Sustainable Industry-University Partnerships: Accountability as a Model for Program Development

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Abstract. This article reports on how graduate professional and technical writing (PTW) programs can reframe engagement with industry through an accountability-based model as a novel way of solving student and program problems. This article discusses the standup of an Advisory Board, composed of representatives from across industries in our region, and the results of the focus groups and iterative research practices we used to gain feedback and develop ethical interventions for PTW programming. We show how our engagement process, research, and resulting accountability model are scalable to other programs and industry-university collaborations as one method for ensuring positive student outcomes and professional growth in PTW programs.

Keywords: Professional and Technical Writing, Advisory Boards, Accountability, Industry Partnerships, Outreach, Professional Development

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Introduction

George Mason University, a large R1 university in Northern Virginia, offers a Master of Arts in English with a concentration in Professional and Technical Writing (PTW) as well as a graduate certificate program in PTW. Beginning in 2018, our PTW programs faced two interlinked problems: 1.) Enrollment in our programs was consistently shrinking despite investment in classic outreach and marketing; and 2.) Remaining students were struggling to pursue meaningful professional and research opportunities. To address these problems, we established an Advisory Board of industry professionals and conducted a series of focus groups to gain their insight and feedback. We aimed to answer a range of questions not just about our program but about the values, needs, strengths, and workplaces in our region and new professionals in them. Through this work, we arrived at an expanded model for accountability to drive program development as a key to understanding what values our program could offer students, how we might build and communicate these values, and how we might work reflexively within local professional communities. Our model of accountability, we argue, offers a productive framework for maintaining relationships with industry that are responsive to student and community needs without replicating problematic industry practices. As such, we build a notion of accountability from existing metrics and assessment designs within technical communication and writing studies, while adopting more reciprocal notions of accountability from research ethics and bioethics (Collins, 2000; Mol, 2008), to create a new model for driving program and curriculum change through the direct engagement of external stakeholders.

This article comprises three sections. First, we outline a brief history of literature on the complications of incorporating industry representatives and feedback in PTW pedagogy and programs. Second, we discuss how focus groups and resulting new initiatives worked recursively, and how our findings shifted program approaches to industry partnerships, moving toward developing reciprocal relationships with accountability to student outcomes and professional development at the core. Third, we present our accountability model, which emphasizes collective action, long-term relationship-building, and sustained outreach as mechanisms for opening up spaces and opportunities for PTW students, thus creating stronger and more just PTW programs.

The Necessity and Problems of Industry Outreach in PTW

Programs in PTW often are tasked with delivering academically rig-

orous curricula while also helping students launch and build robust future careers, challenges that are often addressed through building industry partnerships. The goals of these relationships are to yield positive outcomes for students, programs, and industry alike. However, gaps and problems across industry-university connections in technical communication are well established and remain difficult to resolve (Boettger & Friess, 2016; Lang & Palmer, 2017; Bridgeford & St.Amant, 2015). Balancing the need to create authentic learning experiences (Poe et al., 2010) while avoiding hyperpragmatic answers and interventions (and replication of problematic industry practices) can be difficult. The history of concerns about the relationship between industry and university interests in PTW are well established and carry the potential for benefits but also limitations (Miller, 2003; Scott et al., 2006). Furthermore, PTW programs often grapple with issues of professionalization and access when structuring programs to meet diverse student populations' and local job markets' needs. But perhaps most acutely, when a program's goal is to connect students to gainful employment after, or even before, graduation, it can be easiest to hyperfocus on the needs of industry partners and how to meet their needs. To understand and respond to ever-changing workplace and institutional exigencies, PTW program administrators must find creative ways to meet their programmatic goals without alienating students or industry stakeholders, and that balance is difficult to achieve.

In their examination of program assessment in PTW programs, Nancy Coppola, Norbert Elliot, and Faye Newsham (2008) offered the goal of identifying opportunity structures as a way to "align educational efforts with industry impetus" (p. 17). Their Design for Assessment (DFA) model places opportunity structuring as the top priority of program assessment, with all other aspects falling in line with that overarching goal. A program's main responsibility to students, therefore, is to provide authentic learning and opportunities that cohere with contemporary industry trends and needs. In their DFA model, accountability refers to the program's responsibility to students, industry, and the university, and their model emphasizes project management systems to enable that accountability. Although Coppola, Elliot, and Newsham's framework involves all stakeholders, their heuristic focuses on the involvement of industry-specific stakeholders, with numbers of students or enrollments as the measurable outcome.

As much as they offer opportunities for students to gain useful experiences and for academics to learn more about what is happening in the workplaces our students are likely to enter, these approaches to industry engagement also reveal the potential for reinforcing the

problematic, hyperpragmatic, capitalistic paradigms that often govern industry priorities in the design and implementation of academic programs. As Amy Kimme Hea and Rachael Wendler Shah (2016) explained, direct engagement with community/industry partners, wherein partners reflect and share their reasons for involvement, is one way to move away from hyperpragmatism and toward a more balanced approach that prepares students to build relationships with potential employers. While Whereas Ryan Boettger and Erin Friess's (2016) work pointed out the limits of scholarship—and possibly pedagogy—in technical communication research, Kirk St.Amant and Lisa Melonçon (2016) similarly found that gaps between academic and practitioner engagement with the principles and practices of technical communication are both widespread and are necessary for academic programs to address.

