at the forefront of latest developments and opportunities and, especially, future needs of the profession” (Temmerman, 2022). It also reinforces faculty perspectives on which students might need additional help from tutors or the university’s Writing Center to produce professional level work.

In addition, the board provides input regarding the most important and up-to-date software skills needed to succeed in the field. For example, a few years ago a board member directed the faculty members to the scholarship program that MadCap FLARE offers and recommended that students learn this software to prepare them for working in a technical communication role. Because of this recommendation, in the program’s Writing and Designing Documentation course, students now create an online help project using MadCap FLARE, and the university doesn’t have to pay for the software because MadCap provides it to our students for free.

These face-to-face conversations allow for faculty and board members to explain their perspective and push back against each other in ways that a survey would not. They also engender further discussion when the advisory board members’ opinions are at odds.

Also, the board is a resource for other program needs. When their expertise makes sense in particular classes, they are often asked to visit classes and share their experiences in the field. For example, we have a class called Copywriting and a current board member (and 1996 graduate of the program) has worked in that

context for many years. Most years, he visits the course and discusses writing for a brand, bringing with him examples of projects he has and is currently working on.

Another example of leveraging our board's expertise is in a class that helps students better grasp a corporate culture. Advisory board members are often invited as guest speakers to this class to discuss their experiences working in various cultures and provide the students with tips about how to navigate those various cultures. Topics have included how to effectively work remotely, how to manage your own personal social media while recognizing you are a reflection on your company, and how to live your personal convictions while respecting others in the workplace.

Service to Program

The administration at our institution has always struggled to understand the professional writing program. While they may have some concept of technical writing, they certainly don't grasp its depths or the more unique qualities of our specific major. During a recent tenure review, a university official asked clarifying questions about how the program differs from other writing degrees at our university. He wanted to understand, but maybe because the field is still relatively new when considering the vast history of academia, he had no schema to help it make sense.

While our advisory board has never advocated for something specific to the university or department administration directly (Soderlund, Spartz, & Weber, 2017), their presence and resumes have given the professional writing program more ethos with decision makers. Over the years board members have often worked for companies that the administration recognizes (HP, Procter & Gamble, Nationwide Insurance, etc.), showing that graduates in our discipline contribute to noteworthy organizations.

The advisory board has also helped our department chair better understand the program and how to support it. As noted earlier, professional writing moved from the English department to the Communication department in the early 2010s, and to be frank, the Communication faculty and chair had no idea what we did in our major.

To help with the transition, we started inviting the chair to our lunches with the advisory board. During these lunches, our chair has learned about the variety of jobs in the field, the quality of the current iteration of the professional writing major, and how the program prepared and helped board members who are now graduates. Those conversations have improved advocacy for professional writing from our chair to the administration.

While the board does not interact with prospective students, they indirectly help with recruiting. The professional writing faculty interact with prospective students and their parents frequently. A common question from both parties involves how the program prepares students directly to obtain positions in the field. Because our board is so active, we describe the process that students go through and highlight how it has benefited our graduates. It eases concerns about getting a job with a

writing degree and shows how serious we are about both the discipline and our students' job prospects.

Strengthening the Relationship with the Board

Professional writing faculty do not take lightly that our board members volunteer their time and expertise without financial compensation. We do several things to strengthen the relationship between the board and our program and to show our appreciation for them. As mentioned before, we feed board members lunch at each meeting, catered from a local establishment. While board members are interviewing students and filling out evaluations, we provide them with cookies, snacks, and drinks they enjoy at their pleasure.

At the end of each school year, we invite board members and their spouses or significant others to a year-end banquet where we celebrate the accomplishments of our students and reflect on the year's events. The banquet occurs in the evening, and once again, we provide food. We have the board members intermingle their seating with the students so that students have the opportunity to interact with the board members during the meal and get to know them on a personal level.

The members who attend receive a gift as a thank you for their work with our students and faculty. These are all small gestures that are essential to show the board how much we value their contributions to our students and the professional writing program.

Benefits for the Board

Recently, we asked board members how their membership benefits them beyond our small gestures, and they responded with four themes. First, our board meetings give them the opportunity to engage in conversation with other professionals about current trends in our field and to learn about how other professionals are navigating current obstacles or harnessing new technology to advance the field. Just as our program benefits from these discussions, so do the board members.

Second, their interactions with our students give them the opportunity to keep a pulse on the current maturity and skill levels of undergraduate students and soon-to-be college graduates. They are able to use those interactions to identify talent and recruit for their company's open internships or entry level jobs. When they interview students from other programs, they are able to compare what they've seen from our program and make better informed decisions about hiring.

Third, the board members appreciate the opportunity to give back to the next generation. They see their service to the board as a mechanism to invest in students, using their years of experience and the wisdom they've gained for a higher purpose. In addition, oftentimes their companies value this as a form of community service.

Finally, and in their opinions, most importantly, the board members see our board meetings as networking opportunities. They value the relationships they build with one another and rely on those relationships to increase their professional network.

They recognize that, were they not participating on the board, they would not otherwise meet the other professionals involved through their typical networking or working circles. For these four reasons, our advisory board members see regularly participating on our board as valuable for both the program and for themselves.

Key Takeaways

While this showcase is one example of how a specific program uses its advisory board, we believe there are some important takeaways that can benefit other programs.

Key Takeaway 1: A program's context influences how an advisory board is used. The direct contact between our board and students is only possible because of the relatively small size of our program and physical proximity of the members. For a larger program, having board members interact with most students during the year could be untenable, depending on the ratio of board members to students. Other programs may decide the benefits of having members from across the country outweigh the advantages of having them regularly come to campus.

With current technologies, faculty and administrators can more easily have students and board members interact over Zoom or like technologies, allowing for more professionals to live far away and still contribute to the program. As with everything, there are tradeoffs, so as we discuss in our second takeaway, goals are an important starting point.

Key Takeaway 2: Clearly defined goals and expectations benefit faculty, students, and the board. When a program creates an advisory board, faculty should know exactly what they want members to contribute. Then they need to articulate their vision to the members both individually and collectively so that everyone is on the same page. Faculty need to consider how busy professionals are and what's reasonable to ask of them.

In our case, board expectations changed as our curriculum and program developed. Faculty shouldn't be afraid of modifying the functions of their board members when those changes will benefit their students and their program. But those changes must be communicated clearly and ideally have the blessing of the board members who will act out those new functions.

Key Takeaway 3: Board members should reflect the scope of the program. Especially when board members are advising on curriculum and reviewing student work, they must have the collective experience to share wisdom with faculty about the state of the program and strengths of the students. If a program has a strong editing component, then editors should be a part of the advisory board.

It has sometimes been challenging to keep the board up to date with our own curriculum changes. As stated earlier, we have developed our curriculum significantly in the last decade, and the expertise of our board has not always reflected that. And yet, it is imperative that we match students with professionals

who can guide them toward their ultimate professional goals.

Implementing this takeaway will be easier for narrower programs. If a major focuses on traditional technical writing, it will likely need to seek a small set of professionals to represent its scope. Broader programs like ours will reach out to technical writers, editors, instructional designers, copywriters, and communication specialists.

Conclusion

Advisory boards are a great tool to help sharpen a program and prepare students for the professional challenges ahead. While the way we use our board would not work well for everyone, our board members' contributions have been instrumental in the success of our students and growth of our major. At each meeting, we ask our board members directly what we can do to improve the mock interview process and the quality of work our students create. Their insights have allowed us to keep up with changes in the field and address both our blind and weak spots as faculty members. In conclusion, we attribute the growth and success of the program, in part, to our advisory boards' contributions to our students, our faculty, and our program.

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Appendix A

Professional Writing Phone Interview Assessment

Student's Name:

Evaluator's Name:

Circle one:

Freshman Sophomore Junior Senior

Considering the characteristics listed below, check the most appropriate ranking for each characteristic (1= seriously needs work; 2 = needs work; 3 = average; 4 = above average; 5 = excellent).

Characteristics	1	2	3	4	5	Comments
Timely and professional communication before interview						
Adequately prepared for interview						
Resume and cover letter professional						
Effective response to interview questions						
Confident throughout interview						
Ability to sell himself/herself						

Appendix B

Professional Writing Face-to-Face Interview Assessment

Student's Name:

Evaluator's Name:

Circle one:

Freshman Sophomore Junior Senior

Considering the characteristics listed below, check the most appropriate ranking for each characteristic (1= seriously needs work; 2 = needs work; 3 = average; 4 = above average; 5 = excellent).

Characteristics	1	2	3	4	5	Comments
Made strong first impression (handshake, confident greeting, appropriately dressed)						
Adequately prepared for interview						
Effective response to interview questions						
Confident throughout interview						
Ability to sell himself/herself						

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Engaging in Mutual Mentoring: A Heuristic to Transfer Knowledge as a Technical and Professional Communication Administrator

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Abstract: This article describes a new technical and professional communication program director's experience transferring prior knowledge into a new role. The author shares challenges faced and presents a heuristic that aids in transferring knowledge.

Keywords: administration, transfer, program, WPA, curriculum

In Fall 2022, I accepted my first tenure-track job as a "lone ranger" (Sapp, 2006) Technical and Professional Communication (TPC) program administrator: the only tenure-track TPC faculty member in a traditional English department. This Commentary piece tells the story of how I turned to CPTSC and *Programmatic Perspectives*, among other resources, and generated a heuristic to transfer my prior program administration knowledge to my new role.

I have two aims: 1) to describe the importance of CPTSC, *Programmatic Perspectives*, and other resources for new TPC administrators, and 2) to offer other new administrators a heuristic to aid in their knowledge transfer. I engage in what Karla Saari Kitalong (2009) calls "mutual mentoring" or co-mentoring (p. 211), an approach in which junior and experienced faculty collaboratively construct TPC program administration knowledge. More experienced scholars, especially leaders at the helm of CPTSC and *Programmatic Perspectives*, may use this article to further consider how to foster mutual mentoring among TPC administrators. Meanwhile, junior scholars may use the tool to apply their knowledge to their TPC leadership roles.

Background: Becoming a Program Administrator

I entered my position with two years of administrative and teaching experience outside TPC. In my new position, I would collaborate across disciplinary lines to build a TPC program. I had previous experience doing similar work, albeit in a writing center (WC) and writing across the curriculum (WAC) context. The transition from WC and WAC to TPC demanded that I increase my knowledge of TPC program administration and my institutional context. Put simply, I needed to read, network, prototype, and write my way into my role.

Challenges abounded. Most notably, I entered my new institution as an assistant professor tasked with the program director title and duties. The only TPC specialist in my department, I felt overwhelmed and isolated. Surely, I was not the first junior, tenure-line faculty member to direct a TPC program. As I turned to the TPC field's literature, I found scholarship illustrating that other novice administrators experience similar challenges to mine as they developed new TPC programs and steered existing ones (e.g., Gonzales, Leon, & Shivers-McNair, 2020; Sapp, 2006; Simmons, Moore, & Sullivan, 2015). When Laura Gonzales, Kendall Leon, and Ann Shivers-McNair interviewed TPC program faculty at Hispanic-Serving Institutions (HSIs), one participant described the challenge of adapting to a new institutional context. Even though the participant had taught in culturally diverse settings, moving to a new setting required learning a new context and student population. Further, Michele Simmons, Kristen Moore, and Patricia Sullivan's (2015) editorial in this journal shared their observations that women serving in administrative roles sometimes lack time to publish for promotion and "to articulate administrative work as service or scholarship" (p. 287, 289). They emphasize the importance of mentorship to avoid "having program administrators who may not be adequately prepared to navigate the institutional processes and practices of the university, nor adequately prepared to sustain programs over time" (p. 278).

Mentorship for New TPC Administrators

It quickly became clear to me that I needed mentorship, just as Simmons, Moore, and Sullivan (2015) articulate, to navigate my new institutional context and sustain a TPC program and career. I turned to *Programmatic Perspectives* and CPTSC for such support. Early in my discovery process, I found Karla Saari Kitalong's piece in this journal entitled "Mutual mentoring: An editorial philosophy for a new scholarly journal." Kitalong defines mutual mentoring, or co-mentoring, as constructing "what is meant by the scholarship of program administration" (p. 212). Unlike a "conventional mentoring approach" that positions journal editors as "the experienced 'insiders,'" mutual mentoring enables editors, authors, and readers to co-construct knowledge (p. 212). As Kitalong notes, mutual mentoring in the pages of *Programmatic Perspectives* is so necessary because, "Aside from Writing Program Administration, the WPA journal, very little scholarly work about—or interest in—the topic of academic program administration has been manifested in the rhetoric-related disciplines" (p. 215). Mutual mentoring as it occurs in *Programmatic Perspectives* enhances the TPC "community's sense of the importance of program administration work as a scholarly endeavor in its

own right" (p. 215). In other words, mutual mentoring means that we all have something to contribute. We do not leave prior knowledge at the door when we change jobs or institutions. I started to view the task of adapting to my new professional role not as about absorbing a completely new way of being, but as about transferring my existing knowledge and experience into a new space. I began to understand mutual mentoring as a meeting place of ideas, and the pages of *Programmatic Perspectives* as a space where TPC program administrators can work through the particularities of administration in their field, which shares similarities and differences with other WPA work.

Article Preview

Here, I contribute my own process of converging my prior WC and WAC knowledge and my emerging TPC administration knowledge. I begin by sharing knowledge I developed in prior professional spaces, under the capable mentorship of my doctoral advisor, Dana Driscoll, a writing center administrator and writing transfer researcher, and my first supervisor, Laura Brady, a WPA at West Virginia University. By bringing forth this scholarship, explaining how it helped me to adapt to my TPC director role, and articulating how other TPC administrators can benefit from it, I hope to engage in the kind of mutual mentorship that Kitalong outlines.

Models for Transfer

As I described above, a primary challenge I faced as a new TPC administrator was how to transfer my prior WPA experiences and knowledges into a new role and context. Familiar with scholarship on learning transfer from publications like *WPA Journal*, I sought to identify transfer models that could be useful for my own situation. In this section, I discuss two such models for transferring knowledge: Carolyn Wisniewski's (2018) detect-elect-connect model of transfer (which she adapted from David Perkins and Gavriel Salom) and Kara Poe Alexander, Michael-John DePalma, and Jeffrey M. Ringer's (2016) adaptive remediation model of transfer. As I share these models, I discuss their affordances for me and other TPC administrators.

Transfer Model #1: Detect-Elect-Connect

First, I will review the detect-elect-connect model of transfer outlined in Carolyn Wisniewski's (2018) study of novice graduate teaching assistants (GTAs) navigating teaching-related problems. Although Wisniewski's study involved a different context than mine (graduate teaching assistants versus novice TPC program administrators), several aspects helped me to transfer knowledge to my new context. Wisniewski interviewed graduate teaching assistants about challenges faced, asking participants to narrow down, or define, specific teaching-related problems and explain their problem-solving approaches. Participants narrated the changes they made to their teaching after encountering the problem, how they decided to make changes, how they felt about the experience, and what readings and knowledge sources they returned to throughout. From their stories, Wisniewski identified challenges faced, resources GTAs had, and how they applied

these resources to the challenges. Among Wisneiski's many findings, one in particular stood out to me: GTA participants often failed to adapt their approaches to the context. Rather, they tended to apply experiences without modifying the approaches to the context. From this, Wisneiski argued that successful transfer requires adaptation, not replication.

Transfer Model #2: Adaptive Remediation

Another useful transfer model is adaptive remediation. Alexander, DePalma, and Ringer (2016) describe adaptive remediation in context of multiliteracy writing centers as "a set of strategies" to "adapt or reshape composing knowledge across media" (p. 34). In other words, adaptive remediation does not involve reusing knowledge; adaptive remediation involves reshaping knowledge for novel situations (p. 34). Adaptive remediation offers four strategies for transfer:

1. Charting: Study a text and map the rhetorical moves, describing each move's function.
2. Inventorying: Take stock of available resources and consider how those resources can help achieve a goal. Resources may be semiotic or language-based, relational, cultural, etc.
3. Coordinating: Match resources and strategies to the situation.
4. Literacy linking: Consider available literacies (whether visual, rhetoric, critical, etc.), and use these literacies to achieve a rhetorical purpose.

I appreciate that adaptive remediation offers concrete steps to follow when engaging in transfer. Further, I value the model's emphasis on adaptation rather than adoption. As I articulate later, I found that adaptation was far more effective than adoption as I navigated my new context.

My Transfer Heuristic for TPC Administrators

In the spirit of adaptation, I will now combine the two models above to create a new transfer heuristic. The heuristic remixes the transfer tools outlined above, borrowing aspects from both the detect-elect-connect model and adaptive remediation model. My aim in sharing the heuristic is to engage in mutual mentoring, as outlined by Kitalong. I personally have been using this heuristic to facilitate my knowledge transfer into my new role, and I hope that other TPC program administrators will find it to be useful.

The model involves six sequential steps:

1. Identify administrative challenges faced.
2. Chart each challenge's context.
3. Inventory available resources.
4. Coordinate ways to use resources to address challenges.
5. Apply resources to the challenge.
6. Reflect on the efficacy of the transfer attempt.