For PTW programs that prepare students for the workplace, the goal of building coalitions with multiple stakeholders has been to achieve a balance between contributing to technical disciplines through research and framing the way a technical communicator's work is valued in those disciplinary and vocational spaces. Responding to Carolyn R. Miller's (1979) call for community building, Carolyn Rude (2015) advocated for using research to establish "academic legitimacy" in ways that help build the type of "epistemic community" Miller described (368). However, she also sees a rift between research for and by practitioners and that which is produced for and by academics. This epistemic gap between the two audiences, Rude argued, needs to be filled by research that "work[s] with practitioners of technical communication on the types of problems that they face" (373). As if taking up Rude's call, Emily January Petersen (2017) offered insights from 39 interviews conducted with practitioners. Petersen found that technical communicators on the job are acutely in need of professional connections, community, and modes for advocacy. Petersen described perceptions of PTW work as still primarily non-essential, secretarial, or aesthetic only; given that PTW researchers have found and argued for the potentials for the PTW toolset to perform key work within organizations, from ensuring clarity for a variety of audiences to identifying and acting upon opportunities for change, we know that the students who graduate from our programs and enter these workplaces can benefit from an expanded cadre of skills that allow them to grow and develop as professionals.

The prospects for engaging with an advisory board specifically as an answer to these gaps has a long history and possibilities for PTW programs, impulses we share and respond to as well here. Advisory

boards have a long history in other programs with professional practice elements, such as engineering, journalism, and accounting (Dillon, 1997; Defatta, 1988; Greenheimer et al., 2009; Begnini et al., 2011; Henderson, 2004). Carole Yee (1994) reported positively on one such case of advisory board engagement as an answer to balancing the needs of industry with university resources. This is corroborated by Charles Sides (1998). Such filings are further endorsed more recently by Lars Söderlund, John Spartz, and Ryan Weber (2017), who find that a strong board, with clear boundaries for engagement and involvement, can positively contribute to technical communication programs.

Our program, situated in a densely metropolitan area with access to the U.S. federal government and a range of related industries (think tanks, policy organizations, nonprofits, small business opportunities), has become increasingly engaged with a more deliberate, intentional approach that prepares students while building connections and relationships with local industry and business. While acknowledging the tensions in industry-university partnerships, we argue that relationship-building and outreach with key stakeholders provides a way for PTW programs to navigate some of these tensions. During the last year and a half, our program has been engaged in deliberate, thoughtful relationship-building. In this article we provide a model for incorporating the voices of a variety of stakeholders, while maintaining curricular integrity.

We describe a recursive, iterative process of engaging with industry experts and stakeholders, and through a set of documents we incorporate and seek feedback that successfully accomplishes several goals: building relationships with a community of external stakeholders; creating thoughtful curricular changes; and continuously incorporating stakeholder feedback. The entire research team, including our graduate student MA and PhD members, were included in the analysis and project development processes, ensuring that student perspectives were woven into our questions and how we answered them throughout the research process. We also piloted interventions and sought student feedback through reflective exercises, interviews, and small anonymous surveys during the program revision processes. Consequently, we show how a program-wide professional development initiative serves as a pedagogical intervention that increases student professionalization, responds to the expressed needs of industry experts in our region, and incorporates current scholarship on expanding access in technical communication, grounded in a rich notion of accountability, which we arrived at iteratively through the process of our advisory board research.

Outreach and Study: Advisory Board and Focus Groups

In spring 2018, we convened an Advisory Board and conducted focus groups with the Board that would help us collect feedback on our program as it related to community and industry needs and gaps. We decided that supporting mechanisms for dialog rather than one-way demands for resources would offer more expansive benefits than other forms of feedback and assessment.

For this study, we were guided by the following research questions:

1. How can we address the often-incommensurate paradigms of the academy and the workplace through pedagogical, programmatic, and research practices?
2. What are the needs of the workplace: what people in technical communication and related industries are looking for in new technical communicators, how they define it, etc.?
3. How can we create industry buy-in for our program?

The PTW programs had conducted prior qualitative research projects in 2009 and 2015 to gather alumni and current student feedback on the programs. This was conducted through a combination of surveys and interviews. Although the 2018 project reported on here might have updated existing data for a more formal DFA-style assessment (as in Coppola et al.), we decided to pursue Board development and feedback because we felt that additional engagement with those audiences limited our data sources. Students, faculty, and alumni couldn't give us the whole picture. Continuing to ask more questions of those who had already bought into our program—as faculty, as students, as graduates—couldn't help us understand the ways we weren't reaching the students who were not choosing us. So, we had to go outside of ourselves to find the answer to that question. Our Board ultimately filled that important information gap by telling us what we didn't know we didn't know.

In the section that follows, we summarize our Board's creation, research team development, and the findings of the three focus groups we held with the Board.

Board Development

To increase outreach and network opportunities, and to research these problems and questions, we began by standing up an Advisory Board of 20 total members and conducting focus groups with those Board members. We invited Advisory Board members based on a wide variety of factors. We wanted community members who worked directly with technical writers, but we also wanted employers who are in contact with technical writers but are not technical writers themselves. We included people across the fields of finance, military, defense contrac-

tors, IT, technical writers, proposal writers, and community college and university writing instructors. The Advisory Board includes industry and community representatives from major industries in our region, HR professionals, small and large business owners, and communication leaders. The Board also includes alumni, from both of our university's undergraduate programs and from our PTW programs. We also considered representation based on demographic factors as well, ensuring that members of the board reflected diversity in terms of age, gender, and race/ethnicity to the degree possible. Our Board includes members who run 8a (minority-owned) small businesses, serve on DEI committees for national organizations, have worked with and/or attended historically Black colleges and universities (HBCUs), and range in experience from less than 3 years to more than 30 years of experience in industry.

Project Team Development

The project was primarily facilitated by a faculty member in PTW, but the research team was made up of students. Graduate students—both MA students currently in the PTW program as well as PhD students in our department's Writing and Rhetoric program—were included in the Board development and research processes. Students were paid summer stipends or hourly wages for this work; students were encouraged to nominate and recruit Board members from within their own existing networks whose perspectives they thought would be valuable and trustworthy to the program, an opportunity taken by the PhD students in our team, two of whom were alumni of George Mason University's graduate programs. This practice allowed students to enrich their own professional connections to their industry contacts—all of whom eagerly joined and participated in the Board—and help "give back" to George Mason and enrich future student experiences. The purpose of our team composition was twofold: first, to support graduate students as they build professional networks of their own with Board members; and second, to engage with research and outcomes in ways that would help the program be accountable to both our region and our students. The Board and iterative focus groups increased faculty support for this initiative, allowed MA students to make professional contacts in the local industry, and gave PhD students access to and experience with a research project.

Focus Groups

We conducted three focus groups (IRB approval # 124-9598-2) with the Advisory Board over the course of approximately 18 months. Each focus group protocol was designed to address a specific area: what industry representatives thought about early career technical com-

municators, curricular and programmatic interventions, and professional development initiatives. Because we wanted the focus group to work iteratively and relationally, we left the protocols open ended and incorporated feedback from each focus group into the next one, after discussing findings with faculty and student researchers.

Focus Group 1 Study and Design: Building Relationships—What Does Industry Think?

The first focus group met early summer of 2018. We developed a semi-structured protocol that would allow participants to talk about how they perceive students and newcomers to their workplaces and the types of skills they wish technical writers had when entering the workplace. We wanted to begin a conversation with community stakeholders that would allow us to consider accountability as inclusive of students, faculty, and industry representatives.

We had three primary objectives for this focus group:

1. To establish relationships between our program and industries in the local area
2. To seek feedback on industry perceptions and expectations of newcomers to the workforce
3. To learn more about sustainable practices that would improve the program's accountability to students preparing to work in these industries

Graduate student team members were primarily responsible for extensive note-taking during this initial focus group. After the focus group, the research team met to consolidate notes and discuss patterns that emerged during the note-taking. Taking multiple sets of notes helped the team find themes and patterns in what participants mentioned as important for writer development. The team met several times to discuss and organize themes. We used feedback from those emerging themes (described in the findings section below), to prepare for the second focus group.

Focus Group 2 Study and Design: Relationship-Building Through Heuristics and Accountability

Following Focus Group 1, our notion of accountability began to take shape. Of course, given what we knew about the history of problems and successes with outreach and industry engagement in PTW, our goal was not simply to start adding additional assignments or courses that might explicitly teach the tasks cited by our first focus group. Although many participants had inventive ideas for assignments or writing prompts, our goal was larger than that: to rethink how we might understand and communicate the value of our PTW program based on this feedback. The goal of the second focus group then became itera-

tive, working through the heuristic to help focus group participants provide iterative feedback.

We convened Focus Group 2 in late summer 2018. During that meeting, we presented a range of tailored revisions to our program based on the feedback provided by Focus Group 1 (Table 1). The goal of this heuristic was to align Board feedback with current or proposed offerings in our program. We also sought feedback on program marketing materials, delivery options (including feedback about a proposed hybrid course option that students had remained ambivalent about), and outreach questions about if, how, and where the Board wanted to engage with students.

Table 1.

Current Programmatic Offering	**Feedback/ Recommendation** *"Good communicators need..."*	**Proposed Revisions**
Introductory course *Current focus: theoretical foundations of rhetoric, general program introduction*	Strong writers AND communicators Soft skills: communicating with coworkers, relationship management, problem solving	Emphasize rhetoric as a problem solving, relationship-building theory or skill Include teamwork, team projects, project management
Research methods course *Current focus: foundations of research in rhetoric, preparing for independent research*	Methods/attitudes for information gathering: curiosity, ignorance, interviewing skills	Expand and enhance interview-based projects Expand access to workplaces to conduct small-scale research and problem solving
Editing course *Current focus: editing in a variety of styles for different audiences*	Audience awareness and responsiveness Genre awareness and responsiveness Concepts/skills: concision, content strategy, real publishing opportunities, client-based projects	Make client connections for real-world projects Incorporate project management Emphasize concision Produce a final professional portfolio

Current Programmatic Offering	**Feedback/ Recommendation** *"Good communicators need..."*	**Proposed Revisions**
Document design course *Current focus: preparing workplace documents for professional publication*	Audience awareness and responsiveness Genre awareness and responsiveness	Make client connections for real-world projects Produce a final professional portfolio
Proposal writing course *Current focus: writing proposals in business, nonprofit, and research*	Strong writers AND communicators Career skills: crafting one's own narrative for promotion and job opportunities, writing samples, elevator pitches	Make client connections for real-world projects Invite speakers/make connections to job opportunities Produce a final professional portfolio
Technical communication course *Current focus: foregrounding advanced tech comm skills*	Making technical knowledge accessible for multiple audiences	Make client connections for real-world projects Invite speakers/make connections to job opportunities Produce a final professional portfolio
Internship course *Currently self-guided; under-utilized	Career skills: crafting one's own narrative for promotion and job opportunities, writing samples, elevator pitches	Develop strategies for encouraging and enriching this experience
Cultures of Professional Writing Currently under-utilized; purpose is to connect students to communities/workplaces for research and to gain on-the-job rhetorical skills	Soft skills: communicating with coworkers, relationship management, problem solving	Develop strategies for encouraging and enriching this experience

The mapping and ensuing discussion in Focus Group 2 functioned as the beginning of our adoption of the accountability framework; since accountability means that all community members, their constraints and affordances, should be acknowledged, it guided a view of

information flow as cyclical and reciprocal. The heuristics provided a space for multiple community members to intervene and respond to an ongoing conversation, not simply rewrite course descriptions, suggest "improvements," or find areas for labor sharing.