The above steps heavily rely on the adaptive remediation model's charting,

inventorying, and linking steps. However, I have added two additional steps. First, I broke adaptive remediation's "coordinating" step into two discrete steps: coordinate and apply. Doing so allowed me to consider possible ways to use my resources to address challenges (coordinate) prior to applying those resources to the challenges (apply). Second, I added a reflection step. Although reflection is not included in either of the source models, I incorporated this step since a threshold concept in writing studies is that reflection is key for writers' development. According to Linda Adler-Kassner, Irene Clark, Liane Robertson, Kara Taczak, and Kathleen Blake Yancey (2016), reflection facilitates transfer as it requires writers to "recall, reframe, and relocate their writing knowledge and practices" (p. 29). Reflection allows writers to consider what worked well, what could be improved, and what should change. Furthermore, the reflection step is a nod to Alexander, DePalma, and Ringer's premise that strategies that work in one context do not necessarily work in another. Reflection helps administrators consider how well their choices transfer across contexts, and reflection opens the door to further adaptation and modification. In the next section, I reflect on my experience using this heuristic.

The Heuristic in Action: An Example

In this section, I provide a working example that illustrates the transfer heuristic in action.

Identify

First, I identified administrative challenges. The challenges I faced were multiple.

To illustrate, I focus on the challenge of developing the TPC certificate curriculum as my institution converted from quarters to semesters (which I'll refer to as semester conversion). Semester conversion created an exigence for program reform, as I had to decide which courses to maintain, modify, sunset, and introduce. Semester conversion also required me to decide which courses, if any, could be submitted to the General Education (GE) Governing Board (GEGB) for inclusion in our university's GE curriculum. I had to determine the appropriate prerequisites and modalities, write TPC program learning objectives, draft course learning objectives, and map course learning objectives (CLOs) onto program learning objectives (PLOs) (as well as, where relevant, aligning CLOs and PLOs with GE objectives). That said, the broad challenge I have identified here is semester conversion, and the specific challenge involved a lack of institutional knowledge at the time that I had to propose a curriculum. For example, I lacked allies on the GEGB, had no prior familiarity with the university's GE areas, and had never designed a program curriculum.

Chart

Step two of the heuristic prompts me to chart each challenge's context. Here, I provide more details about my institutional and personal context.

I entered California Polytechnic State University, San Luis Obispo (Cal Poly) during a particularly volatile time for the campus: semester conversion. The last

California State University (CSU) system school to transition from a quarter-system to a semester-system, the Chancellor called for Cal Poly to move to a semester schedule by fall 2026. I arrived in 2022, a critical year for semester conversion, as all program proposals and course proposals were due for initial review by Spring. Within my first six months, I had to learn the CSU system's general education curriculum, the Cal Poly English department's major curriculum, and the existing TPC curriculum. Simultaneously, I was given autonomy to redesign the technical and professional communication program to better align with the TPC field. The challenge? As a lone ranger, no other tenure-track faculty were available to co-author program or course proposals with me. Tragically, the position I entered into was vacant due to the sudden passing of a beloved colleague. Thus, the program lacked documentation that could assist me in acquiring institutional knowledge. Moreover, my PhD coursework included no surveys of TPC literature or program administration.

My situation largely resembled the one Sapp describes in his work on lone rangers working alone in English departments. Sapp notes that lone rangers may lack allies and mentors. They often navigate tensions rooted in elitism, as they interface with Ivy League literature faculty who may view technical communication colleagues, many of whom are trained in state schools, as pragmatic at best and anti-intellectual at worst. For instance, one of Sapp's informal interview participants recalled colleagues noting that technical writing belongs in a community college or the business school. This tension manifested for me during my first quarter on the job, in which a department meeting became heated as my colleagues debated the core English major curriculum, resulting in comments from some that TPC does not belong in the English department at all. Given that I am Cal Poly's only tenure-track (TT) TPC faculty member, the suggestion was that I should not be in the department. Some colleagues acknowledged that students benefit from TPC courses, but the general sentiment was that TPC courses are largely instrumental and diminish English to a position of serving the institution's technical departments. Worse, I got the sense that some faculty felt threatened by TPC. As we revamped our English major curriculum, we created a "create your own pathway through the major" model, which meant that English majors would take courses from 200, 300, and 400 level "buckets," and could theoretically avoid taking any literature courses at all. Some colleagues feared that students would flock to TPC and, given that I am the only TT faculty member teaching those courses, feared that I would have unequal access to majors. Our chair hoped to abate these fears by proposing a "principle of equal access to 400-level courses." The principle passed, codifying that faculty would rotate teaching 400-level courses. The principle of equal access posed a problem for TPC because a 400-level course was required for the TPC certificate. The principle of equal access essentially blocked my ability to regularly offer that course because I am the only faculty member permitted to teach the course. But not all was hopeless. If I was tempted to get stuck at the charting stage, the heuristic prompted me to look beyond my challenges and inventory resources available to me to meet these challenges.

Inventory

Inventorying involves noting resources available to meet the challenge. As I

engaged in the inventory step, I was able to identify several potential resources that could assist me with semester conversion work. These resources included tenured colleagues, lecturer colleagues, *Programmatic Perspectives*, CPTSC, graduate school coursework, and other administrative experiences. Despite being a lone ranger in a literature-heavy English department, I am fortunate to have many supportive colleagues across disciplinary lines. I found several allies, including the following:

- A fantastic, field-adjacent mentor who helped me to navigate department politics.
- Sympathetic junior faculty members with marginalized specializations.
- Savvy faculty members in technical fields like Engineering.
- Highly capable lecturer faculty eager to teach TPC courses.

Some of these relational resources developed informally, while others developed artificially. For instance, to facilitate semester conversion, our department chair formed sub-committees. I chaired the TPC committee, and two tenured faculty members joined my committee. I also inherited a committee of lecturer faculty members. In the university system, most lecturers are part-time with no time allocated for service duties. However, lecturers are responsible for engaging in professional development, so the TPC lecturer committee helps lecturer faculty who teach TPC courses to meet their professional development goals. Further, in the context of semester conversion, the institution provided stipends to faculty working on course proposals, so lecturer faculty rightfully would be compensated for their hard work. Other resources included the following:

- An institutional "Course Inventory Management" (CIM) system, which cataloged course proposals.
- Literature in *Programmatic Perspectives*, *Technical Communication Quarterly*, and ATTW book series texts.
- CPTSC's program review service.
- My graduate school education, especially taking a writing program administration course.
- My prior WAC experience with interdisciplinary curriculum-building initiatives.

Coordinate

The coordination step involves determining which resources can be used to address specific challenges. At first glance, the TPC sub-committee, on which two tenured English colleagues served, seemed like a critical resource. Both colleagues hold significant institutional and administrative knowledge, as one directs the composition program and the other directs a partnership program between the College of Liberal Arts and College of Engineering. However, given the immense pressures on these colleagues to redesign their own program curriculum for semester conversion, they were available for advice but not co-writing. Still, their input was invaluable.

The lecturer committee seemed more promising. Committee members informed me that they assisted the prior TPC director with writing an open-source textbook

for the technical communication service course, so I knew that they had experience collaborating on curriculum development. Further, as previously mentioned, semester conversion course proposals came with a stipend, so lecturers would be compensated for their work.

In terms of TPC field-specific support, I contacted CPTSC for program review, and I met with Sean Williams and Lee-Ann Kastman Breuch, both of whom have extensive experience developing programs. They advised me to leave the program as is in year one and pursue program changes in year two. However, since I did not have the option to delay programmatic changes until year two, I decided to modify the program in the immediate term. The short timeframe for submitting program revisions created a sense of urgency and fertile ground for creative thinking. The result, though, was that I forged a new program without adequate institutional or programmatic context.

At the 2022 CPTSC conference, I met Jennifer Mallette, who shared her work on designing a TPC service course for engineers. Jenn generously shared a proposal she wrote at her institution, and the document helped me to design a similar service class at my institution.

And of course, I used my startup funds to order as many books as possible. For curriculum revision purposes, I read Rebecca Walton, Kristen R. Moore, and Natasha N. Jones' *Technical Communication after the Social Justice Turn* and Meredith A. Johnson, Patricia Sullivan, and W. Michele Simmon's *Lean Technical Communication: Toward Sustainable Program Innovation*. For teaching the existing two 300-level TPC courses, I ordered Suzan Flanagan and Michael J. Albers' *Editing in the Modern Classroom*, Guiseppe Getto, Jack T. Labriola, and Sheryl Ruskiewicz's (2020) edited collection *Content Strategy in Technical Communication*, and Lee-Ann Kastman Breuch's (2019) *Involving the Audience: A Rhetorical Perspective on Using Social Media to Improve Websites*.

Apply

The next step is to apply resources to the challenge. I applied the following resources to the challenge of proposing courses for semester conversion.

- Worked with the TPC lecturer committee to collaboratively write new course proposals.
- Contacted the tenure-track TPC committee for advice about issues that the TPC lecturer committee was unsure about. For instance, I sought the tenure-track committee's advice about whether to change the name of a course titled Corporate Communication to more accurately reflect the course's focus on analysis and critique.
- Used existing course proposals as models for new TPC course proposals.
- Integrated TPC scholarship into course reading schedules.

Reflect

As I reflect on the efficacy of my transfer attempt, I notice that I leaned heavily on local resources such as the TPC lecturer committee and tenure-track faculty in my

department. My approach was somewhat successful, though it also involved several missteps along the way.

Looking back, one of the greatest mistakes I made was not attending to the TPC scholarship that advocates for lean programs. I had read Sapp's piece about the lone ranger, and I was aware of his warning that "One feature of the lone ranger position that is critical for attracting applicants is its relative autonomy" (p. 211). I quickly fell under the spell of autonomy, using my creative freedom to greatly expand the TPC program's course offerings. Rather than a "straight conversion" which would involve expanding existing 10-week quarter courses into a 16-week semester calendar, my team and I proposed multiple new courses. Instead of maintaining a single 400-level variable topics course as we have on quarters, we proposed seven—yes, seven—new 400-level courses. My goal was to enhance the visibility of the program by showcasing our most interesting work through course titles like "Writing for Nonprofits" and "User Experience Writing and Research for Social Impact." However, I learned that writing seven course proposals involves a significant amount of work, flying in the face of the lean technical communication tenant that "lean technical communication promotes efficiency" (p. 28). The process certainly was inefficient. The lecturer committee brought forth extensive experience with assignment design and pedagogical strategies. However, as the only committee member with a PhD focused on TPC, I shouldered responsibility for ensuring currency and integrity in the course learning objectives and readings. Unsurprisingly, I was also motivated by the university's incentive structure: up to \$1,500 stipend for each new course proposal (which I split with my lecturer colleagues). At one point, one of my colleagues joked that I must be saving up for a Lexus. I'm not; more accurately, I was driven by the weight of responsibility for ensuring program success. Without fully understanding the students or the institution and with a short deadline to learn my context, I proposed more classes than necessary in hopes that some of the courses would be useful five years later when the semester-calendar arrived. In a way, my process resembled prototyping, except the administrative calendar did not allow for iteration and revision. Without knowing what would stick, I submitted all my prototypes at once.

Although I disregarded some principles of leanness during my first year, I still found *Programmatic Perspectives* and the CPTSC network to be the most valuable resources in navigating semester conversion. As I've continued to confront new challenges, I continually find similar experiences in the pages of *Programmatic Perspectives*. For example, just recently, the General Education Governing Board rejected my proposals for five (yes, five) new GE TPC courses. The board perceived the courses as skills-based, and skills-based courses are excluded from the upper-division general education criteria. Now in my second year, I've learned to modify my goals, work toward leanness, and look at TPC literature prior to diving in head-first. Indeed, the pages of *Programmatic Perspectives* contain Lu Rehling and Neil Lindeman's (2010) "Including technical communication in general education: The proposal, design, and outcomes of a new course," in which they describe a situation instantly recognizable to me. My motivation for proposing TPC general education courses matched theirs: general education TPC courses can boost TPC program enrollments and help students in high-unit majors access these courses. Further, Rehling and Lindeman faced similar resistance from their GE board. They

write: "Many people may not assume technical communication courses are an appropriate representation of the humanities in general education," yet including TPC in general education helps position the discipline in the humanities (p. 4). I heeded Rehling and Lindeman's warning that administrators proposing TPC courses for humanities-general education would need to spell out how TPC is humanistic. I retitled the course, formerly called "Technical Editing," now calling it "Humanistic Perspectives in Technical & Professional Editing," and I included readings about ethical considerations in technical editing, theories such as translanguaging and feminist theory that inform editing practices and works that firmly position technical editing alongside anti-racist practices. While the specific suggestions found in Rehling and Lindeman's work were helpful, what was perhaps most useful was knowing that they, too, faced significant hurdles getting a TPC course approved to meet a humanities general education requirement. By reading their work I benefited from their mentorship; I learned the significant maneuvering required to approve a single GE course. Readers will be pleased to learn that, with Rehling and Lindeman's help, I decided to remove the GE designation from three of my five initial course proposals and focus my energy on just two proposals. At the time of this writing, both proposals have been approved for GE. For future proposals, I will continue to use the heuristic to identify administrative challenges, chart the context, inventory my resources, coordinate ways to use resources, apply the resources (the hardest part for me!), and reflect on the efficacy.

Lessons Learned and Conclusion

I first delivered a version of this paper at the CPTSC conference in October 2022. It was the best conference I had ever been to; it felt like my admission into a community of technical and professional communication administrators. No longer was I alone in my struggle to apply my knowledge and skills to my new role. As I spoke with new colleagues, I learned that my challenges were shared. Most of us have experienced some form of destabilization within our careers. Even when we stay at the same institution, we experience shifts in chairships and deanships, changes in institutional priorities and funding, waves of new students, and more. Even the fact that TPC administrators and instructors must teach rapidly changing tools and technologies creates a sense of destabilization in our work; we must constantly update our syllabi to meet the demands of ever-changing technological landscapes. Of course, I would argue that change is also what makes TPC work exciting. For TPC administrators to grow in their careers, we can't replicate the past; we must adapt to solve new challenges and problems. Like our students, we accumulate skills, dispositions, and knowledge along the way, but resources do not automatically or neatly transfer to the work we are faced with this academic year, this month, this week, or even this day.

My aim here has been to engage in mutual mentoring, outlining the resources that have helped me navigate my first years as a TPC administrator, and offering up a heuristic that might help readers. As Kitalong outlined, mutual mentoring is fostered in interactive spaces, such as the ability to comment on *Programmatic Perspectives* articles or attend CPTSC conferences. Given how essential the journal and the CPTSC community have been to my own development as a program administrator,

I can only imagine how powerful increased dialogue would be. Therefore, I will offer a few questions for readers and CPTSC to consider as our community continues toward mutual mentoring. What other forums can CPTSC use to promote mutual mentorship? How might CPTSC members dialogue with one another about articles published in *Programmatic Perspectives*? Future scholars might also consider gaps in the literature. For instance, what are the ongoing consequences of lone ranger status on junior program administrators? Anecdotally, I found it challenging to function as a lone ranger, especially an untenured one, because I felt I needed to prove the value of TPC to a skeptical audience. What additional resources can CPTSC and *Programmatic Perspectives* offer TPC administrators to navigate these challenges? I look forward to working alongside my colleague to address these questions and bring the tradition of CPTSC into the future.

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Leveraging Design Thinking and Generative AI to Transform TPC Pedagogy

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Abstract: Generative Artificial Intelligence (AI) has taken the world by storm and reached an inflection point in 2023 with the release of several influential large language models, most notably the open source ChatGPT-3 and ChatGPT-4 by OpenAI. Generative AI technologies can instantly produce multimodal content, impacting many disciplines that were previously considered immune to automation. Technical and Professional Communication (TPC) industry and pedagogy stand to be profoundly transformed by generative AI, necessitating new ways of thinking, teaching, and learning. In this article, we call on TPC educators to consider incorporating generative AI tools into their curriculum to serve as a powerful tool in the teaching and practice of design thinking. Furthermore, we postulate that generative AI can prepare students for the rapidly changing work landscape dominated by AI technologies. Drawing from our experience of teaching an undergraduate technical communication course, we provide examples of leveraging generative AI technology, such as ChatGPT, to facilitate students' deeper understanding of the design thinking process. Our intent is to raise awareness of generative AI potential, stimulate further research, and improve opportunities in TPC pedagogy and programmatic development.

Keywords: Generative AI, design thinking, technical communication

Generative Artificial Intelligence (AI) technologies have taken the world by storm. In 2023, generative AI has reached an inflection point (McPhillips, 2023) with the release of AI models and systems such as ChatGPT-4 and DALL-E 2 by OpenAI, Stable Diffusion, Midjourney, Google Bard, Copilot and Bing by Microsoft 365, Adobe Firefly, and many others. Generative AI refers to an algorithmic process that enables almost instantaneous real-time creation of statistically probable content from vast amounts of unstructured or unlabeled data.

The quick adoption of generative AI technologies is credited with such powerful features as creating various types of output (text, images, music, videos, websites, apps, code, etc.) and performing unsupervised learning, i.e., finding patterns and making conclusions from the unlabeled data. Generative AI tools can not only replicate existing content but can add new and unique elements to it. For example, generative large language models like ChatGPT, Jasper, GhostWriter and many others can be used to produce all kinds of professional and personal writing, or even creative writing pieces. Similarly, AI image generators like DALL-E 2 and Midjourney can create highly detailed images from text prompts, while AI assistants like Microsoft Copilot can generate lesson plans and other educational materials in a matter of minutes. These advanced AI tools are just a few examples of the generative AI landscape whose boundaries appear to expand daily. With their ability to produce multimodal outputs instantly, generative AI technologies have the power to transform many areas traditionally thought unsusceptible to automation.