Focus Group 3 Study and Design: Enacting Accountable Programming and Professional Development Feedback

After Focus Group 2, the PTW programs piloted a range of changes:

1. In response to feedback about course delivery method, we obtained a university grant to pilot hybrid courses in our program.
2. In accordance with the findings from Focus Groups 1 and 2, we adopted the proposed changes and feedback in course descriptions and emphases as outlined in Table 2.
3. We piloted a series of professional development assignments in fall 2018, which expanded to program-wide integration by fall 2019. Professional development assignments were designed to fill the gaps across course content, the areas of need identified by the Board, and the relational and networking requirements driven by our accountability model.

One significant difference between Focus Group 3 and our earlier focus groups was that, this time, we had actual changes and student feedback to gain buy-in on. As we have come to operationalize it (discussed further later in this article), accountability insulates against uncritical adoption of industry practices by considering the needs, views, and experiences of all stakeholders, and then gaining wider adoption and buy-in once the needs of all programmatic stakeholders are considered and addressed.

In Focus Group 3, we presented the Board our professional development curriculum, asking for feedback and buy-in: would you be willing to help our students with activities like this? In what capacities? To what ends?

For this focus group, we once again engaged in semi-structured conversations that allowed for open-ended, non-directive feedback. We wanted to discuss main concerns from the focus group about student preparation, but this time grounded in curricular changes already made and implemented in response to feedback from the previous two focus groups. This approach allowed us to facilitate a conversation far more granular and nuanced than during the first focus group, but less directive than the second.

The feedback we received from Focus Group 3 centered around these areas; once we conducted this third focus group, we also began to see trends and themes that sustained over time (oral communication, understanding kairotic moments) versus ones that seemed to

change in tenor or topic.

Findings Across Focus Groups

Three key findings shaped our ultimate understanding of accountability and its basis for our program direction moving forward. To arrive at these overall findings, the research team convened in research meetings on multiple occasions to share notes, research memos (completed following Focus Groups 1 and 2 in particular), and themes from the discussions. Team members took turns proposing possible themes and reviewing our notes to assess theme frequencies and densities across the discussion. We did record the sessions, but only referred to audio recordings to confirm direct quotations and did not transcribe or directly code recordings. We discussed themes until the team gained coherence and clarity around the them. As a team, we agreed on the following overall themes across the data sets, with various specific themes that expand on these concepts discussed further in the section that follows.

Overall themes from participant responses were:

1. Participants did not want graduates who were technically trained, but rather who were rhetorically savvy–who knew how to respond appropriately to situations.
2. Within organizations, writers were needed to facilitate information-sharing, decision-making, and cooperation; writers themselves were valued for their ability to build consensus in networks.
3. Participants wanted ongoing, reciprocal relationships with academia; they wanted to share knowledge and understanding across industry-university boundaries.

Notably, though we did ask participants about their need for and the usefulness of specific technical skills (word and document processing programs, coding languages, etc.), participants were less consistently interested in those competencies. The same was true of requests for writing skills, comma knowledge, proficient grammarians, etc. When these more specific skill-based forms of knowledge were discussed, participants tended to respond that, if those things were necessary, workers could be trained on the job. They were more interested in employees who possessed these more ephemeral, hard-to-train competencies, with the perception that hard skills could always be gained by an enthusiastic team member at a later date.

We also observed several themes across the focus groups.

Below we briefly describe each theme.

Communicators as more than "good writers"

Participants reported that writing is only part of what employers want to see in newcomers to the workplace. They reflected on the social qualities of writing—being able to use documentation appropriately across space and context, communicate across media and document types, and facilitate strong collaboration in writing projects. Participants often made a distinction between being a "good writer" and a "good communicator," noting that an ability to communicate, beyond an ability to write, is an important workplace skill:

> "I've noticed they have the ability to write but not the ability to communicate. They write well, but they don't speak well. They're usually the smartest person in the room but the least effective. My challenge in helping them advance is how to help them take those writing skills and make it personal."

Here, we argue that this participant is noting a gap in professionalization; the person might come in highly trained and technically competent but less capable of communicating those competencies in audience-focused, relatable ways that put people at ease and communicate confidence in addition to competence. This finding was reinforced by similar, smaller-stakes recommendations that new employees avoid email and have face-to-face or phone conversations to build informal relationships; be more succinct and direct in answers to questions when complexity is not required; and learn to gain a healthy detachment from written work that might be heavily edited or critiqued by a team.

Soft skills

The term "soft skills" came up repeatedly during our discussions (although the term "essential skills" has become more common when referring to these types of skills, we are keeping the nomenclature our participants used in the discussion here). The "soft skill" was used to connote multiple types of skills relating to communication, related tasks, and professionalism in the workplace. Participants defined soft skills in several ways, including the ability to engage in public speaking and give professional presentations, the ability to build relationships and networks and to maintain working relationships, the ability to collaborate, work in teams, listen, have empathy, persuade, and take on leadership roles.

Participants specifically discussed soft skills as the ability to admit ignorance and respect the relational aspects of expertise. As one par-

ticipant stated,

> "My best asset is ignorance. Knowing how to get the info out of people. Knowing what you don't know and need to ask. You need some background, know what a database is, some skills and knowledge there, but also know where your gaps might be and how to go have it explained to you. Willingness to admit you're ignorant and need it explained .... not letting pride get in the way."

The term leadership was discussed repeatedly as it related to soft skills. Leadership was described as working in teams, gathering consensus from teams, and helping the team meet deadlines. In some instances the "dearth of leadership" seemed to indicate an inability to get the team to meet deadlines for submitting portions of what eventually becomes part of a finished written product, which ultimately required and engaged soft skills such as effective communication, project management, and team morale. Peer leadership was also mentioned as a related necessary skill. Leadership seemed to be operating as the ability to "get things done" or "take charge" but also as filling a gap when deadlines were not being met, as one participant noted,

> "I think a lot of this touches on leadership as a soft skill. Knowing the folks who work for you so you can use their skills in order to form those products that you need. Being able to know both the folks that you're leading and the end goal, what you're trying to inform—the audience. Leadership isn't easy to teach, but putting students in an environment where they have to do that, where you have to get to know people who are working for you or with you, because there's peer leadership as well, … being able to take everyone's background and strengths and develop a product."

Another participant responded,

> "I love that. There is such a dearth of leadership skills in the world. I became a leader because there was no one else to do it. ... Leadership skills … coming out of your program, that will make them so much more successful, even on the small scale, just being able to lead their little piece."

Audience awareness

Participants expect that students can understand the audiences they engage with. The term was mentioned multiple times by multiple speakers. One participant used the term "decision makers" to refer to the workplace audiences who need information that leads to decisions and becomes actionable. This finding is articulated in several ways, including the ability to gather data from stakeholders while still meeting

a deadline and the ability to write so that an audience can understand expertise in lay terms. One participant described receiving an extremely well-written white paper that served no purpose, given that it was not the right product for the client.

> "No one comes into our organization and just speaks to one person. At any given time you might be doing something for peers or CEO or the client. There's a gap in understanding audience, who you're communicating to. Before I came here today I edited a white paper. ... From an academic perspective the white paper was beautiful, but it lacked the one-page takeaway and persuasive spin needed for a client. Understanding audience, who you're communicating with and what's the right way to be persuasive."

Another participant expands on the definition and illustrates the need for aiding the audience in their decision making:

> "In the intelligence community we have people from many different backgrounds, whether regional studies or technical. The ability to take that knowledge and understanding and to know the audience in a way that you can communicate what you [need] into something actionable, usable for decision makers and others. That gap is present in a wide variety of folks, not just new students. To be able to use new methods of communication and to be able to tailor the communication products in order to aid the audience. Maybe across the spectrum, not just for communicators, but for everyone."

For several participants, audience awareness was not constrained to audiences and communication external to organizations, but extended to proficiency communicating with and "reading" audiences internal to organizations as well. Participants specifically emphasized the role of knowing how and when to speak in group settings through both planned (briefings, presentations) and unplanned (ad hoc presentations, general meeting participation) communications activities. The ability to know how to speak concisely and appropriately (or, in rhetorical terms, to consistently produce a "fitting response" to rhetorical situation [Bitzer, 1968]) in a range of situations called up, for participants, many instances and examples of both appropriate and inappropriate behavior by new employees in public speaking situations. Participants wanted new employees to be equipped with the basic expectations of meetings in professional environments: how to conduct them, be a strong participant, use technology within them, when and whether to use a cellphone during a meeting, and so on.

Relationship-building

The importance of relationship-building emerged in every focus group as a major concern. Relationship-building was seen as an inextricable component of student development and a critical PTW toolset that might be built; this finding was particularly salient in Focus Group 3 when we discussed the professional development assignments in detail. Two participants commented that they would have benefited from deliberate and intentional professional development activities focused on networking while they were students. For example, when describing the "Make a friend" activity, where students reach out to someone in the class and get to know them, participants had a range of ideas for how to vary or enrich this activity, from presenting it as a challenge (make a friend with an engineer or someone in a different discipline) to thinking about how to plan and understand the role of various types of relationships (friendships, colleagues, professional acquaintances) across one's network.

Programmatic buy-in

As the focus groups unfolded, participants wholeheartedly agreed to participate in our ongoing professional development assignments and efforts with our program. Board members were enthusiastic about being a part of the process, so that ensured our future work in this regard would connect students with industry members already disposed towards establishing and facilitating these relationships. Participants noted that the student should do the work of making initial contact in order to practice deliberate engagement with the process of building networks.

Frankly, this surprised us. People are busy, and the focus groups already seemed like a big ask for busy people with full days and difficult commutes for relatively little compensation (just a meal and our appreciation). We were surprised and encouraged all around at the general enthusiasm of the board and their eagerness to answer our questions and participate in our focus groups. But their eagerness to do more—visit classes, participate in site visits, work with classes as clients, recruit students to well-paid and resourced internships, further connect us to other resources in their organizations for recruitment and student opportunities—were a welcome, if unexpected, ask from the board as our formal focus group time came to a close. This further strengthened and extended our own use and building of the notion of accountability as our model moving forward and shaped our continued program revisions.

In the final section of this article, we discuss how the focus groups informed program decision-making centered around accountability and how we used a variety of documents to iteratively engage in dialog with multiple community members and ultimately make smart revisions to our programs to improve both student and industry outcomes.

Toward Accountability

Broadly speaking, accountability connotes cooperation and reciprocity across parties. In developing a notion of accountability, we draw from and distill the concept from sources in ethics as well as technical communication. Most directly, we respond to and build upon accountability described in the 2016 "Programmatic Research in Technical Communication: An Interpretive Framework for Writing Program Assessment." Coppola et al. situated accountability in writing program assessment alongside consequence, research, communication, localism, documentation, and sustainability. Coppola et al. defined the accountability-based framework they create (drawing from White et al.) as, "a form of relational modeling that allows a postsecondary institution to identify the variables that impact the writing program and to ecologically model the variables to increase student success" (6). Essentially, accountability operates as a measure to "suggest that the public wants to know what the university is doing with their funds and whether their work is effective" (12). Accountability, in this sense, reflects what programs owe to the community—a kind of one-way flow of knowledge and expertise, from the university outward, wherein external factors work to determine the value of what the university is doing.