The finer points of educating young adults embarking on their professional careers is one such area that will see the impact of this automation. While research on this topic is still in its early stages, students and instructors are already using ChatGPT in the classroom (Wood & Kelly, 2023). This use is only expected to increase (Maslej et al., 2023; Turnitin, 2023). Considering this reality, the immediate concern that should come to mind for Technical and Professional Communication (TPC) administrators and educators is, "What are the opportunities of generative AI in TPC programs?"

One of these opportunities is to use generative AI in the teaching and practice of design thinking. Design thinking has been embraced by the TPC community as an approach that can enhance reader-centered writing, collaboration, project management, and development of instructional materials (Leverenz, 2014; Pope-Ruark, Tham, Maoses, & Conner, 2019; Purdy, 2014; Shalamova, 2016; St. Amant, 2022; Tham, 2021). At the same time, scholars note several challenges in implementing design thinking into the existing TPC pedagogical framework. These challenges include, but are not limited to, faculty resistance, a lack of familiarity or expertise in design thinking methodology, and time needed to master design thinking tools (Bay, Johnson-Sheehan, & Cook, 2018; Overmyer, & Carlson, 2019; Pope-Ruark, 2019; Tham, 2022; Verhulsdonck, Howard, & Tham, 2021; Wible, 2020). To date, there is no consistently adopted framework for integrating design thinking into TPC instruction. Generative AI offers the opportunity to create such a framework. In this paper, we argue that TPC programs would be well-served to examine how to leverage generative AI technologies in their curriculum. More specifically, we suggest that generative AI tools can address the challenges of incorporating the design thinking approach into technical communication courses and help students develop a deeper understanding of design thinking and rhetoric. Drawing from our experience teaching an undergraduate service technical communication course at our university, we provide examples of implementing design thinking and ChatGPT into the writing process. Furthermore, we discuss the challenges and critical considerations for using this approach. Our intent is to help raise awareness of generative AI and inspire further research into its opportunities in TPC pedagogy and programmatic development.

Generative AI and the Future of TPC: A Code Red Moment

The research on the use of generative AI in higher education is still nascent, but emerging studies suggest that the success of generative AI will largely depend on how AI is integrated in higher education and that more research is needed to fully understand its potential and limitations (e.g., Stokel-Walker, 2022; Williamson, Macgilchrist, & Potter 2023).

Proponents of generative AI highlight its benefits that include but are not limited to increased efficiency and productivity, research and exploration, increased student engagement, and opportunities for creating personalized learning paths for students (Alshater, 2022; Baidoo-Anu, & Ansah, 2023; Bozkurt, 2023; Cotton, Cotton, & Shipway, 2023; Dehouche, 2021; Mor, 2022; OpenAI, 2023A; Qadir, Islam, & Al-Fuqaha, 2022; Noy & Zhang, 2023). Meanwhile, generative AI sceptics raise serious concerns about ethical, geopolitical, scientific, social, cultural, environmental, and financial implications of generative AI (Bender, Gebru, McMillan-Major, & Shmitchell, 2021; Bishop, 2023; Eloundou, Manning, Mishkin, & Rock, 2023).

In response to the quick advent and abundance of generative AI tools, both AI enthusiasts and critics have raised an alarm about the necessity to rethink and retool higher education (e.g., Bašić, et al., 2023; Chen, Chen, & Lin, 2020; Seo, Tang, Roll, Fels, & Yoon, 2021; Warner, 2022; Williamson, Macgilchrist, & Potter, 2023). Some even consider the proliferation of AI tools as a code red moment in education or a crisis that necessitates a paradigm shift in teaching and learning. This concern is especially pivotal in the writing-focused disciplines (Grimaldi & Ehrler, 2023; Hammad, 2023; Luttrell, Wallace, McCollough, & Lee, 2020; Pavlik, 2023; Marchi & Sampieri, 2023; Salvagno, Taccone, & Gerli, 2023).

Arguably, the potential benefits of generative AI tools for writing includes reduced time and effort required to complete repetitive tasks such as formatting and proofreading, improved quality of writing, and even enhanced opportunity to remove writer's block. Moreover, generative AI can easily create content in multiple languages, opening new professional opportunities for writers (Davenport & Mittal, 2022; Lin, 2023 ; Noronha, 2023; Wood, & Kelly, 2023).

Other scientists and researchers suggest that AI generated content presents a "superficial understanding" of reality (Marcus, 2023, para 1), may contain "ineradicable defects," and lack "intellectual insights and artistic creativity" compared to human-generated content (Chomsky, 2023, para 3-4). Generative AI technologies can also be potentially misused for nefarious purposes. For example, students could abuse generative AI to create fake essays or academic papers, potentially leading to plagiarism and academic dishonesty. Additionally, students could use generative AI to create fake social media profiles or messages, potentially engaging in cyberbullying or online harassment. The ethical concerns around the ownership responsibility of the AI generated output, as well as the

potential impact on the labor market for human writers, also cannot be ignored (Dehouche, 2021; King, 2023; Goldstein et al., 2023; Salvagno, Taccone, Gerli, 2023).

Because of the widening availability of generative AI to our students, it is high time to examine the ways in which TPC instructors can integrate generative AI into the classroom. Students are already using this technology, and it is incumbent upon TPC instructors to help direct students' usage in proper and helpful ways. In the next section we present an example of how we use generative AI in the content of design thinking in a service technical communication course at our university.

Design Thinking with ChatGPT: Our Case Study

This course (GS-1002 Freshman Studies II) is an undergraduate technical communication course taken by all students at our university regardless of their discipline. Multiple sections of the course are offered by the school, and each section has a specific theme determined by the instructor. Both of us teach at least one section of GS-1002 a year. While we may slightly vary the theme of the course every semester, a recent theme we have both used is AI and smart technology. In GS 1002 we use the Stanford d.school model of design thinking that consists of five stages: Empathize, define, ideate, prototype, and test. We use design thinking throughout the course as a framework. Recently, in addition to Microsoft AI-powered assistant Editor we have added ChatGPT as an AI assistant for all course projects. This study focuses on the five activities students complete for the capstone team-based Technical Report project.

We have found that these activities (including prompt engineering) work best as a collaborative and iterative process. Both of us are advocates of student collaborations in general. Even in freshman-level classes, we start the writing students working in groups. Our reasoning is as follows: Most of their academic programs and future workplaces will require collaboration. In fact, collaboration is a top skill sought by the hiring managers of most TC workplaces (Lauer & Brumberger, 2016; Shalamova, Rice-Bailey, & Wikoff, 2018). In addition, working in groups allows the more tech savvy students to assist those who are hesitant or less experienced with technology.

The iterative process is also part of many of our writing assignments. Iteration is one area where writing pedagogy and design thinking overlap. Just as we instruct students to write multiple drafts in writing courses, design thinking similarly requires students to create and refine prototypes.

Introduction to ChatGPT Through Team Formation

After introducing students to the design thinking model, we start the project by forming student teams based on the students' interests in an AI or smart tech topic. Once the groups are formed, we immediately jump into their first task, which is to decide on a creative name for their group. We start by asking the students to come up with a team name. Often students propose generic (e.g., Engineers), silly (e.g., Comedically Large Shoe) or even inconsiderate team names (e.g., Fentanyl,

Stage Four [Cancer]). After students have made their first attempt at a name, we give one or two short lectures on effective strategies of prompt engineering for ChatGPT, i.e., how to write tailored instructions for ChatGPT to receive a relevant and meaningful response (OpenAI, n.d.; Shieh, 2023).

To start off students with prompt engineering, we ask them to use the team names they generated in their group as a starting point for formulating an effective prompt. Each team member writes a prompt individually. Then all team members share their prompts and either select the most effective prompt or combine several prompts to write a new one. We ask students to annotate their prompt to demonstrate their understanding of prompt writing. Table 1 shows an annotated prompt from a student in one of the teams and the corresponding output that ChatGPT provided.

Student Prompt	ChatGPT Output (redacted for space reasons)
I am working with three students on a technical research project in an undergraduate technical writing course. We are writing our report on the topic of AI and healthcare [audience and context]. Give me five suggestions for team names we could use for the project [task/purpose]. Our instructor wants us to use professional names [audience]. Do not suggest goofy or insensitive names [constraints].	<ol style="list-style-type: none"> 1. <i>The Robot Doctors</i> 2. <i>The Neural Networks</i> 3. <i>The Health Bots</i> 4. <i>The Cyber Surgeons</i> 5. <i>The Digital Diagnosticians</i>

Table 1: Student Example of Prompt Engineering

During their second attempt at generating a team name, students are more satisfied with the suggestions of the AI. This allows us to reinforce the idea that clear and specific prompts are critical when using a generative AI tool.

Although the scope of this article does not allow us to elaborate on prompt writing strategies (see Shieh, 2023; Stanford Center for Teaching and Learning, 2023 for tips), we want to note that in the pre-generative AI times, we would typically give several lectures on the key ingredients of effective technical writing (audience awareness, clear purpose or task, clarity, accuracy, and conciseness) and compare them to the basics of crafting an effective prompt. Presenting the basics of good technical writing in the context of prompt engineering opens opportunities to engage students in the writing process in a novel way, encourage their curiosity, and enhance their awareness of the capabilities and the shortcomings of AI.

Design Thinking - Empathize

Next, we tackle the first stage in design thinking – empathize. In this stage, the focus is on understanding the needs and expectations of the audience for the

research report. Students often struggle with identifying an appropriate and/or realistic audience. They typically go for audiences that would not read (let alone trust!) a report written by undergraduate students. Once the students have come up with their initial audience, we explain that there is another option for determining an audience for their report.

We then instruct students to use ChatGPT to generate an alternative list of potential audiences for their topic. This typically yields a more relevant list. Next, we ask students to share their team prompts and the ChatGPT outputs with the rest of the class. The class then helps refine the groups' prompts to make them more specific and precise, and the students regenerate a list based on this new prompt. Table 2 shows both an example of a revised prompt used to help determine a realistic audience and the ChatGPT response to that prompt. Please note that we have slightly edited all ChatGPT responses for conciseness.

Prompt	ChatGPT Output
<p>Assume that you are an undergraduate engineering student who is taking a technical writing course [<i>audience</i>]. You are tasked with writing a research report on the use of AI in healthcare. Suggest at least four realistic audiences who would be interested in reading the report [<i>purpose</i>]. Focus on the types of audience who would be inclined to read and trust a report written by an undergraduate student on the topic [<i>constraints</i>]. Describe each audience and their technical knowledge of the topic. How might the audiences benefit from the report? [<i>specific task</i>].</p>	<ol style="list-style-type: none"> 1. <i>Professors and academics in the field of engineering and healthcare:</i> This audience consists of experts who are knowledgeable about the topic and are likely to be interested in reading the report written by an undergraduate student. 2. <i>Other undergraduate and graduate students in engineering and healthcare:</i> This audience may not have as much technical knowledge as the experts but are likely to be interested in the topic and can provide feedback from a student perspective. 3. <i>Patients and patient advocacy groups:</i> This audience may not have a strong technical background but are interested in learning about how AI can be used to improve healthcare outcomes.

Table 2: Design Thinking Empathize Phase with ChatGPT

Next, we have teams look at the ChatGPT suggestions and select one audience. Students are encouraged to modify the audience and/or combine multiple suggestions, if necessary. Once the groups have arrived at their final audience, we move on to the next stage of the design thinking process. As part of our debrief for this task, the class discusses some of the benefits of coming up with initial ideas on their own and the challenges of working with the initial ChatGPT output.

Design Thinking - Define

The second stage in the design thinking process is to define. In this step, students

define a focused topic for their target audience. They start with asking (and answering for themselves) “How Might We” (HMW) questions. Because students have already defined a clear and realistic audience with the help of ChatGPT, they can quickly move into defining a feasible topic for their report. After student groups have amassed a few ideas for a targeted topic, we again direct them to ChatGPT.

We instruct them to write a prompt in which they ask ChatGPT to provide ideas for five to seven subtopics that relate to their general topic. Table 3 shows an example of a student prompt that yielded several options for narrowing the topic from ChatGPT.

Prompt	ChatGPT Output
Continue acting as an undergraduate engineering student who is taking a technical writing course [<i>role: act as</i>]. You are tasked with writing a research report on the use of AI in healthcare. Help me narrow down the topic of AI in healthcare for the target audience of other undergraduate and graduate students in engineering and healthcare [<i>task</i>]. Use the HMW question as the framework [<i>narrowed task</i>]. My audience may not have as much technical knowledge as the experts but are likely to be interested in the topic and can provide feedback from a student perspective [<i>specific context</i>]. Give me examples of five- seven subtopics for this audience [<i>target audience</i>].	<ol style="list-style-type: none"> 1. <i>AI and healthcare diagnosis:</i> HMW use AI in healthcare to diagnose and treat diseases. 2. <i>AI and personalized medicine:</i> HMW use AI to tailor medical treatments to individual patients. 3. <i>AI and predictive analytics:</i> HMW use AI to predict patient outcomes and improve clinical decision making. 4. <i>AI and medical imaging:</i> HMW use AI in medical imaging to improve diagnosis and treatment. 5. <i>AI and electronic health records:</i> HMW use AI to manage electronic health records and improve patient care.

Table 3: Design Thinking Define Phase with ChatGPT

We ask the students to work within their groups to review the ChatGPT suggestions and to select one. Alternately, student groups may define their own subtopic by combining various ChatGPT suggestions.

Design Thinking - Ideate

In this stage, the focus is on generating ideas for how the report can best address the defined problem statement and research question. This involves brainstorming various aspects of the topic, using ideation techniques. Students are encouraged to brainstorm such things as HMW/research question, organize the concepts, or find an angle on their research topic. For example, we ask students to use such

design-thinking brainstorming techniques as Crazy 8s, rapid mind mapping, and concept prioritization. Typically, we use Mural brainstorming templates (Mural, n.d.) to have students to work on their list of their ideas. We have also tried other virtual collaboratives such as Miro, Figma Jam, or MS Teams Whiteboard. Alternatively, we ask students to use handwriting or sketching for brainstorming when setting a up a Mural canvas takes up too much time..

The goal of this stage is to help students generate ideas that can answer their research questions. Students can use various ideation techniques to brainstorm different aspects of their topic, such as HMW/research question, concept organization, and research angle. Some examples of ideation techniques are Crazy 8s, rapid mind mapping, and concept prioritization. Students can use Mural templates or other virtual collaborative tools such as Miro, Figma Jam, or MS Teams Whiteboard to share their ideas. Alternatively, they can use handwriting or sketching for brainstorming if setting up a virtual space is time-consuming.

The ideate stage also involves using ChatGPT as a search engine. It is important to remind students of ChatGPT's limitations for research: 1) ChatGPT was trained on publicly available data prior to 2019 or 2021 (depending on the version) and 2) ChatGPT can generate fake sources and citations. Therefore, we ask students to conduct additional research and verify their sources with Google Scholar and online library databases.

When students have a required number of credible sources, they can use ChatGPT to summarize each source. First, we teach students how to write good summaries and show them examples from previous reports. After summarizing, students should look for patterns in their sources and create an outline for their report. ChatGPT can also help with finding patterns, but we encourage students to use their own critical thinking skills. Tables 4 and 5 show some examples of prompts and ChatGPT suggestions for this stage.

Prompt	ChatGPT Output
<p>Continue acting as an undergraduate student in the technical writing course [<i>role</i>]. Find ten peer-reviewed sources for my technical research report. My research question is How might we use AI in healthcare to diagnose and treat diseases? [<i>task</i>]. The report is intended for the audience of undergraduate students in computer science, biomedical engineering, and nursing [<i>audience</i>]. Find ten credible articles published from 2010 to 2022. The article should be written at the level I can understand. Document all sources in APA [<i>limitations</i>].</p>	<ol style="list-style-type: none"> 1. Esteva A.; Robicquet A.; Ramsundar B.; Kuleshov V.; DePristo M.; Chou K.; Cui C.; Corrado G.; Thrun S.; Dean J.; (2019). A guide to deep learning in healthcare. <i>Nature Medicine</i> 25:24–29. 2. IBM. (n.d.). Artificial Intelligence in Medicine. Retrieved January 30, 2022, from https://www.ibm.com/topics/artificial-intelligence-medicine 3. Jiang F; Zhang J; Wang Y; (2018) Challenges of artificial intelligence in medical imaging analysis and diagnosis. <i>Engineering</i> 4:181–183. 4. Jiang, F., Jiang, Y., Zhi, H., Dong, Y., Li, H., Ma, S., Wang, Y., Dong, Q., Shen, H., & Wang, Y. (2017). Artificial intelligence in healthcare: past, present and future. <i>Stroke and vascular neurology</i>, 2(4), 230–243. https://doi.org/10.1136/svn-2017-000101

Table 4 Design Thinking Ideate Phase with ChatGPT: Conduct Supplemental Research

Prompt	ChatGPT Output (redacted for space reasons)
<p>Summarize the first article for my research question How might we use AI in healthcare to diagnose and treat diseases? [task]. Each summary must include the main idea, a list of the key points, a short explanation of how it is related to my research question and an APA in-text citation [context]. Limit the summary to 300 words [limitations].</p>	<p>The article by Esteva et al. (2019) provides a guide to deep learning in healthcare, centering on deep learning in computer vision, natural language processing, reinforcement learning, and generalized methods. The authors describe how these computational techniques can impact a few key areas of medicine and explore how to build end-to-end systems. The article covers the following topics: computer vision, natural language processing; reinforcement learning, generalized methods. The article is related to the research question of how to use AI in healthcare to diagnose and treat diseases because it provides an overview of the current state-of-the-art and future directions of deep learning in various aspects of healthcare. It also discusses the challenges and opportunities of applying deep learning to healthcare, such as data availability and quality, interpretability and explainability, privacy and security, and ethical and social implications.</p>

Table 5 Design Thinking Ideate Phase with ChatGPT: Summarization of Sources

Design Thinking - Prototype and Test

Prototyping and testing are the two last stages in the design thinking process. In the case of the technical research report, an outline and draft versions of the report constitute iterations of the prototype. Students start this step by devising a basic outline for their report as a group, then “dividing and conquering” to write initial drafts of each major section (not including the introduction, conclusion, or abstract). Students’ initial work is done in a shared Microsoft Word online file on OneDrive. This enables us, instructors, to provide feedback on various draft iterations and review the history of the file.