Here, we reprise the notion of accountability discussed in program assessment measures and specifically taken up by Copolla et al., but expand the notion of accountability to leverage the ways in which its reciprocal qualities can be leveraged in PTW programs. Within research ethics, accountability demands that researchers are called to be accountable to—that is, have a reciprocal relationship with—all stakeholders in research, including research participants, funders, employers, or institutions supporting research (Denzin & Lincoln, 2011). For our conceptualization of accountability, principles from bioethics work as an adjunct here to further expand and enrich the goals of accountability. Diving more specifically into accountability, within bioethics, principles of beneficence and justice—good that must apply both

back to the research or clinical subject as well as the greater society and system—apply acutely to refine and specify how accountability must work. Researchers cannot simply act for the sake of acting, and research cannot exist for the purpose of knowledge alone. Rather, research and knowledge-making must be guided by specific principles that work for the good of multiple stakeholders: those being researched and beyond to other social spaces and groups in need. Patricia Hill Collins refined the notion of accountability further, specifically situating a notion of personal accountability as a tenet of black feminist epistemology, where research that is situated in and reliant on a valuing of personal experience and belief makes researchers necessarily accountable for their research and accountable to those who inform research (Collins, 2000). Accountability precludes researchers from separating themselves from their research by tying the validity of the findings to the apparent commitment of the researcher to the implications of their work. Personal and professional accountability are inseparable within this perspective because individuals approach knowledge production from their own personal perspectives shaped by life experience. Acknowledging the relevance of personal context works reciprocally wherein individuals are accountable to the communities that, in turn, make their personal and professional activities possible. Collins's accountability reminds individuals that they are part of a larger system and reminds the system that it is made of individuals. Finally, Annemarie Mol (2008) offered a specific paradigm for understanding how to see individual responsibilities within systems, pointing out that: 1.) people are collective (68) and exist in relationship to one another (72); 2.) actions cohere and are "embedded in practices, buildings, habits, and machines" (10) and therefore can be observed as they relate to and influence each other; and that finally 3.) care for individuals must be "aimed at...the conditions in which collectives live" (79). Mol's set of values turns us away from thinking through research problems—and solutions—as finite and individual and instead as communal, contextual, and collective. Together, Collins and Mol offered important ways of refining notions of accountabilities in context, promoting a flexible perspective accountability that moves between the individual and the collective.

Together, these perspectives form a notion of accountability that reflects how PTW programs can work reflexively with students and industries to produce active forms of PTW knowledge that make students more competitive and facilitate ethical adoption of industry

practices into PTW programs. Specifically, we argue that accountable PTW programs:

- situate student outcomes in community contexts;
- shape ethical mechanisms for incorporating stakeholder perspectives into PTW programs; and
- build a toolset of reflexive professionalism within PTW programs that empowers students to use PTW knowledge across contexts.

An "industry-university partnership" here does not just see a one-way flow of outcomes back into industry, as is a well-established critique of such relationships, or produce a set of static outcomes to be measured, as accountability is conceptualized within existing paradigms or hyper-pragmatic objectives (Miller, 2003). Rather, this notion of accountability refocuses responsibilities of PTW programs away from finite outcomes and individual applications and toward thinking as collectives and networks[1] —the very collective, networked knowledges that our focus groups showed industry is asking for from PTW program graduates.

Under this paradigm, if—like an accountable researcher—we think about our student engagement and community outreach not as an "act for the sake of acting," which is what critiques of industry engagement imagine, but rather an accountable engagement that must 1.) benefit the student (beneficence) and 2.) benefit the system within which the student exists (justice), we have to find new ways to empower students to develop the professional skills necessary to engage with existing networks, build relationships within communities, and use technologies to serve collective goals and objectives. Such a stance is a mechanism for making programs accountable to student need, student learning, and the long-term development of practitioners, professions, and the communities within which we are situated.

Developing Heuristics for Accountable PTW Curricula

Table 2 below outlines what we created as a result of this work, what guides our program now, and what could scale to other programs with the same series of questions, problems, and tired, insufficient answers:

[1] In using the term "network" in this research, we are thinking more literally about professional networks made up of individual, personal connections and sources of knowledge that inform and structure career progression, rather than the complex networks of objects, genres, etc. that an Actor-Network Theory (ANT) analysis might further tease or produce. We do acknowledge, though, that this form of analysis overlaps with our findings and would be worthy of further pursuit.

a heuristic for solving problems with PTW programs to improve student outcomes through industry connections. By leveraging our key concept of accountability here, the heuristic moves programs away from asking questions rooted in hyperpragmatic, individualistic notions and instead moves toward building networks and communities, seeing industries as existing within communities, and helping students see how their work as PTW professionals comes with a range of responsibilities as they enter those industries and thereby effect change on those communities.

Table 2.

PTW Program Problems	Hyperpragmatic Institutional "Answers"	Accountable Model Questions
Access: to sites for research and knowledge building	• Unknown or unacknowledged ("You do research in your field?") • Service to industry Problem with approach: relies on individuals doing free work in exchange for access	Programs are situated in communities; programs respond within and are responsive to them How can professional development refocus faculty research and pedagogy to community needs, expanding client- and community-based projects?
Access: to professional opportunities for students	• Internships • Service • On-campus opportunities Problems with approach: requires students to leverage finite, non-PTW-specific university services for the most readily available opportunity	Students develop and engage in meaningful networks through PTW education, fostering programmatic partnerships How can professional development attune and connect students to communities, industry, and professional opportunities?

PTW Program Problems	Hyperpragmatic Institutional "Answers"	Accountable Model Questions
Program growth: faculty problem	• Advertisement • Program delivery changes • Adopting new technologies, trends Problem: demands faculty redesign programs for new, "cash cow" groups of students	Faculty build programs that improve and support the communities to which they are best suited to contribute How can professional development attune and connect faculty and programs to communities and the industries in them?
Program growth: student problem	• Students experience this problem as low course offerings and class sizes, which can hinder class discussion if too small Problem: Students should be agnostic to the communities they join	Students become responsive and responsible to one another as a collective How can professional development encourage creation of and support for student networks?
Program growth: alumni problem	• Start an alumni society Problem: Faculty should create pipelines for giving	Networks create and strengthen external bonds How can professional development build networks beyond cohorts and classrooms to deepen community, industry, and professional ties?

In the table here, we outline the primary problems faced acutely by our program in this study but common to programs in PTW experiencing issues with growth. In the center column, we outline the ways in which traditional notions of accountability or even hyperpragmatic goals might more classically inform our actions and decision making. In the final, right-hand column, we offer a re-framing of these problems and possible solutions through the accountability model presented here. Simply put, when accountability is grounded in beneficence and justice, outcomes must be reciprocal and evenly balanced across students, industry stakeholders, and professions.

Specifically, we will unpack the problem of student opportunities

through the heuristic and accountability model here, a perennial concern for students and (should be), in turn, for programs. As a method for problem solving, a heuristic that leverages hyperpragmatism might approach the problem in very specific ways. If the problem is "students need more appropriate opportunities for learning and growth so that they are prepared for better jobs when they graduate," then the fastest route for solving this problem may be to ramp up an internship program, perhaps by leveraging the university career center's resources or even taking students on internally within the university as interns. Metrics of students placed in internships would then be tracked, and programs would think about counting and assessing the number of additional students who participate in internships per semester (and then, perhaps, the level of happiness students have in those internships and how well they track to full-time employment following graduation) as a way of assessing how they are addressing the problem of student experience. This is not a bad or unethical idea, of course. Other hyperpragmatic answers might involve, say, beginning to teach the latest program—a shift from MS Word to InDesign in a document design class or the like—in hopes of making graduates "more competitive" or "more marketable."

But, the accountability model, which emphasizes networks, relationships, and reciprocity, asks that programs do not simply address and track the problem and its solution for individual students, but rather look to see what networks facilitate sustainable, community-wide answers to the problem. After all, the need for new opportunities and new career challenges is not just a problem of new college graduates—this is an ongoing challenge of vibrant careers and professions. Instead, the accountability model demands that we think not about "placement in internship" as the end goal, but rather "ability to conduct a productive job search." Such a more expansive task asks:

- What networks do students have access to in order to gain access to job opportunities? We know that most jobs are filled through networking and that the endless cycles of online applications can be unsuccessful and disappointing. Do students possess the skills, networks, and know-how to conduct a job search as a professional?
- How can we use our access to industry to help students gain and communicate what they bring to new workplaces? Can industry professionals advise and provide feedback not just on resumes, but on gaps in expertise, areas of the profession to consider, and

ways to describe the value of in-class learning across audiences?

- How do we help students across the program build the knowledges they need to help them build and pursue their own new opportunities? Do they have the broad range of professional skills needed to build, access, and leverage those networks to pursue new challenges? And once they get an interview, can they communicate the right kinds of skills—and eagerness to gain the ones they don't—to actually land the job?
- Can we further equip students with networks of colleagues and professional connections to help the student self-assess: is this the right job for me? Am I happy in it? Do I want to seek a more permanent position or do I need to acquire a different set of skills to make me competitive doing something else? How can they share what they now know with the rest of the students in the program? How do they grow their own forms of job expertise through this process?

In the case of the hyperpragmatic approach, the program sees what appears to be a finite problem, tries to solve it using existing structures and measures, then traces and assesses how that specific problem gets better or worse over time. Accountability assumes problems and their solutions to be networked, recursive, and reciprocal—students aren't lacking opportunities because they don't know how to search the university jobs database, but rather because they are missing a competency for true professional growth in job seeking, which is a networked, relational activity requiring a professional communication of its own. Programs, therefore, are not responsible for simply ensuring students know how to search a database and write a cover letter, but rather are accountable to students, industries, and the professional communities our students will join by growing the professional networking, relationship development, industry outreach, and student support capabilities that helps students grow as professionals and within professions outside of our classrooms.

By establishing a practice of networked, cooperative understanding of PTW itself and its role in organizations, PTW students see how they fit into collectives, moving away from individualist practices. For example, our program enacts and articulates the accountability heuristic by using its questions and prompts to assess, inform, and guide program actions. Through curricula that build these skills, students find jobs for other students in their classes, exchanging job ads and contacts. As they become employed or advance as hiring managers,

they recruit their classmates to strong teams of technical writers. When they see problems in the workplace, they build on these networking skills to form coalitions for change. All of these specific outcomes are the topic of another study altogether; but anecdotally we report that the concept of accountability, as it drives the operation of the program, is something we model in practice, teach explicitly, and then give students a space to practice and deploy on their own. Such practice reflects the ways in which we are, of course, accountable to our students and helping them find fulfilling career outcomes, but also to our industry partners who work with us and the profession we are shaping through our graduates. We imagine ourselves as part of the ecosystem of professional and technical writers and communicators across workplaces, and we find that the accountability principle helps shape curriculum in ways that are not merely responsive or beholden to workplace trends but rather help shape the profession as a whole in positive ways.

We conclude in the section that follows by discussing the outcomes of this heuristic and how it has guided program revision along three lines: curricular change, ongoing engagement and relationship-building, and professional development, the final of which has become a keystone in our curricular and extra-curricular programming across our program.