Next, we instruct students on how to provide constructive feedback on their teammates’ sections. Armed with feedback from their peers and the instructor (who also comments in the shared document), students revise their initial draft sections. Once they have implemented the feedback and the draft is in good shape, we instruct the groups to consult ChatGPT once again for assistance. We encourage the groups to enter their draft (along with a relevant prompt) into ChatGPT. In this step, students can ask ChatGPT to find and summarize credible sources, identify key themes and patterns in them, and ask for suggestions to improve their draft. Students are also required to use Editor, Microsoft AI-powered service, throughout the writing process, throughout the writing process. Due to the number of tasks and iterations involved in this step, the prototype may take several class periods to complete.

After students have created a solid draft, students then engage in the final step of the design thinking process, which is to test or validate the report to ensure it addresses the research question and assignment requirements and is relevant to the target audience. We instruct students to formulate a prompt that asks ChatGPT to check if the report meets the project requirements based on the project grading criteria.

Lessons and Implications

This technical report project gives students the opportunity to consult ChatGPT throughout the DT process. Feedback we have received from students (as well as our own observations and the quality of the students' final projects) indicates that Generative AI tools like ChatGPT can enhance engagement and productivity in class, but they cannot replace student work. Instead, these tools should be used as a starting point to guide students through the design thinking process more efficiently. In this section, we discuss key discoveries we made through our classroom use of ChatGPT.

Leveraging Rhetoric to Teach Prompt Engineering and Foster Critical Thinking Skills

With the rapid adoption of generative AI technologies, "prompt engineering" or the ability to craft an effective request for a generative AI technology becomes an essential digital literacy skill students need to master to succeed in an AI-dominated future. As we described in our case study, students need to adhere to the basics of the rhetorical situation (formulating a clear purpose, identifying the target audience, providing specific and relevant context, and defining constraints) to ensure a useful output from ChatGPT.

Putting rhetorical theory in the context of AI-driven tools helps students not only appreciate the importance of a well-formulated prompt, but also understand that even with AI tools, good writing remains relevant and requires time and effort to develop. TPC instructors whose expertise is typically grounded in rhetoric are perfectly positioned to teach prompt engineering as a new writing domain. As Sandra Jamieson (2022) notes, "We have the tools, the theory, and a history of successful pedagogy to shape a response. And we should do so" (p. 153).

Embracing the Inflection Point: Adapting to AI Disruption

While the specifics of generative AI implementation in TPC pedagogy remain to be seen, it is evident that AI technologies are disrupting writing disciplines and the writing fields. Companies that focus on developing educational platforms and multimedia content creation software (e.g., Adobe, Canva, GrammarlyGO, Turnitin, etc.) have already implemented generative AI capabilities to accelerate the productivity of the writing and design processes. The adoption of generative AI tools necessitates that educators confront the challenge of acquiring new AI skills and rethink the development of instructional materials and assessment practices.

To adapt to the rapidly changing AI landscape, TPC programs should consider

creating opportunities for students to supplement their learning experiences with generative AI technologies. These experiences should focus on enhancing, rather than replacing, human instruction or writing. Furthermore, the meteoric advent of generative AI necessitates unique curriculum innovation opportunities for TPC programs.

Imparting the Relevance of Design Thinking to Technical Communication

Our experience suggests that ChatGPT can be used to enhance the adoption of design thinking methodology in TPC and help students become more comfortable with AI technologies. This could also include gaining knowledge of industry language for various design processes and appreciating the significance of technical communication classes in their curriculum. Understanding the relevance of this course material will allow the student to see a technical communication course as an enhancement rather than a nuisance in their degree requirements.

Staking a TPC Claim to Interdisciplinary Research in Generative AI

Given the broad integration of AI technology in personal and professional domains, a growing body of work calls for interdisciplinary research at the intersection of AI, social science, linguistics, and writing (Hohenstein, et al., 2021). TPC has already been characterized as evolving at the junction of several disciplines (Lauer & Brumberger, 2016; Shalamova, Rice-Bailey, & Wikoff, 2019) with a more recent focus on the merge of UX and TC (Redish & Barnum, 2011; Verhulsdonck & Shalamova 2020). TPC programs can create new specializations that focus on the use of AI tools in creating content (e.g., prompt engineering).

TPC has a lot to offer to share the development of ethical and inclusive AI models. TPC educators and professionals can contribute to the development and improvement of large language models by providing their expertise for curating datasets used to train generative AI models for quality, i.e., evaluating accuracy and relevance of the content in the dataset, identifying potential stereotypes and ethical challenges. As OpenAI invites more researchers to investigate “risky emergent behaviors, such as situational awareness, persuasion, and long-horizon planning” and “Interpretability, explainability, and calibration, to address the current nature of “black-box” AI models” (OpenAI, 2023 A, p. 69).

TPC academic programs can create enhance their curriculum and student learning outcomes by teaching students how to integrate AI models in the writing process. Furthermore, TPC programs can develop training materials on the efficient and ethical use of generative AI for AI novices.

Helping Students Navigate Generative AI Traps

It is important to have a conversation with students that while ChatGPT can be a helpful tool, it is prone to limitations and significant flaws. In our class we focus on three important issues of ChatGPT: AI hallucinations, plagiarism, and privacy.

AI hallucinations refer to AI-generated output that is not based on factual and

reliable evidence, but is either highly speculative, incorrect, biased, or simply false. For example, when asked to generate a research paper, ChatGPT is known for providing fallacious citations. AI hallucinations can also result from the “encoded bias” and various “stereotypical associations” that are rooted in the types and characteristics of the training data sets used in large language models, including ChatGPT (Bender et al., 2021, p. 614). As Gary Marcus warns us “if we cannot count on our AI to behave reliably, we should not trust it.” (2020, p. 3). TPC instructors can use the concept of “hallucinations” to help students uncover limitations, biases, and ethical challenges of AI-generated content. To further students’ knowledge and application of generative AI in TPC, instructors can have students research and analyze AI development guidelines developed by technology companies such as Google, Microsoft, OpenAI, IBM, LinkedIn, etc. Inviting students to have conversations about generative AI in TPC classes can be one of the first steps in developing a common ground for the use of AI in education.

Plagiarism is another topic used to discuss balance between the benefits and risks of generative AI. In his recent article “the False Promise of ChatGPT” Noam Chomsky (2023) criticizes text-generating AI tools such as ChatGPT. Although Chomsky recognizes ChatGPT as one of the “marvels of machine learning” (2023, para 2), he labels ChatGPT as a tool for sophisticated “plagiarism” incapable of “moral thinking” (2023, para 14, 17). Chomsky further explains that ChatGPT simply “summarizes the standard arguments in the literature by a kind of super-autocomplete” (2023, para 17). While Chomsky’s view of ChatGPT’s plagiarism in the context of large language models may be debatable, it deserves attention. After the release of the free version of ChatGPT in November 2022, the issue of plagiarism with ChatGPT became one of the thorniest discussion questions by educators (e.g., Barnett, 2023; Westfal, 2023).

Privacy is another concern that we share and discuss with students. In our case, when we introduced ChatGPT as an AI assistant in GS-1002 in the winter quarter of 2022 (winter quarter starts at the beginning of December), most of the students already had and were using ChatGPT-3.5 prior to taking the course. However, we reminded students that by using any generative AI platform, they may be sharing personal details by setting up an account with OpenAI. We also discuss how AI language models, including ChatGPT, are trained using the very data that the students (and others) input. For this reason, students may be unintentionally perpetuating or amplifying any biases contained within that data. It should be noted, that since our class concluded (in the spring of 2023), OpenAI, the creators of ChatGPT have tightened their privacy settings, and students may choose to disable their chat history that is used to train the language model (OpenAI, 2023B).

As generative technologies continue to spread like fire, some universities and schools have banned the use of ChatGPT in the classroom. Others have embraced technology and created academic integrity policies that address the use of generative AI in class. To date there is no generally accepted understanding of appropriate use of ChatGPT in teaching and learning. Our own university’s academic integrity policy does not specifically address the use of ChatGPT, although we are working on it. The absence of clear policies makes it challenging to impart the importance of writing an original report or description especially to undergraduate

engineering students who often resist writing classes or view them as an unnecessary burden on their curriculum tracks.

Avoiding AI Dependence and Weathering an AI Withdrawal

As we have acknowledged throughout the article, intelligent technologies pose several concerns, especially the risk of becoming dependent on them. The question of how to coexist with these technologies is crucial in the era of deep learning and machine learning. As John Markoff asked in his seminal work "Machines of Loving Grace" (2016), Should we control the machines, or should we let them control us?

This question became relevant in our teaching with ChatGPT. The free version of ChatGPT was frequently at capacity or riddled with technical bugs, causing problems for some students who over relied on ChatGPT in their writing process. We noticed that some students faced difficulties when they relied too much on ChatGPT and did not plan their writing well. They waited until the last minute to formulate a good prompt or put their drafts through ChatGPT for feedback. As a result, these students submitted shallow and, in some cases, unacceptable work. Furthermore, some students would go down the rabbit hole with ChatGPT by toying with the tool and creating prompts "just for fun." However, when students were not allowed to use the tool in class, some of them displayed a behavior that can be characterized as "an AI withdrawal." They lost their interest in the project, disengaged from their group members and with the course in general. Our experience shows that TPCs instructors should caution students about the effects of AI withdrawal and guide them carefully through the design thinking process when using ChatGPT.

Another question that we need to consider is what happens when students lose access to the free version of ChatGPT? ChatGPT-3.5 is currently accessible to anyone with good Internet connection (provided that the platform is not overloaded). However, OpenAI may discontinue the free version of ChatGPT-3.5 in the future. In this case, it seems that at least in the short-term, there would be a delineation between those who can afford to pay for progressive AI, and those who cannot. As TPC instructors we need to remember that ChatGPT could become one of those technologies that exacerbates the already established digital divide separating technologically privileged and marginalized or disadvantaged digital communities (Sambasivan, 2019; Sambasivan & Holbrook, 2019; Shalamova, 2019).

Conclusion

Many writing instructors are asking themselves, "How will we stop students from using AI on writing assignments?" The simple answer is: We cannot. But here is what we can do: We can promote responsible and ethical AI use. We can also teach students how to critically evaluate AI-generated content" should be "We can also teach students how to critically evaluate AI-generated content by discussing factors such as accuracy, reliability, and potential biases. We can explore together how AI could be used as a tool to enhance students' writing skills. We can proactively inform students that we are actively using AI tools to ferret out cheating and calling out that cheating.

All of these ideas have one thing in common: They require that we, ourselves, learn how to use generative AI. They also require that we find ways to make generative AI work for writing instruction and that we share these ways with our contemporaries. The primary topic of this case study, teaching students how to write effective prompts, is one such area. Promoting responsible AI use, students can benefit from the advantages of AI while maintaining the integrity of their writing assignments.

Both TPC literature and our experience of teaching the undergraduate service technical communication course at our university show that design thinking can be a useful framework with its focus on the importance of defining a clear purpose, generating ideas, prototyping, and testing. These steps ensure that the final deliverable meets the needs and expectations of the target audience. Integrating generative AI technology (such as ChatGPT) into this framework provides several benefits to the students' writing project. Using ChatGPT both before and during the design thinking process has also allowed us to rethink our approach to instructional design, teaching, and learning. Of course, along with opportunity, comes challenge. The challenge that TPC educators now face is akin to the challenges and learning our peers in the disciplines of computer science and mathematics had to undertake to incorporate PCs and calculators into their classroom (Toscano, 2023).

While we recognize the challenges of generative AI in teaching and learning, we believe that generative AI offers new opportunities for TPC pedagogy and practice. Furthermore, we encourage TPC programs to consider creating new learning modules or even writing courses that teach students how to use rhetoric as a framework for writing effective prompts. As generative AI becomes more ubiquitous, the demand for professionals with AI-related skills will continue to grow. Equipping our students with these skills will enhance their preparedness and marketability in a job force dominated by AI technologies. Like other academics (e.g., Jamieson, 2022; Pavlik, 2023; Wood & Kelly, 2023), we are excited by the possibilities generative AI presents to the TPC discipline, academic programs, research, and professional development.

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Choice Reflection: Distinguishing Research from Human Subjects Research

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Abstract: IRBs have suffered mission creep, moving from assessing dangers presented to participants in research (human subjects) to becoming de facto assessors of research. This brief essay traces engagement with the IRB, documenting understanding of human subjects research review through interactions with the committee over two decades and through numerous configurations and reconfigurations of the committee, its members, its focus, and its understanding of its role in the research process.

Keywords: IRB, Research, Methodology, Reflection, Programmatic Administration

After 20 years of modest activist engagement with the Institutional Research Review Board (IRB), recently I have been questioning whether the cost of engagement has outweighed the benefits. IRBs have suffered mission creep, moving from assessing dangers presented to participants in research (human subjects) to becoming de facto assessors of research (Nichols, 2015). This brief essay traces my engagement with the IRB as I moved through tenure-track, tenured, and senior research faculty positions. I reflect on my understanding of human subjects research review through my interactions with the committee over two decades and through numerous configurations and reconfigurations of the committee, its members, its focus, and its understanding of its role in the research process. As a senior research professional, I reflect on my original impulse to participate in institutional review of research and what has happened in the two decades since.

I engaged meaningfully with the institution's understanding of qualitative, quantitative, and naturalistic methods and articulated ethical concerns about research. As a research-focused faculty member, I enjoyed a few dozen interactions with different instantiations of the review committee as primary investigator, one of many academic responsibilities. Early on, I took a modest

activist position asserting that my work was research at the start of the process of recognizing inclusive, user-engaged, and participatory methods like usability. Generally, I accepted that I was not performing human subjects research, yet I sought institutional recognition that the observations and descriptions—methods for creating knowledge—constituted a research program and there was value in having the IRB review the research plan as a tacit acknowledgement of its status as research.

In the 1990s, emergent technologies like the world-wide web and graphical browsers invited discussion of whether usability research was human subjects research because we involved participants. Participatory design goes further as participants contribute in the research project, going so far as to co-create, comment, and redirect, the flow of expert observation. In 2024, this language is not novel or particularly noteworthy except to assert its historical significance and value. One of the first mentions of usability as research is Sullivan's 1989 "Beyond a Narrow Conception of Usability Testing" which argued, in a prescient volume on user research, for placing Usability in the category of research rather than marketing. Through experience, while user-based research does not meet the demands of scientific research, it is undeniably recognized as research, yielding important insights. But that recognition has a history; its status today as an accepted research paradigm—as mundane practice—is not natural or a given, but the outcome of continued engagement by numerous researcher-scholars.

So, over the course of twenty years, I submitted my studies to IRB, and with little fanfare, review committees (usually) quickly offered exempt status while each submission would be institutionally marked as research. It bears repeating: although tangential to the IRB review process, the institution acknowledged the work as research, which was the whole point of the modest activist position I was taking as a novice researcher. I saw the engagement with IRB as a facet of "Institutional Critique" (Porter, Sullivan, et al, 2000), and sought change in the recognition of my work as, formally *research* and not merely inquiry or literature.

Fast forward 20 years and routinization of submission to the IRB is normalized (even that phrase reminds of the power differential between committee and researcher). While I would not assert engagement has been a mistake, mission creep is evident in the scope of the IRB's authority (in broad, general terms). Now, IRB reviews *everything*. Before submission for publication, journals want IRB case numbers. Internal and external grant-making organizations require IRB review before funding requests can be submitted. Publishers want book proposals to have IRB approvals. Locally, annual activity reports now even require IRB memo reference numbers! Let me slow down just a moment and I'll talk about the latest project I had reviewed.

In early 2023, I submitted a research proposal: the project described a series of interviews with working professionals incorporating new technologies into their work. And IRB sent back recommended corrections and changes so the interview protocol would protect human subjects and be exempt from further review. Five or six rounds of minor changes over three weeks of submission and return yielded

the golden ticket: an official exemption from further review. On the one hand, this was a positive response in a functional process because comments were returned 24 to 36 hours after submission, and I would take six to 12 hours to make changes (depending when the responses hit my email and what my schedule looked like on any given day). That part—the quick turn-around and in-depth response—was constructive. That quick back-and-forth represented huge improvement from previous processes where two or three weeks would pass before receiving response. (At one point years ago, the IRB became dysfunctional and it would take four to six weeks to get a reply! I remember one classroom-based project where ten weeks of a sixteen-week semester ticked away before IRB was back with meaningful response. The current IRB is much better.)

At the end of a month of submission and revision, the project received an official exemption and I have the official IRB memo exempting my study as revised from further review. Along the way, two dozen little changes were made to the project and procedure: what the protocol now allows. But it is no longer the project originally proposed. At the end of a month-long process of review, revision, and resubmission, I realized I was no longer doing the research that I had set out to do. And that upset me.

After I gave myself a few days to slow down and let my initial emotional response pass, I looked at my original proposal. I realized two things:

- First, the IRB consultant had worked diligently to help articulate the project among a menu of human subjects research methods. That, for formative and descriptive research, is a problem: research practices emerge through engagement. It emerges once research has commenced. The research, if it continued to develop in this way, would need thorough review with IRB committee members who valued and understood formative recursive research and iterative design practice, or who at least tolerated descriptive, naturalistic research.
- Second: while this particular project was clearly not human subjects research, it also did not seem to be research at all but a kind of descriptive site survey where my purpose was not to intervene in any way but simply to understand what was happening at emergent, exemplary workplaces.

“I don’t think this is actually reviewable,” I said to myself. From my perspective, it is not human subjects research, but I accept that there is institutional value created in the process of review and getting another uninvolved team to take a look. I wondered why I was concerned. Was it because I felt ensnared in a trap of my own making? I knew the project I had undertaken was valuable research, but again, I knew it would fall outside the parameters of human subjects researchers, unintelligible to colleagues taking tissue samples or interviewing workplace whistleblowers. The research would be *illegible*, possibly invisible, to reviewers accustomed to research involving disempowered research subjects and the scientific practices of research. Where these reviewers have routinized the inherent dangers of physical extraction of tissues that necessitated layers of

anonymization, how would a simple workplace interview study be comprehended? On the other hand, I understood the importance of obscuring and anonymizing whistleblowers revealing sensitive information about failed industrial projects and the vulnerabilities such charged projects bring with them—long-term vulnerabilities that leave research subjects exposed to repercussions long after research projects have ended. So, I recognize and respect the role of IRB—I have recognized and respected it all along. But my proposed project would do nothing more than describe breakthrough best practices. The investigation was not even likely to violate non-disclosure agreements or reveal sensitive proprietary processes. I simply set out to describe the practices that made innovative organizations unique. My intent was to learn, to learn by talking to professionals working in the field about the high-technology work that they were currently undertaking and asking them to describe their everyday work and goals. I did not intend my results to change the process or to change the activities or to change the workplaces or the practices I was told about or witnessed. I just wanted to learn what people were doing on a daily basis: I wanted to observe.

And I wasn't interested in changing and participating or in any way intervening in what was going on in these workplaces. For me, that is not human subjects research. I thought I remembered having seen something new on the original login screen at the IRB submission portal.

I logged in to the IRB and there was the new choice: a new radio button. I was concerned that perhaps I had invented it in an optimistic delusion. Lo and behold, there it was: a new choice:

“I need to know if my project is considered “Human Subjects Research.”

I resubmitted my original proposal for research, ticking that radio button. Interestingly, the review took longer—four days as opposed to the 24 to 36 hours to reply to the original exemption request. But after four days, I received a memo that said that the review board agrees that this is not human subjects research. I was free to commence the research project *as I originally imagined it*. There was no indication whether or not it was research, but clearly stated the project was not considered *human subjects research*. While it represented a relief for me, more importantly, it represents a noteworthy innovation and important change to the way the IRB defines its mission and clarifies its authority. Such clarification curtails IRB mission creep.

It's such an interesting case to consider in hindsight upon reflection on early experiences in the late 1990s, early 2000s, and into the oughts and 20s. Then, I was very concerned with having the work of usability recognized as research. But through that co-creation of authority, mine as researcher, IRB as institutional arbiter of research practices, IRB has suffered expansion and creep of its mission as it gained institutional authority.

This latest IRB interaction in 2023 allowed me to reflect about how my relationship to the IRB was changing. And how my own sense of what my work was, what the

research was, had been redefined by IRB's intervention. The process and focus of the research had, however inadvertently, changed. I saw it as the institution meddling in my research. I don't want to upset or irritate my colleagues who serve on IRB boards, and I value their time and service, but my sense is that IRB had grown beyond what it was designed to accomplish. The original rationale for IRB is hugely important, using the threat of loss of research funds to curtail misuses and abuses of research subjects human research subjects, so that the Tuskegee Syphilis experiments, that another Henrietta Lax, Nazi medical experiments, and all the instances of abuse and neglect never happen again. A strong IRB helps avoid the abuses that made the Belmont Report necessary, while emphasizing that the process of research review is essential in the research university. See Childress' *Belmont Revisited* (2005) for the life and afterlife of the report for more.

For all the problems with review I had experienced, that misuse of human beings—whether race-based or otherwise—would not be tolerated nor would it really be possible under today's review regimes. I believe in those limits placed particularly on scientific studies of human beings. Where the outcomes are not clear, where researchers often do not see the forest for the trees, protections increase their value. While there is an existential sense that researchers do not see their participants as human beings, it is perhaps more important that researchers literally don't see the human beings who participate in the research. These pieces of human research participants are reduced to mere information. Researchers often do not even see words, or understand the experiences of participants, and further, existentially, they don't see human beings. They analyze numbers. As grants and support monies become increasingly scarce and competitive and lab costs rise, robust and powerful oversight is increasingly important.

Tissue samples transformed into statistics and analyzed for significance are not the same thing as a researcher discerning the current state of work in the field. If I overstep my bounds, those professionals will not tolerate it, nor will they work with me again. These professionals have agency, and, housed as I am in a humanities department in a technology- and engineering-centered institution, there are very clear consequences if I overstep what my participants are comfortable discussing. That is a different relationship to research participants. IRB in its paternalistic protection of human subjects has no conception of an inverted power dynamic between researcher and researched: as a protector of research subjects, IRB assumes the observed is unaware of the establishment of a research protocol.

My reflection revealed that I encountered a rhetorical problem. Perhaps I should have discerned that earlier. IRB representatives are tasked, in the techno-mediated process of review, with determining whether a human research project could be dangerous to participants, require further review, or be considered exempt from review. Any response assumes the project is human subjects research, impacting the reviewer response. The committee now asks a preliminary scene-setting question: "I need to know if my research is considered human subjects research," sidestepping potential category confusion. The option represents a rare example of clear, concise, institutional boundary-setting.

Choice Reflection

Boundary-drawing is a huge innovation for IRB. There was no further review: IRB made firm demarcation between human subjects research and, well, everything else. The question shows that the researcher is performing due diligence by working with the committee and inviting outside expertise to decide whether this project falls under the committee's remit. It brings the researcher and review committee closer to shared governance.

In the twenty years since my first tentative engagements with IRB, almost everything has improved. Overall functioning of the office has improved, and while these observations may be specific to my local committee, recognition of user-participation in research and inclusive methods have developed and matured in broader context, recognized as part of social science knowledge-making. I do not regret two decades of engagement and applaud the inclusion of a seemingly simple radio button that represents positive change. The innovation reflects redrawn boundaries for IRB's institutional authority and avoids unnecessary misunderstanding and draws clear boundaries between what is and is not the purview of the review committee.

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FOCUS Editor

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Audience Personas: Audience Analysis Documentation for Rhetorical Technical Communications

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Abstract: An important trend in the expansion of audience analysis from technical and professional communication is the development of audience personas, or documentation of the typified audience characteristics, as technical buyer personas in the field of technical content marketing or user personas in the field of user experience (UX). This article provides technical communicators with an audience persona template that is a composite of the documentation used in industry. Audience persona documentation transforms audience analysis theory into communication practice and prepares technical communicators for positions in technical content marketing and user experience. The coupled audience analysis and recoding of findings in the audience persona documentation helps design technical and professional communications as well as user interfaces. The audience persona also can be used for sharing the concept of a target audience among writers, editors, and media publishers.

Keywords: audience analysis, technical buyer personas, Funnel-Bucket Model, technical content marketing

In order to maximize the effectiveness of communications, technical communicators identify and evaluate relevant characteristics and motivations of target audiences and create rhetorically effective communications that provide useful content presented in an appropriately engaging style for specific audiences. In technical content marketing, technical buyer personas are one- to two-page summaries that highlight a typified customer role, needs, wants, and relevant demographics for communication in context to company developing the communication (Mohr, Sengupta, & Slater, 2010; Puska et al., 2018). A technical buyer persona, or audience personal, is formal documentation following an

audience analysis in order to summarize the analysis and insights into one or more target audience group(s), that, in aggregate, comprise the complete audience for an organization. Similarly, technical user personas are UX documentation that characterize a target user audience for a particular technology.

The objective of this article is to provide the background and template to create an audience persona for technical and professional communication. In this example from technical content marketing, technical buyer personas are then used to develop audience-specific marketing communications for specifically targeted audiences that are potential customer groups. As a familiar form of professional communication, marketing is a field that students find intuitive as to the goal and objectives of the communications. Thus, the audience persona is also more closely grounded in the type of communication and documentation that technical and professional communicators use in industry. For programs, this piece exposes students to the inner workings of professional content marketers at organizations like Content Marketing Institute (contentmarketinginstitute.com) or a global organization like the World Economic Forum (weforum.org). This FOCUS article creates a bridge to connect academics with like-minded industry practitioners sharing similar activities and approaches in profiling and reaching their intended audiences.

Technical Content Marketing

Technical content marketing positions technical products and services to target consumers based on the needs and wants from those individuals (Harner & Zimmerman, 2002; Rogers, 2003; Moore, 2014; Mogull, 2021; Mogull, 2023). As illustrated in Figure 1, the Funnel-Bucket Model provides a framework for planning the advertising and marketing strategy of an organization and, more specifically, publishing different technical content marketing genres at various stages of a customer decision journey (Ames, 2017; Mogull, 2023). As illustrated by the Funnel-Bucket Model, each stage (defined as *attention*, *interest*, and *desire*) narrows the size of the audience for an organization and technology, which will eventually progress to the action stage of product purchase. Notably, following product purchase at the *action* stage, actual customers enter the organization's communication ecosystem and become audiences for *support* documentation, *loyalty* communications, and brand *advocacy* cues to become brand ambassadors.

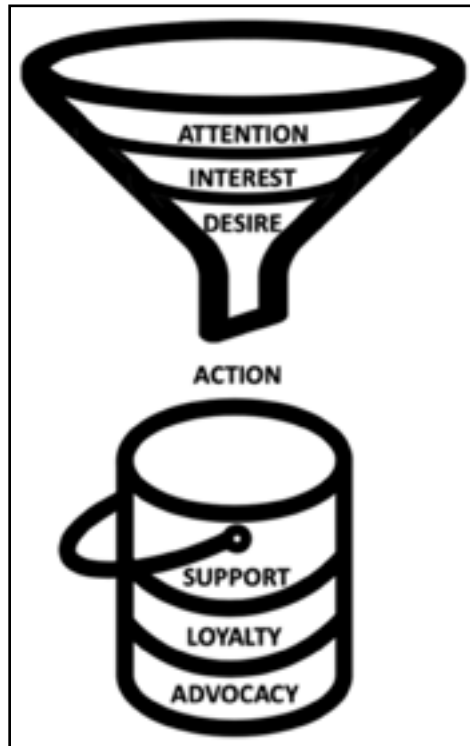


Figure 1. The Funnel-Bucket Model showing the stages for potential target audiences and technology customers in the planning of technical content marketing (which include both genres and media selection). Source: Mogull (2023).

A technical content marketing strategy emphasizes the coordination of all communications about a product, with messaging that provides relevant, useful, and consistent information relevant to a product through multiple media and interpersonal sources (Pulizzi, 2014; Ames, 2017). Importantly, technical content marketing becomes multimedia publications in which various genres reach target audiences and ultimately promote sales (Pulizzi, 2014; Calhoun, 2006). This coordinated communication and content management strategy is complex in the genres, communication channels, and media used to reach potential audiences (Pulizzi, 2014; Lane Keller, 2001). Technical content marketing provides the foundation for an overall publication or content strategy. More nuanced technical content marketing, or the content marketing of technical products, is necessary to adapt general technical communications to the unique contexts and characteristics of specific consumers. This is an important stage in providing individualized communication from an organization to the external individuals who make the organization possible. For technology, technical content marketing is further refined and then targeted to different audiences with various attitudes towards technologies at different timepoints following the launch of a new technology (Mogull, 2021; 2023).

Audience Analysis to Audience Persona

The technical buyer persona is an audience persona that integrates key concepts from audience analysis and technical content marketing to provide technical communicators with an increased awareness of the audience characteristics that influence rhetorical technical and professional communications (Henson, 1994; Mohr, Sengupta, & Slater, 2010). The rhetorical intent of technical content marketing to sell brand-name technology to address a human need. In some situations, marketing and advertising are positioned to transform a human want into a perceived human need (Mogull, 2010). As Foucault (2004) illuminated, organizations transform normal human conditions and needs into consumer demand for technology. Although ethical technical content marketing is originally grounded in the product concept and decisions for commercialization by an organization, the resulting rhetorical shift of technical and professional communications from a company transforms informative technical communication into persuasive technical content marketing that may lack ethical and legal foundations (Bryan, 1992; Foucault, 2004; Goulding, 1983; Einstein, 2017; Mogull, 2022; Mogull, in press; Schnaars, 1989). An audience persona is an important tool and document that technical communicators may use to assist in evaluating excessive rhetorical power from organizational communications.

In 2013, Ross introduced the field to the Deep Audience Analysis (DAA) method as an approach to investigate audience motivations and expectations. Ross' (2013) original instrument, the DAA, was innovative in documenting the evolving methods of audience analysis from interviews and practitioner coding. More recently, audience profiling has moved into automated computer systems that analyze social media and online profiles to develop a detailed audience profile from a digital footprint (IBM, 2021). Although such computer systems and massive data repositories are beyond the scope of most technical communicators, a similar approach can be achieved by a conventional content analysis of purposely selected online artifacts. Such an approach is used in the technical buyer persona for technical content marketing (see Appendix 1) in which audience information comes from content analysis, surveys, or interviews of individuals, social media accounts of actual or potential consumers, and social media influences in the marketplace. In order to check the shared vision of the audience, technical communicators should also perform a content analysis of competitor communications and news media designed for this target audience.

Program Connections

The audience profile activity can be used to connect audience analysis for target audiences of technical content marketing and specific users for user experience of a specific technology. As a form of internal team documentation, the audience profile is useful for developing future communications that directly connect insights from audience analysis research into communication practice. Although the audience profile is not the only means for documenting an audience analysis, this composite of buyer personas from industry—particularly used by tech companies—prepares technical communication students for positions in technical

content marketing and UX. Specifically, the technical buyer persona presented in Appendix 1 is a prototypical composite of the predominant categories and features that inform a typified audience member for designing targeted communications. Although this is a qualitative approach that differs from the more quantitative methods patented by IBM (2021), an informed technical communicator will develop greater insight into the target audience by completing the research independently and adapting this profile to the context and rhetoric objectives of the intended corporate communication. The audience profile helps position messages and media for a specific target audience and multiple audience profiles should be completed for each targeted audience prior to creating and publishing communications. The documentation of this audience persona transforms audience analysis approaches into documented communication practice and helps prepare technical communicators for future positions in technical content marketing, user experience, and general organizational communication positions. Finally, this audience persona also can be used for sharing the concept of a target audience among industry writers, editors, and media publishers so that different team members share a vision of the audience prior to their role in the communication process (Spartz & Weber, 2015).

Conclusions

Strategic technical communication depends on planning, analysis, and development through multiple cycles and individuals. Without a documented audience persona, technical communicators are continuously having to recreate an imagined audience—often distant from the origin of the original audience analysis. Furthermore, communication teams—or groups of writers, editors, designers, and publishers—typically lack a shared vision of the agreed-upon audience. This gap of shared vision and lack of detailed documentation in technical and professional communication results in disparate communication visions and objectives that do not have a shared upon image that can be used later for evaluation of technical content marketing immediately prior to publishing (Pulizzi, 2013).

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Appendix 1

Technical Persona Profile

Company Overview

Instructions: Identify the organization and technology or service that is being positioned for this audience.

Company/Organization: XYZ Solar Company

Technology (Product/Service): Home Solar Panel

Target Audience

Instructions: Select an easy-to-remember name and identify relevant demographics for communication to the composite profile of a target audience.

Name: Erik Environmentalist

Relevant Characteristics (for Technology/Product Use): Homeowner, environmentalist

Relevant Demographic Information that Influences Communications: 42, married with 2 children, middle class, professional occupation, general fitness includes bike and socializes with like-minded fitness couples and singles.

Audience Characteristics

Instructions: For each question below, list and order (in descending order of importance) 3 to 5 unique items. Usually, this information comes from content analysis, surveys, or interviews of individuals, social media accounts of actual or potential consumers, and social media influences in the marketplace. Technical communicators should also perform a content analysis of competitor communications and news media designed for this target audience.

1. Identify adjectives to describe this person.
2. Identify the relevant values of this person.
3. Identify the personal need(s) and/or goal(s) of this individual (which would be addressed by the technology).
4. Identify this person's challenges or frustrations that influence the selection and purchase decision for the technology.
5. Identify why this person would "love" the technology or product.

MBTI Personality Synthesis

Instructions: Using the information above and from additional online research, evaluate each MBTI (Myers-Briggs Type Indicator) personality characteristic dimension. Circle one number along each dimension. Attempt to position each

dimension to one side of equal balance (number 3) from being moderate (numbers 2 or 4) to intense (numbers 1 or 5). This information is a synthesis of your research and profile from the audience characteristics (above). While not a scientifically accurate personality profile, this reversed profile of a prototypical audience persona will help communicators select content, style, and media for reaching these individuals.