Conclusion: Scaling Accountability Across PTW Programs

Finally, we want to end with three specific ways we have used the accountability model to shape our program and practices in curriculum, engagement, and—what we see as the keystone change in our program—professional development—as providing concrete recommendations for practices other programs can begin or continue to change and enhance when adopting an accountability model.

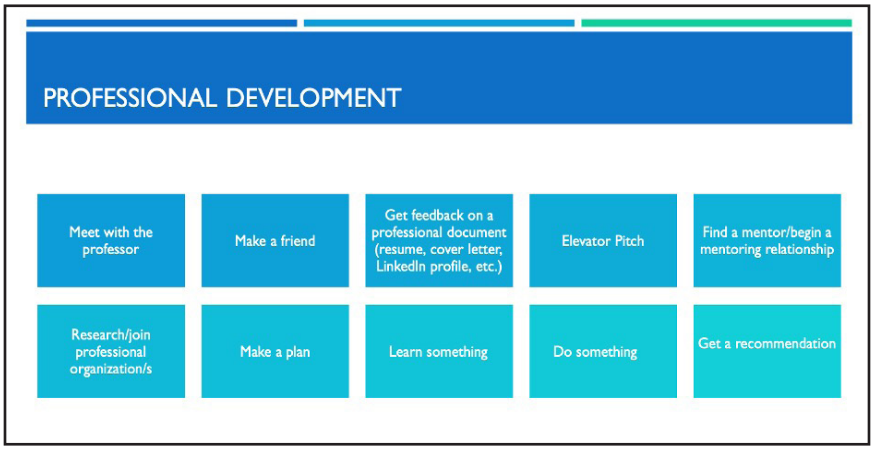
Accountable curricular change. Following our initial focus groups, we began a series of focused changes to our current courses, including moving all core courses to a hybrid model. We piloted and assessed this change before scaling it across the program, which was particularly fortuitous in light of the 2020 COVID-19 pandemic. Each course was reviewed to incorporate professional development curricula as well (more discussed on this below) as to encourage student development in the professional skills specifically called out by our Board in focus groups. Finally, continual assessment of industry needs

and student gaps have driven new course additions within our program and hiring, including adding a new course in user experience design as well a social justice course, taught initially as a topics course but now as a recurring offering. In these cases, accountability to students, industry, and profession drove these changes, which were also incremental and assessed along the way to ensure they were responsive and appropriate to needs.

Engagement and Relationship Building. Critical to our work has been the continued inclusion of our Advisory Board in our program's work. Advisory Board members have active roles in our professional development activities, participate in annual meetings and feedback sessions, and facilitate meaningful professional connections for our students and faculty through internships, information sessions, networking, guest talks, client projects, and more. The long-term relationship between the program and the Board helps students to build and faculty to model how to build and sustain community, client, and professional relationships over the long term in ways that are critical to student learning, program growth, and professional engagement.

Professional Development. Our professional development programming is perhaps our most visible signifier of the ongoing work we are doing to grow in accountability. Originally developed in fall 2018 and fully launched across our program by fall 2019, the professional development curriculum involves three to five assignments per course focused on motivating students to practice developing the professional skills identified as essential for technical writers, such as attending a professional event or making an introduction between colleagues. Completing the professional development assignments is currently worth a minimum of 10% of a student's grade in each core course in our program, and is worth up to 30% of the grade in some courses. Professional development has grown beyond in-class curricula to bi-annual professional development forums, where Board members as well as alumni and other professionals come to share their expertise with students on a range of topics, from improving interview skills to project management. Figure 1 below outlines the professional development activities; we discussed these with our Advisory Board in Focus Group 3 and continue to adopt and assess these activities.

Figure 1.



Professional development coursework, we hold, fills a key gap across programs that could be easily adopted by other programs to start building accountable practices in a variety of ways. As we have conceived of them, professional development assignments build the meta-professional skills that the Board described in Focus Group 1 as desired and essential for technical writers. Although the coursework in our PTW programs implicitly suggested the development of these meta-professional skills for the successful completion of other coursework, we found that students needed clearer signaling from our programs that we expected them to actively practice developing these skills. (See Table 2 for where this learning was occurring.) Furthermore, these assignments don't just ask students to engage in rote industry-led activities; rather, they offer an opportunity for assessing and understanding their own learning and growth, building and engaging in networks, understanding how professions work, and creating a roadmap for future coalition-building as professionals so that they can operate as empowered professionals ready to enact change once on the job.

Professional development assignments are also tailored to course objectives, and—critically for our Board—require professional outreach to industry experts as part of network-building. Professional development in our class on social justice, for example, included a mapping tool for students to plan their next career steps and execute at least several of those initial steps. In document design, students had to choose a tool or software and learn how to use it. The assignment allowed for novices to reach mastery, and for students completely un-

familiar with a tool to become novices. Both assignments allowed for students to decide, with some faculty-led facilitation, how to use the assignment to professionalize.

Across our PTW programs, we intend for students to carry forward the notion of accountability as practiced across curriculum, engagement, and professional development as well. We encourage students to build their own mentoring relationships—and their own abilities as mentors—so that they can build a depth of mentor and mentee relationships over time. Faculty engage broadly across a wide range of professionals and industries across classes in ways guided by critical engagement and accountability so that students do not simply work for free. We equip students with toolsets for seeing and changing problematic practices, and we give them a network beyond just program faculty and students, so that they adopt that additional "check" on their experiences. Through all of these activities, we believe we encourage and strengthen the notion of accountability past the program to the students themselves and the professions they will shape, challenging them to adopt accountable practices as well once they are out in the "real world." The accountable model equips graduates of our programs with the broad PTW skills and reflexive professional capabilities that have the capacity to make them change agents and think beyond the hyperpragmatic as their careers continue to grow well beyond our classrooms.

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