Extrovert	1	2	3	4	5	Introvert
Sensing	1	2	3	4	5	Intuition
Thinking	1	2	3	4	5	Feeling
Judging	1	2	3	4	5	Perceiving

Communication Strategy

Instructions: For each question below, list and order (in descending order of importance) 3 to 5 unique items.

1. Identify a few popular consumer brands that this person likely consumes (brands that connect or resonate with this person).
2. Identify news media and/or social media platforms that this person likely watches or reads regularly.
3. What messages (content or style) will evoke a positive reaction in this person? (What messages should be included in technical content marketing?)
4. What messages (content or style) would evoke a negative reaction in this person? (What messages should be excluded or avoided in technical content marketing?)

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Data Analytics for TPC Curriculum

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Abstract: Despite serving as a user analysis tool for technical communicators where usability testing methods fall short, data analytics remains underdeveloped in technical and professional communication (TPC) pedagogy. In this article, we discuss the value and means to incorporate data analytics in existing TPC courses both to prepare students for the workplace and as a way to provide an accessibility-driven framework to perform user studies through data analysis methods for practitioners.

Keywords: audience analysis, data analytics, technical communication, pedagogy, usability

Audience analysis is a fundamental technique in technical and professional communication (TPC) research and practice. The field focuses on meeting the needs and solving the problems of users, requiring an in-depth understanding of audiences. Researchers have called on the field to improve and expand its understanding of audiences (Bowie, 2004; Johnson, 1998; Miller-Cochran & Rodrigo, 2009). Rather than conceptualizing the audience as a summation of individual characteristics that generalizes audience interactions, the goal of recent work is to identify the unique problems of individual users (Ranade, 2021). To understand individual needs, we argue that technical communicators must use tools that provide deeper insights into users' information consuming behavior, and data analytics is one way of doing that (Bekavac & Garbin Praničević, 2015; Hocutt & Ranade, 2019).

Data analytics represents a popular approach to performing audience analysis. One branch of data analytics is web analytics, where proprietary tracking code collects data on user activity on the site as well as user-specific information. After collecting, aggregating, and processing data, web analytics platforms provide reports that are used by practitioners like developers, designers, content

managers, and writers to create and revise content. Despite these benefits, data analytics remains an under-researched area in TPC pedagogy. The goal of this article is not only to promote data analytics discussions in the field but also to analyze it critically as a tool to understand audience behaviors.

This article positions data analytics as a complex information system (Albers, 2015; Slattery, 2007) that serves as a tool for technical communicators managing web content to conduct user analysis when usability testing methods necessarily fail to measure large-scale, individualized user experiences. In the following sections, we describe the use of data analytics to understand user characteristics and behavior, validate findings from other user studies within and outside any organization, and make content changes based on the final findings. We also propose ways to include data analytics studies in TPC pedagogy.

User Characteristics & Behavior

Our approach to data analytics is informed by the following assumption: When hired, many entry-level technical communicators will be asked to manage and update existing web information architecture, design, and content (Batova & Andersen, 2017; Carliner & Chen, 2018). While their classroom instruction probably will have covered user-centered design, structured content, and usability testing (Flanagan & Getto, 2017; Melonçon, 2018), the reality of a technical communication generalist's position likely offers few opportunities to run lab-based usability testing or pull together representative focus groups. Instead, entry-level technical communicators will likely be given access to a basic content management platform like WordPress or Drupal, to content authoring tools, and to data reports generated by a web analytics platform such as Google Analytics (Hocutt, 2016). Entry-level technical communicators will be expected to know how to read reports generated by data analytics tools, to identify user behaviors and characteristics from such reports, and to use these results to develop actionable information architecture, design, and content updates to implement on the website. This expectation may come as a surprise to entry-level technical communicators who've been trained in critical approaches to audience analysis. We believe adding data analytics to the critical UX tools and methods taught in technical communication classes can better prepare students to structure and manage information systems in their workplaces.

We position critical data analytics as a digital literacy that effectively responds to today's workplace, which is likely informed (if not influenced or even driven) by an influx of big data, machine learning, and artificial intelligence agents. Critical data analytics encourages technical communicators to examine data sources and collection methods, data configuration and processing activities, and data reporting tools and guidelines to draw user-centered conclusions. At the heart of our approach is the user, for whom technical communicators must advocate by understanding how tools like web analytics can surface insights into user behaviors and characteristics.

Specifically, analytics can be used in the construction of what we call the hidden

user. A hidden user is one who implicitly participates in information production, especially through invisible mechanisms (Ranade, 2021). Implicit participation, or the subtle conscious engagement of users in online communities, provides more information about their agency (Schäfer, 2011). It can be achieved by implementing user activities into user interfaces and back-end design; social media applications thrive on implicit participation. Data analytics is an example of implicit participation. As users navigate a website, their browsing data gets recorded. Analytics tools help retrieve that data. Unlike qualitative mechanisms such as feedback from comments posted on websites, social media posts, and the results of usability testing, the characteristics of users that can be derived from browsing data are buried and require special skills to reveal. The analysis goes beyond the rhetorical understanding of audiences; technical communicators need to collect the data, develop specific research questions that will answer audience-related questions, and develop personas from the results. The persona-building exercise helps map user demographics and their information seeking behaviors (such as search keywords, entry and exit pathways, and technologies used to retrieve and consume information) to content design.

Validate Findings Using Internal and External Data Sources

Understanding users is one benefit of using data analytics methods. Another benefit is to support findings from other user research methods. We believe that audience analysis is more reliable when conducted using more than one method. While user characteristics can be identified using the aforementioned mapping of users' characteristics, findings can be validated using other data points from the information delivery process. Such data can be collected from organizations' stakeholders and can be used to achieve overall organizational goals. For example, support teams in software organizations often document data from calls with their customers. Content from conversations initiated by users to request help from support teams, along with other feedback collected from users, can be compared to findings from data analytics. Probable results from such comparisons can be used to validate decisions such as whether the documentation keywords and customer queries coincide, or whether the information architecture (IA) matches with customer wayfinding. On the other hand, data analytics findings can be used to strengthen usability test findings. For example, content localization decisions can be made based on demographic data which, due to resource constraints, may not appear in usability testing findings.

Recommend (or Make) Website Changes Based on Conclusions Drawn through These Findings

With the validated data about users from critical data analytics, we believe technical communicators can recommend or make website design, IA, and content updates that meet user needs that may go overlooked by traditional usability testing and audience analysis techniques. Large-scale, aggregated user characteristics like computer platform, operating system, and device type

can help identify both the most popular view mode (mobile, tablet, or desktop) and the least-well addressed operating systems and browsers. Both sets of user characteristics are important, as they reveal user technology patterns for which experiences can be designed. Similarly, large-scale, aggregated user behaviors like entry pages, exit pages, time on site, and time on page can help identify web content that is easy to find and useful or difficult to find and unhelpful to the user. Again, both sets of user behaviors are important, as they reveal user experiences to which content, design, and IA can be tailored.

We offer three examples that demonstrate specific ways data analytics can supplement traditional UX methods to update content, design for accessibility, and IA.

First, we exemplify the value of data analytics to web content. Data showing how far users scroll down a long page can provide insight into users' engagement with page content. In the context of users' intent, willingness to scroll may suggest high levels of engagement with the content, suggesting it answers specific questions that users are asking of the content. Importantly, scrolling patterns combined with time on page and page-level bounces may suggest the content is being scrolled in hopes of finding, but ultimately failing to find, relevant answers. User behavior data from data analytics provides supplemental findings that, once validated with internal and external sources, can offer concrete content updates to continue meeting, or better meet, users' needs.

Second, we exemplify the value of data analytics to accessibility. Content audits can identify potentially troublesome content and designs for accessibility, especially in tables, videos, PDFs, images, and icons. Such elements in web designs require intervention to ensure all users can access them. But such content audits may not provide a full picture of the user experience of those elements: Time on page, bounce rates, exit page lists, and the results of automated accessibility checking tools provide evidence that accessibility interventions are, or are not, making the elements in question more accessible. Data analytics offers a supplemental method to ensure that interventions are having the desired effect of making the content more accessible. While focus groups and usability studies can certainly achieve this result, web analytics offers another method for confirming results.

Third, we exemplify the value of data analytics to IA. While user profiles can help technical communicators create or recommend initial website IA and user pathways, data analytics can be used to identify pathways through the data and to determine whether existing pathways and the IA that supports them are being followed. Where there's agreement between initial IA and user pathways through the content, data analytics offers confirmation that IA is meeting users' needs. Where initial IA and actual user pathways through web content diverge, additional data like pages visited, time on page, and session length can help recommend emerging IA options to be incorporated into the design.

Pedagogical Implications for TPC Programs

Data analytics is a specialized skill that is not covered in most TPC pedagogy. We argue that, although TPC students may not need certifications or specialized courses from fields like data sciences and computing, they will benefit from incorporating digital literacy perspectives that may help them make sense of data to evaluate users. In their work, Ann Hill Duin and Isabel Pederson (2021) explain that digital literacy for writing in the future using technologies means “no longer viewing human and machine as separate agents along with the ability to envision and write within mirror worlds of virtual fragments stitched together” (p. 40). It requires collaborating with stakeholders beyond current relationships and using devices to enhance the ability to expand our capabilities to solve problems. Based on Duin and Pederson’s commentary, we have identified three key pedagogical areas where data analytics can be incorporated into the TPC curriculum.

First, address technological embodiment. This concerns technical and professional communicators’ ability to understand how technology shapes human interactions, thereby providing opportunities for revealing the hidden users in rhetorical situations. Lisa Melonçon’s work (2013) concerns the merging of technologies and users and understanding what that relationship means and its impact on our work. She also argues that as technical communicators, instead of being technologically deterministic or culturally deterministic, we can closely analyze humans and the outcomes of their interactions with technology by focusing on the connections between technology and humans. In the classroom, we can introduce data analytics platforms to teach the benefits and limitations of data collection and reporting while focusing attention squarely on tracking user behaviors. Using these tools, we can work with students to develop nuanced and detailed personas for design and development. By considering data analytics as an extension of our capabilities to reach out to our users, instead of looking at it from a scientific lens, we can help students consider and perform more effective user research methods. Therefore, data analytics can be included in courses such as user experience, usability testing, digital rhetoric, and other courses that involve user research and analysis.

Second, project how one’s body adapts to networks, assemblages, or even as a host for future human and nonhuman collaboration in ambient interactive relationships. As we use technology to create and distribute knowledge, networks of human and non-human actors (Latour, 1987) are created and dynamically reconfigured each time a user interacts with the information platforms. Networks of participants who contribute to this knowledge network are created and destroyed to contribute to data that can be used for audience contextualization and knowledge creation takes place (Ranade, 2021). Thus, collaborations are an integral part of technical communicators’ jobs. In the classroom, we can introduce technology and organizational elements as collaborators in knowledge creation, with all their benefits and limitations, creating a perspective that shifts based on the needs of organizations and users. By focusing on agency that emerges from human-technology partnerships, students can develop a future-prepared approach to user analysis that takes into account

the human user's partnering with technological actors. TPC curriculum can address the need for such dynamic relationships through courses like publication management, content strategy, and information design. The aforementioned recommendations for website developers require crossing boundaries between different teams in an organization. Understanding the networked relationships will help TPC students navigate organizational structures.

Third, identify collaboration-enabling features. As mentioned before, users can be hidden, but they reveal themselves through their interactions which often take place through technological platforms. This requires an understanding beyond writing and content organization. Duin and Pederson (2021) suggest that students should be able to articulate how human–nonhuman collaboration shapes communicative actions. In the classroom, this focus can be achieved by engaging students with data analytics platforms to surface user patterns and behaviors. Web analytics platforms offer unique insights into human-nonhuman relations by offering a technology-based digital interface to explore how users engage with digital content on digital, online media. By identifying and/or encouraging a focus on ways humans interact with technologies, students will not only be able to visualize those relations, but also be equipped to design more accessible information platforms.

Specific Examples for TPC Classes

Two co-authors, Chen and Davis, developed assignments using data analytics while participating in a data analytics workshop funded by a 2021 CPTSC research grant. These assignment ideas demonstrate the potential role that data analytics can play in TPC classes.

Chen's Assignment. In a business communication class assignment asking students to develop a business of their own, one method for user analysis could be data analytics. Using a tool like Similarweb ([similarweb.com](https://www.similarweb.com)), students can conduct audience and marketing channel analysis for any website or app, including those that could be competing with the students' business. Since a reasonable assumption would be that the competitors' businesses share some target users with those of the students, analyzing the existing competitors' business websites can be a good starting point for students to gauge some basic metrics of their users, including geographic distribution, age, annual income, interests, industry distribution, browsing interests and preferences, and more.

Davis' Assignment. Students in technical communication courses can practice audience or user analysis by developing personas based on data analytics. An assignment or activity like this would be grounded in user data from a specific website. Instructors may consider department websites as a focus or other sites that might be easily accessible. Students would first be tasked with interpreting user analytics, such as user demographics, behavior, and interests, before creating user personas that reflect their interpretations. While it may be difficult to both find a specific website that can act as the source of user analytics and to determine how students will access the analytics, this type of activity introduces students to the type of language and interpretation processes commonly used by professionals who

draw on analytics to understand their audiences.

Conclusion

Critical data analytics are already in widespread use among marketing communications specialists. The results of data analytics are used in paid and organic marketing efforts across digital platforms. While marketing and technical communication specialties may have different purposes—marketing may seek to persuade while technical communication may seek to inform—a user-centered approach across the vast array of platforms on which content is encountered by users requires more than small-scale usability testing and focus groups. To meet the needs of users across the ecology of platforms that distribute content, technical communicators need to supplement existing UX studies methods with data analytics. To achieve this goal, technical communication classes need to provide instruction in the use of data analytics for audience analysis. We've started the process using the research grant from CPTSC to explore, develop, test, and distribute hands-on workshops for technical communicators to incorporate data analytics instruction in their classes. We're excited to share these results and resources with you.

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The Union of Theory and Skill: Using Micro-Credential Coursework as Class Supplement

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Abstract: Within the realm of higher education, the question of how to respond to the notable surge in demand for micro-credentials has sparked intense debate. This contentious response to micro-credentials, which in many ways revolves around the tension between teaching theory versus skills, brings to the forefront a long-standing dilemma faced by Technical and Professional Writing (TPW) instructors. How can we effectively strike a balance between teaching critical reasoning based on TPW theory and teaching the practical skills necessary to develop a robust employment portfolio? In this paper, I aim to explore how the skills-based competencies associated with micro-credential coursework can be effectively utilized as a course supplement to enrich the learning experience in the TPW classroom.

Keywords: Scholarship of Teaching and Learning, TPC Pedagogy

Within the realm of higher education, the question of how to respond to the notable surge in demand for micro-credentials has sparked intense debate. Critics of micro-credentials contend that these smaller units of certification are steering higher education away from its fundamental purpose: providing a well-rounded education that fosters critical thinking. Wheelahan and Moodie support this argument by characterizing micro-credentials as “gig credentials for a gig economy.” Through the lens of human capital theory, they illustrate how micro-credentials reflect the deeper incursion of the employability and competency-based education discourse within higher education (Wheelahan & Moodie, 2022, pp 1281). They further assert that as employability assumes central importance, the academic sphere forsakes its broader and more inclusive vision of education, which aims to prepare individuals for lives that they have “reason to value,” a concept that draws inspiration from the ideas of Nussbaum and Sen (Nussbaum, 2000; Sen, 1999).

In contrast, numerous advocates of micro-credentials view smaller, skill-focused educational units as a rational response to shifting patterns of knowledge acquisition and transformations in the industrial landscape. These scholars highlight the emergence of skill gaps resulting from Industry 4.0, also known as the fourth industrial revolution. Driven by factors such as increasing globalization, aging populations, climate change, and advancements in Artificial Intelligence (AI), this new industrial revolution inherently calls for “upskilling, reskilling, and developing the capacity to thrive in a new digital world” (Brown et al., 2021, pp234). Instead of perceiving micro-credentials as an ill-advised reaction to an educational “craze” carrying the potential for significant “moral hazard” (Ralston, 2021), proponents of these modular-based educational units argue that they offer universities the flexibility to adapt swiftly to new knowledge without undermining the emphasis of critical reasoning in traditional degree programs (Desmarchelier & Cary, 2022).

The contentious response to micro-credentials within the broader landscape of higher education, which in many ways revolves around the tension between teaching theory versus skills, brings to the forefront a long-standing dilemma faced by Technical and Professional Writing (TPW) instructors. How can we effectively strike a balance between teaching critical reasoning based on TPW theory and teaching the practical skills necessary to develop a robust employment portfolio? This question has become even more relevant within our field as we have reconsidered the goals, methods, and outcomes of teaching TPW through the social justice turn and the design turn, all of which have underscored the significance of fostering students’ critical thinking regarding their communication deliverables. However, the combination of mounting teaching responsibilities and limited resources for professional development has created a growing challenge for instructors to stay abreast of both scholarly advancements and the evolving landscape of TPW tools, making this balance even more challenging.

In this paper, I aim to explore how the skills-based competencies associated with micro-credential coursework can be effectively utilized as a course supplement to enrich the learning experience in the TPW classroom. By incorporating micro-credential coursework from external organizations as a supplement—akin to a textbook or guest lecture—TPW instructors can leverage the skills-focused nature of the embedded micro-credential coursework to help them balance the workload of teaching both theory and skills. This allows them to allocate their resources more judiciously towards teaching the intricate theoretical aspects of effective skills implementation.

I will discuss my experience incorporating two badges through LinkedIn Learning as a supplemental component in my program’s Professional Practice in Technical Communication class, a kind of capstone for the technical communication minor. Drawing upon student feedback, I then provide recommendations on how to effectively utilize micro-credentials like the ones in LinkedIn’s LinkedIn Learning platform to enhance student learning by allowing TPW instructors to focus on being subject matter experts (SMEs) while the facilitators in the micro-credential coursework serve as skills/ tool experts. All student feedback included in this text was collected through the university wide Student Feedback Survey (SFS) and was approved for use in this text by the university’s Institutional Review Board (IRB)

office. This successful experience has impressed upon me the need to further investigate embedding micro-credential coursework in traditional TPC classroom settings and plans for further research beyond this pilot will be discussed.

What is a micro-credential?

The contentious debate surrounding micro-credentials in higher education is exacerbated by the absence of a standardized definition for the term. Despite growing interest in micro-credentials, the term itself remains elusive, encompassing a wide range of interpretations. It is used to describe anything from badges granted for minimal engagement with short video content to certificates earned upon successful completion of comprehensive multi-course sequences at regionally accredited universities.

Where definitions have emerged, they tend to be broad. For example, as part of their comprehensive micro-credential program, SUNY provides the following definition: "Microcredentials are short, focused credentials designed to provide in-demand skills, know-how, and experience" (Microcredentials - SUNY, n.d.). Even with this definition, there remains a level of vagueness, as factors such as workload, modality, and accreditation are not explicitly addressed. Likewise, the National Institute for Digital Learning at Dublin City University defines micro-credentials as "smaller units of study, which are usually shorter than traditional forms of accredited learning and courses leading to conventional qualifications such as degrees" (Brown et al., 2021, pp. 228). Similar to the SUNY definition, this description lacks specific detail, which can give rise to disagreements and confusion regarding the rigor of a micro-credential and the type of work required for students to earn such a credential.

Despite the absence of a universally agreed-upon definition, certain patterns are emerging that juxtapose and pit micro-credentials against traditional degrees. Among the definitions examined for this article, almost all share the following attributes in their definition of micro-credentials:

- Small
- Focused
- Skills-based

These descriptors seem to juxtapose traditional four-year degrees, which pride themselves on broad curricula dedicated to critical reasoning and transferable heuristics, with these smaller, more skills focused micro-credentials. This dichotomy creates a seeming incompatibility between the two, a kind of curricular mutual exclusivity. And this mismatch between the two, in many cases, triggers an even more volatile dialogue, one that interrogates the very nature, purpose, and role of obtaining a post-secondary education.

TPW at the Tense Intersection of the Employment Market and Higher Education

While TPW as a field has often kept the workplace in focus as we develop our curricula, there are concerns among other stakeholders in higher education regarding any curriculum that appears to tailor its content to the demands of employers. This uneasiness helps explain much of the resistance encountered within higher education towards micro-credentials, which are much more skills-/tools-focused. This emphasis on competencies, especially technological ones, holds appeal for prospective learners in a world where the prevailing assumption is that traditional educational models have not adequately equipped individuals with the specific knowledge and skills demanded by the labor market (Wheelahan & Moodie, 2022, pp. 1285). Opponents of micro-credentials, such as Wheelahan and Moodie, perceive the alignment with the labor market as contradictory to the core purpose of higher education. However, a strong connection between higher education and employability seems to still provide the mind of students.

Anecdotally, I remember sitting outside my middle school guidance counselor's office, gazing at the "going to college pays" poster displayed on the wall. The poster featured a bar chart illustrating the average salaries of individuals who dropped out of high school, completed high school, and obtained a baccalaureate degree. From a young age, the education system in the United States instills in students the association between education and employability. Consequently, it is not surprising that an increasing number of students are pursuing micro-credentials, which establish a more explicit connection between their coursework and future employment opportunities.

As TPW instructors, we have a unique position at the crossroads of the college campus and the professional world, allowing us to cultivate classrooms where theory, tools, and deliverables converge. While some of our colleagues may express discomfort about what Kathryn Rentz refers to as "our shamefully close relations with business, science, and technology" (Rentz, 2001, pp.188), we take pride in our ability to teach students how to develop communication deliverables that are both critically informed and skillfully created, allowing our students to excel in the workforce and, in turn, bring about transformative changes within their respective industries.

However, the realities of modern higher education often pose challenges in creating such an ideal classroom, despite the fact that the content and focus of our field naturally align with it. Keeping up with the constant influx of new tools and skills required in the rapidly evolving 21st-century workplace can feel like a Sisyphean endeavor. Just as we become proficient in using a particular tool or program, a new one emerges, rendering our previous knowledge, in some ways, obsolete. By incorporating course work from micro-credentials, such as those offered on the LinkedIn Learning platform, we can alleviate some of the pressure to constantly stay updated on changes in TPW tools. This approach allows us to shift our focus from striving to become experts in every tool to leveraging our subject matter expertise and teaching capabilities.

Course Design and Student Reaction

Professional Practice in Technical Communication was initially designed as a capstone course for the technical communication minor at the University of Texas Arlington. This course provides comprehensive coverage of the professional practices of technical and professional writers and designers, drawing insights from the rich histories, theories, and methodologies within the field. Each instructor brings their unique publication and research background to tailor the course, enabling the theme to evolve from semester to semester, while maintaining a central emphasis on professional practice and portfolio development.

In my iteration of the course, I specifically focused on the intersection of instructional design and TPW. This topic was chosen based on my extensive research and publication experience in the field, as well as my background as a corporate classroom facilitator and trainer. Drawing from my observations in the industry, I recognized the significant role technical communicators play in the instructional design process, thanks to their expertise in effectively conveying complex information. Throughout the course, I aimed to guide my students in understanding how the broader theoretical frameworks we explored in the minor—such as design justice, user-centered writing, and design thinking—can be applied and integrated into the practice of instructional design. By emphasizing the application of these frameworks, I sought to help students develop a critical perspective on instructional design and recognize the importance of incorporating user-centered approaches and inclusive practices in their work.

When thinking through the age-old question of how to balance employment-based skills and engagement with theoretical TPW frameworks, I decided to implement a strategy of embedding micro-credential coursework into my class. Instead of relying on textbooks or other supplementary materials, I capitalized on my institution's license for LinkedIn Learning and utilized the LinkedIn Learning Canvas embed tool to integrate two micro-credential course sequences and additional tool related materials directly into my LMS course shell. The two micro-credential sequences focused on teamwork, agile design, and foundational principles of instructional design, while the additional materials focused on TechSmith tools, such as Camtasia and Snagit.

As part of their coursework, students were assigned to watch approximately five hours of LinkedIn Learning videos per week outside of class. These videos served as the springboard for our in-class and online discussions. During these discussions, students were encouraged to reference specific material from the video sets as we explored how complex theoretical frameworks I introduced in class—namely design thinking and design justice—intersected with the skills-based content of the videos. In addition to the discussions, students were required to complete skills quizzes embedded within LinkedIn Learning. Successful completion of these quizzes enabled them to earn the micro-credentials associated with the video coursework.

As we moved through the semester, we took the union of theory and skills that began in our discussions and then actively applied that understanding to the development of our deliverables: a set of instructional videos built as part of a service-learning project. The result were theoretically grounded deliverables that demonstrated a deft understanding of both the practical skills of instructional design and the theoretical frameworks that move our deliverables toward equity.

Student feedback regarding the integration of LinkedIn Learning course sequences in the class emphasized the added value of the skills-focused material and the importance of contextualizing those skills within a larger theoretical framework. According to the responses gathered from the university's Student Feedback Survey (SFS), when asked if they acquired new skills in the course that would be useful outside of class, students in my course rated it an average of 4.8 out of 5, while the university's average was 4.2 for the same question. Although the nature of the data is ordinal, limiting broad assumptions about the course's effectiveness, it does provide insight into the accompanying comments.

One student commented, "the [LinkedIn Learning] videos provided lots of great information that I can use now as a student and most definitely when I enter the working field." Another student expressed that the LinkedIn Learning certifications would "be helpful for me in my career." The data, coupled with these comments, indicate that the students recognized the value of including LinkedIn Learning courses leading to micro-credentials. This finding alone warrants further exploration into the integration of skills-based micro-credential work and traditional credit-bearing courses. However, it was a comment from another student that solidified my belief in the need for additional investigation into this course design.

When asked on the course evaluation about the attributes of the class that "helped you learn the material," the student noted, "The discussion boards helped a lot. If I were to just watch videos but not discuss them, I would not remember anything. It encouraged me to think about how I process information." This comment further reinforced my conviction that while skills-based micro-credential coursework is valuable, it must be complemented by a deeper exploration of theoretical frameworks for the skills to hold significance. In other words, skills in a vacuum are quickly forgotten, but skills coupled with communities engaged in deep, theoretically based reflection and implementation amplify pedagogical impact.

Notes about Further Research and Suggestions for Implementation

Based on my experience in this pilot, I have initiated a research collaboration with Missouri State University to conduct a more comprehensive and formal analysis of the potential advantages of integrating micro-credential coursework within credit-bearing TPW courses in traditional academic settings. While we await approval from the Institutional Review Board (IRB) at our respective institutions, our team is also seeking grant funding to expand the scope of our data collection, aiming for more systematic and generalizable findings.

In the interim, although the results of this pilot cannot be considered fully generalizable, they have provided valuable insights into the process of utilizing micro-credential coursework as a supplementary component in a traditional TPC class. If you are interested in implementing a similar approach in your own course, I offer the following three recommendations:

- 1. Discover Available Resources:** In this pilot study, I made use of my university's institution wide license for LinkedIn Learning (formerly Lynda.com). While not all educational institutions may have such a license, it is worth noting that many faculty members I have talked with were unaware that their school did indeed have a license. I recommend reaching out to your local information technology team to determine if you and your students have access to LinkedIn Learning or similar platforms. If your institution does not have a license, you may consider exploring the free 30-day trial period offered by LinkedIn Learning as an alternative option to explore its potential benefits.
- 2. Start with Your Theoretical Framework:** I have found that designing an integration of this kind is most effective when I begin crafting the course and student learning outcomes (SLOs) with the theoretical frameworks I intend to teach in mind. Only once that foundation is clear do I then begin thinking about the integration of micro-credential coursework for the skills/ tools teaching. By aligning the micro-credential coursework with the theoretical framework in this way, the integration becomes more purposeful and cohesive. In my pilot study, for example, I recognized from the beginning the importance of teaching design thinking and design justice to help my students develop the ability to create equitable instructional design materials. Based on this understanding, I then explored the micro-credentials and training available within LinkedIn Learning that aligned with my instructional objectives and would best support my students in achieving them. By starting with the theory and then moving to the skills/tools, I was able to have the skills and tools be in service of the theory rather than the other way around.
- 3. Integrate Theory and Skills:** As highlighted in the discussion of student feedback, teaching skills without a solid theoretical foundation results in limited retention. Similarly, teaching theory without skills implementation lacks context and practicality. It is crucial, then, to unite theory and skills through student engagement. In the case of embedding micro-credential coursework, it is important to not isolate the skills-focused videos from the broader theoretical context of the course. Instead, we must consciously connect the skills and tools covered in the videos to the deeper theoretical concerns addressed in the course, allowing for a meaningful and comprehensive learning experience. By deliberately intertwining theory and skills, students can understand the practical application of the concepts and develop a deeper understanding of the subject matter.

Despite the ongoing pressures to achieve more with fewer resources in higher education, integrating micro-credential coursework as a supplement in our classrooms can serve as a means to mitigate some of these challenges. While it is true that critics of micro-credentials have validly highlighted the limitations of

an education model solely focused on skills or tools, this article demonstrates how we can harness the advantages of this focused approach to enhance our teaching practices. By incorporating micro-credential coursework within our existing courses, we can provide students with valuable supplementary learning experiences that complement the broader educational objectives of our classes.

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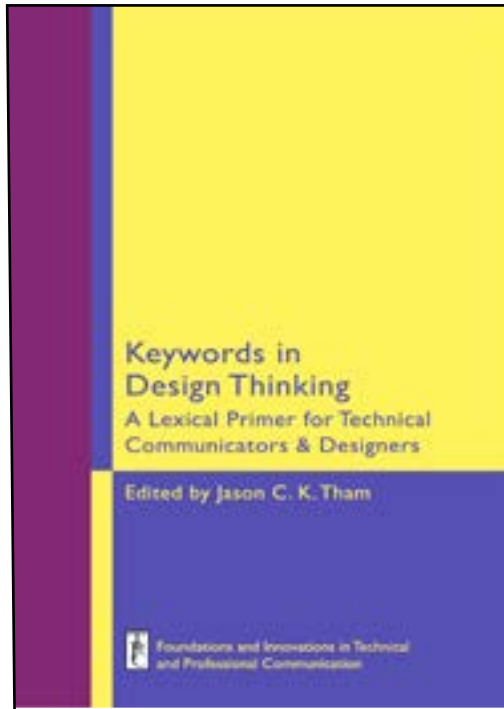
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BOOK REVIEW

Book Review Editor

Timothy Ponce, *University of Texas at Arlington*



Keywords in Design Thinking: A Lexical Primer for Technical Communicators & Designers

Edited by Jason C.K. Tham

Denver, CO

The WAC Clearinghouse, University Press of Colorado

2022, 165 pp.

Reviewed by

Christina Davidson

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Keywords in *Design Thinking: A Lexical Primer for Technical Communicators & Designers*, edited by Jason C. K. Tham, contains a glossary of critical design thinking terminology, each selection connecting the theory and practice of this concept and demonstrating its usefulness to technical and professional communicators in academia and industry. Since its formalization in the early 2000s via Stanford University's d.school, design thinking as a problem-solving framework continues to grow in popularity across many contexts, including business, healthcare, and education. While valued for its adaptability and human-centered methodology, the concept is also regularly critiqued as being obscure and difficult for professionals to define. By providing design thinking keywords and their developed meanings, each centered in technical and professional communication (TPC), Tham's selected terms alleviate this known ambiguity and maintain practical application to the technical communication classroom or workplace.

Many contributors to this collection are academics in TPC, but Tham thoughtfully includes industry professionals to his roster as well. This choice allows diverse viewpoints on the theory and application of design thinking to be represented. For example, chapter authors Krys Gollihue and Jack T. Labriola each hold positions in the field of technical communication, with careers in technical marketing and content writing, as well as UX research, respectively (p. 162). This text is organized into two sections: the first providing additional nuance to the established and easily recognized terminology in design thinking, and the second offering new terms for TPC to consider as the field incorporates design thinking into professional work or teaching practice. While individuals familiar with the framework may be tempted to skip ahead to terms found in Part 2 due to established familiarity with the core elements found in Part 1, it should be noted that Part 1 considers the established terms inside new perspectives, which may expand notions of how they align with TPC. However, this text may be read in any number of ways, allowing for professionals to enter the conversation with the chapter of their choosing.

Part 1: The Design Thinking Phases

In this section, contributors fully expand and define each of the essential components of design thinking. These established terms are as follows: to empathize, define, ideate, prototype, test, and iterate. While each term would be expected in a collection on design thinking, Tham's contributors carefully apply the lens of technical communication to each one. It should be noted that each chapter of this entire collection follows a distinct format containing three subsections. First, the author provides a stable definition and background for the selected term. Next, the author makes connections between the term and the design application. And finally, at the close of each chapter, the author makes suggestions for pedagogical integration. This layout is usefully organized for all TPC professionals, since the text may be approached differently depending on what readers are prioritizing in their work. If a senior technical writer reads through Chapter 3, "Ideation," she might be drawn to Sano-Franchini's suggestion to writers "working to develop user documentation" and how they "might begin by considering the problem(s) the documentation is meant to address" during an ideation phase, thus bringing ideation and problem definition into closer relationship (p. 33).

Conversely, academics may pay closer attention to practical pedagogical advice such as Bradley Dilger's suggestions in Chapter 5, "Testing," in which he suggests "testing can be situated as a module or course unit or can be integrated into larger projects to encourage iteration and data-driven thinking" (p. 43). In Dilger's chapter on testing, he also connects his term to the first tenet of design thinking, empathizing, among others. The harmonious examples of layered connections are representative of the entire collection in which authors define their own terms, all while remaining cohesively in conversation with one another and with the field.

Part 2: Concepts and Applications

This section covers more nuanced terms that may help TPC readers to define the design thinking process more carefully in the academy and the workplace. While

a few of the terms in this section may first appear isolated apart from design thinking, the consistent format of the book lends itself to demonstrating the relationship of each term to its umbrella framework. By broadening connections through new terminology, this section makes the case for a more capacious understanding of design thinking within TPC. For example, in Chapter 15, "Edge Cases," MIT's Mary E. Caulfield explains how the study of conditions that fall outside our preconceived intentions might be directly related to the design thinking principles of prototyping and testing and suggests how instructors might incorporate an assignment on edge cases into a TPC course.

Zarah C. Moeggenberg's chapter, "Inclusion," asks TPC professionals to consider questions like, "How am I present in the design? How are my team members? How might that be affecting the design?" to further the connection between design thinking and its foundational tenet, empathy (p. 117). Tham draws additional conclusions on how we may prioritize these questions in his penultimate chapter on "User-Centered Design" in which he explores "activities such as contextual inquiry, journey mapping, and participatory design" in the classroom (p. 153). He acknowledges that academics may encounter difficulty in allowing their students to research actual users of a classroom-based theoretical design; however, he points to the usefulness of TPC programs which make effort to align with UX field research, allowing for reciprocal learning for a variety of stakeholders and improved outcomes for users. Within each chapter there are numerous nods and references to keywords from other chapters, making this text feel like a constellation of definitions, each supporting the collection as a whole.

Readers interested in furthering their understanding of this topic may find Tham's book, *Design Thinking in Technical Communication* (2021, Routledge), of particular usefulness. However, further reading is not needed in order to fully understand this keyword collection. In all, *Keywords in Design Thinking: A Lexical Primer for Technical Communicators & Designers*, can be a great introduction to design thinking as a framework for TPC, or may serve as a resource for TPC professionals to deepen their understanding and application of the concept. As a TPC text, *Keywords in Design Thinking* is pioneering, foundational, and highly recommended.

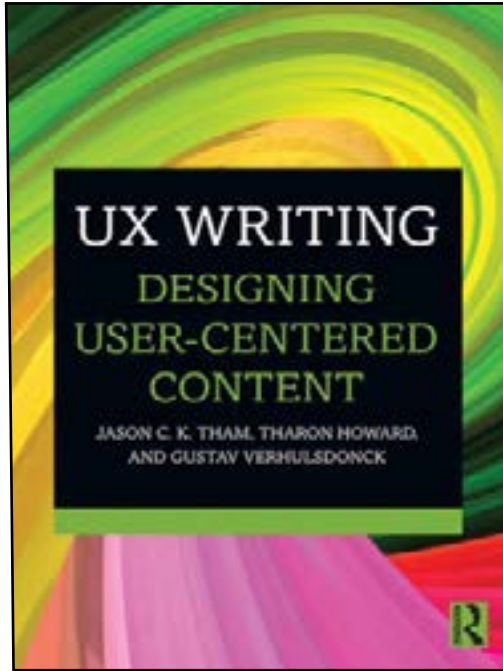
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BOOK REVIEW

Book Review Editor

Timothy Ponce, *University of Texas at Arlington*



UX Writing: Designing User- Centered Content

Jason C.K. Tham
Tharon Howard
Gustav Verhulsdonck

New York, NY
Routledge
2024, 248 pp.

Reviewed by

Christopher J. Morris
York University

UX writing (writing for user experience) is a professional field of growing popularity and consequence in which technical writers apply design principles to produce content, texts, and digital applications. UX writing demands usefulness—typically defined as the sum of utility and usability. Utility refers to how well a design achieves its purpose, while usability measures the ease of a design's function.

With *UX Writing: Designing User-Centered Content*, authors Jason C.K. Tham, Tharon Howard, and Gustav Verhulsdonck provide an exigent and, crucially, useful text that is well-designed for achieving its primary purpose of helping instructors develop UX writing courses. Indeed, for me—an assistant professor in a writing department currently developing a course in writing and design for user experience—*UX Writing* is a timely, valuable resource for helping me think through applicable genres, theories, learning outcomes, assignments, and potential class activities.

At the same time, *UX Writing* is not a run-of-the-mill textbook. Tham et al. themselves describe their work as “both a textbook and a playbook,” gesturing toward its marked utility and usability both inside and outside of the classroom (p. xvi). In that case, perhaps the most useful aspect of *UX Writing* is its exceptional balance of practicality and literature review. The book provides readers with well-founded, actionable strategies for completing UX writing tasks. In contrast, many textbooks, handbooks, and related genres geared toward writing practice often avoid engaging the very research and theory that underpin many such writing strategies, to the detriment of helping readers understand the conceptual integrity of those strategies. On the other end of the spectrum, many other works in this field overemphasize prior academic discussions, without informing readers clearly as to the practical utility of conceptual developments. With its user-friendly style, however, *UX Writing* ensures that readers can use its content as well as chart the foundations and lineages of this content. This deft rhetorical aspect of the textbook helps readers better understand why certain strategies predominate in relevant discussions about UX writing.

Correspondingly, UX writing is becoming increasingly relevant in the study, teaching, and practice of technical and professional writing. In fact, my department chair recently approached me about developing a technical writing course that appeals to student interests in content creation, employers’ needs for digital content management, and the university’s goals in providing experiential education. My mind immediately went to UX writing, which requires practitioners to design collaboratively and impactfully for real-world users. Tham et al. foreground their book along similar lines. “In an age of content marketing and digital design—where users actively seek information and where marketers find it an opportunity to sell products through information services and experience design,” they write, “content-first design promises short-term as well as long-term success” (p. 7). Arguing that “UX-centric content makes for efficient design and a greater return on investment,” the authors emphasize that “UX writers ... have to know how good content can be created first so the *design meets the user’s immediate needs and wants*” (p. 7, emphases in original). What, then, might the users of Tham et al.’s textbook need and want? The authors appear to know quite well and design their text accordingly.

The intended audience—perhaps user base—for *UX Writing* consists precisely of undergraduate students in technical and professional writing courses, instructors of those courses, graduate students undertaking initial research into UX, and scholars and researchers in technical communication who want to know more about UX writing and design (p. xvi). Appropriately, *UX Writing* is therefore divided into three parts: “Perspectives,” “Processes”, and “Practices.” “Perspectives” answers questions related to the field about disciplinarity and professionalism. “Processes” details essential UX design methods that include think-aloud protocol and prototyping. Finally, “Practices” introduces readers to a variety of UX writing genres like help guides, while also explaining why and how to assemble writing portfolios. This tripartite compendium has something for everyone—students, instructors, writers, designers, and researchers.

The textbook’s sleek comprehensiveness is further reflected in the organization and

style of its individual parts. Each chapter begins with a chapter overview, in which the authors provide concise summaries of the chapter's contents. The chapter overviews are then followed by lists of learning objectives such as "Understand and define writing for user experience" (p. 3); "Recognize the significance of human-centered design principles in UX writing" (p. 43); and "Develop an understanding of a content creation framework to attract, engage, and sustain the user" (p.153). These learning objectives, among others presented in this textbook, would be critical for any course or practical implementation in UX writing. Moreover, in expert use of pedagogical scaffolding to achieve learning objectives, the authors conclude each chapter with a Chapter Checklist. These checklists deploy a systematic, instructional, and imperative writing style that facilitates reader comprehension as well as independent thinking while summarizing the chapter's main takeaways. The book's user-friendly instructional style not only functions as an effective technical writing model for students but also helps practitioners and researchers grasp complex processes quickly. *UX Writing* is certainly paradigmatic of effective technical writing as each chapter contains richly conceived charts, lists, models, illustrations, photographs, figures, and tables that convey useful information in an engaging way. Lastly, the authors diligently consider both industry and academia, workplaces and classrooms. They include in each chapter "Real World Snapshots"—insets that explicate relevant case studies. Additionally, each chapter closes with Discussion Questions, Learning Activities, and References complete with plenty of academic texts and concerns. This textbook is classic yet attractive in that regard.

UX Writing's chapter on generative artificial intelligence (AI) is especially timely in its applications. In Chapter 11, "Using Generative AI and Automating Your Content," the authors engage a reasoned, well-supported discussion of how AI can be incorporated into both college courses and industry projects. Tham et al. contend that AI's "curation and refining of text can significantly help UX writers think through their work and generate new ideas quickly using AI as a writing companion" (p. 212). To support their assessment, the authors point to the abilities of AI bots to write scripts, identify relevant keywords from texts, and to analyze feedback from user reviews (p. 212). Though they advocate that "AI and UX writing go hand in hand," Tham et al. also outline AI's limitations with respect to UX writing (p. 214). Among such limitations discussed are errors in AI-generated content as well as AI's lack of "a human dimension" (p. 213). To account for AI's limitations, *UX Writing* advocates for the HEAT model (Human experience, Ethics, Authenticity, and Trust), which guides UX writers in reviewing AI-generated content for errors, appropriate citations, and empathetic language. This chapter is particularly helpful for writers, students, and instructors currently processing ethical and effective usages of AI. Fittingly, *UX Writing* closes with a glossary of key terms—the last of which is, not surprisingly, "UX writing." Tham et al. define UX writing as being "concerned with the integrative experience between the user and product/service as it is mediated by different content" (p. 241). *UX Writing*, with its structural, conceptual, and rhetorical interlocution between textbook and playbook, presents its own integrative experience for those in academia and industry hoping to better understand UX writing as a product and service that is becoming increasingly useful.

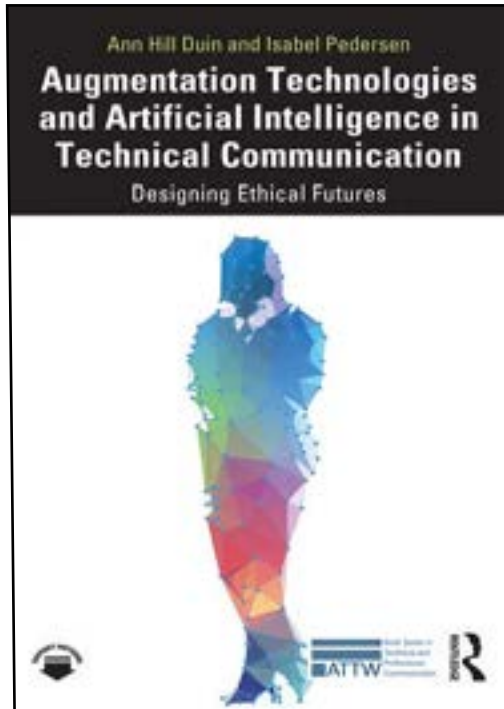
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BOOK REVIEW

Book Review Editor

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Augmentation Technologies and Artificial Intelligence in Technical Communication: Designing Ethical Futures

Ann Hill Duin & Isabel Pedersen

New York, NY

Routledge

2023, 259 pp.

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Are you aware of AlterEgo, a wearable device that enhances a user's cognitive abilities by enabling a silent internal dialogue with an AI agent? While still a research prototype, AlterEgo is one of the many technologies readers will discover through *Augmentation Technologies and Artificial Intelligence in Technical Communication: Designing Ethical Futures* by Ann Hill Duin and Isabel Pedersen. However, this book is not simply an overview of augmentation technologies, which the authors define as technologies that "influence cognitive, sensory, physical, and emotional states for the purpose of enhancement, efficiency, and automation, the level of which is increasingly impacted by fluctuating value systems, rhetorical context, and corporate hype" (p. 15). The authors' primary focus is on the role that the field of Technical and Professional Communication (TPC) will play in the ethical design, adoption, and adaptation of these technologies. As such, Duin and Pedersen take a rhetorical approach to the topic, seeking to communicate the ways in which augmentation technologies "mediate knowledge, values, and action

in professional and personal contexts” (p. 16). This approach makes the book a valuable resource for those developing and coordinating programs in the field.

Summary

The book is structured in three parts around the Designing Ethical Futures Framework, a plan for understanding augmentation technologies, building digital and AI literacies, and applying such literacies to professional and pedagogical practice. The first part of the book, “Understanding (Rhetorics of) Augmentation Technologies,” aims for reader understanding of not only the technologies themselves, but also the rhetoric surrounding them. In Chapter 1, Duin and Pedersen introduce the public discourse on augmentation technologies from various overlapping discursive spheres. For example, they point out Elon Musk’s claim that his brain-implantable AI Neuralink will solve the “problem” of humans thinking and communicating too slowly. Soon after, they highlight criticism of such technologies from organizations such as The European AI Alliance, The AI Now Institute, and The Massachusetts Institute of Technology (MIT).

Chapter 2 introduces readers to The Fabric of Digital Life, a public and collaborative online archive of over 5000 augmentation technologies which, through rich metadata fields, allows visitors to consider “the complex socio-technical tradeoffs” (p. 34) these technologies present. Visitors to The Fabric of Digital Life can search through images, videos, and articles about emergent technologies, and the repository categories its artifacts according to themes such as the persuasive intent of the artifact, the level of human-computer interaction, and the specific body part the technology enhances. As such, visitors develop a keen sense of the stakeholders, rhetorics, benefits, and concerns related to emergent technologies. Chapter 3, like Chapter 1, provides space for the authors to analyze corporate hype surrounding technologies such the fabled Metaverse, a convergence of virtual reality (VR), social media, entertainment, work, and economy. However, the primary aim in this chapter is to explore the “generative enculturation process at work” (p. 86) through such rhetoric, and to make readers aware of the redistribution of agency that occurs within “human and machine cultures” (p. 78).

The book’s second part, “Build Literacies,” begins with Chapter 4, wherein Duin and Pedersen introduce the term *AI literacy* via Long and Magerko, who define it as a set of competencies pertaining to the evaluation of and collaboration with AI in different contexts (p. 100). Two vital aspects of AI literacy for the field of Technical and Professional Communication (TPC) are Explainable AI (XAI), which helps users understand how AI works, and the continued development of Trustworthy AI, an approach to AI that evaluates fairness, lawfulness, and safety. In Chapter 5, the authors assess the socio-cultural risk inherent in augmentation technologies’ ability to monitor human behavior, offering additional grounds for the involvement of technical and professional communicators early in the design cycle. The chapter address the novel societal risk potentialized through extraction and storage of biometric data, especially for marginalized communities. It is also here in Chapter 5 where readers will develop a more complete understanding of one of the book’s most cited resources, “Principled Artificial Intelligence: Mapping Consensus in

Ethical and Rights-based Approaches to Principles for AI" (Fjeld et al, 2020).

The book's third part, "Design Ethical Futures," provides direction for the field. It begins with Chapter 6, which focuses on pedagogy. Duin and Pedersen once again use *The Fabric of Digital Life* as an example of emergent technology analysis. However, this time, they illustrate multiple ways instructors have used the archive in TPC courses for the cultivation of students' digital literacy. Chapter 7 introduces a "TPC guide to AI-human interactions" (p. 191) which practitioners can employ to adduce how a technology uses AI, how data is collected, and the possible effects that systems of emergent technology may have on professional practice. Chapter 8 ends the book by suggesting ways that technical and professional communicators might affect ethical change. These suggestions draw upon insight from "exemplary organizations working to promote ethical design of augmentation technologies" (p. 219), Michel deCerteau's distinction between strategic and tactical communication, and risk communication research. The purpose of these suggestions is to guide technical and professional communicators towards developing governance, regulation, and standardization of augmentation technologies.

A Valuable Resource

The dense coverage of subject matter is a primary reason why *Augmentation Technologies and Artificial Intelligence in Technical Communication: Designing Ethical Futures* will be welcomed by the field of TPC. Readers will find themselves well equipped to use the book as a future resource for identifying more context specific and situationally relevant conversations pertaining to AI and augmentation. One consequence of this breadth, however, is that it may take space from a more evenly distributed treatment of social justice issues that some readers may anticipate. While Duin and Pedersen's thorough attention to human rights, privacy, and corporate responsibility to users is egalitarian and benefits all communities, only in Chapter 5 were race, gender, and ability given full, focused consideration. Furthermore, the ways in which emerging technologies may harm the LGBTQ+ community was mentioned only briefly. I would have liked to have seen these concerns investigated in chapters beyond Chapter 5, where the "socio-ethical consequences" (p. 122) of new technologies were outlined. For example, Chapter 7 provides professional direction in negotiating challenges with autonomous agents, chatbots, digital employees which "mimic human behaviors" and "automate work tasks" (p. 194), and digital humans meant to "humanize AI while increasing effectiveness" (p. 202). In this chapter, the authors' do note the potential for gender and race-based discrimination made possible through the design and implementation of digital employees (p. 209). However, this chapter seems like a natural place to attend to the disproportionate harm these technologies will likely have on marginalized communities' experiences with hiring, health care, criminal justice, and financial services. These issues are mentioned throughout the book, but typically only in passing, with the exception of Chapter 5.

Yet, the book's wide coverage of various stakeholders and values is useful for creating a shared readership across both the academy and profession. By using "international, multi-stakeholder documents" (p. 124) from universities,

corporations, governments, and advocacy organizations as sources, the reader gets the impression that Duin and Pedersen strongly believe that understanding, ethically using, and monitoring emerging technologies is the job of both scholars and practitioners. The profession will likely be interested in the book's well-researched and comprehensive direction for the design, maintenance, communication about, and assessment of emergent technologies, and academics will find much useful here in terms of program development. Augmentation technologies, from ChatGPT to VR, represent the forefront of technological innovation. As such, TPC scholars will find their knowledge and skill sets to be directly applicable to the emergence and adoption of these technologies, and Duin and Pedersen take some of the guesswork out planning for this inevitable convergence.

With respect to pedagogy, the authors provide forward-thinking applications of foundational TPC theory. Chapter 6 in particular outlines how using The Fabric of Digital Life in the classroom promotes the "core skills and the identity" of TPC (p. 170) and helps students attain several essential program learning outcomes common to most TPC programs. On a personal note, I used the archive in a course titled "Discourse and Technology," taught by Dr. Jason Tham, one of the book's most cited scholars. This experience made my more recent reading of Duin and Pedersen's book quite meaningful. I feel that using *Augmentation Technologies and Artificial Intelligence in Technical Communication: Designing Ethical Futures* as a guide to exploring The Fabric archive can be a generative student learning experience, as well as a collaboration opportunity for faculty designing courses and programs.

Author Information

Joe Schicke is a third-year PhD student in Technical Communication and Rhetoric at Texas Tech University. Transitioning into the dissertation phase, Joe is investigating the ways in which musical conversations, mediated by technology, are made material in recording studios. Currently, however, Joe is researching the efficacy of alternative grading practices for undergrad composition students, and the ways that new technologies may mitigate the grade-centric focus of learning management systems. Joe is an Instructor of English at Colorado State University in Ft. Collins, Colorado, where he is also an active member of the city's local music scene.