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With this issue, we will be ending our terms as editors of Programmatic Perspectives. It is with a conflicted heart that we present our final issue. Although we’re sad to see our tenure end, we’re excited with the thought that new editors will take the journal in new and important directions. For Tracy, this journal has represented a huge chunk of her academic career, starting with its beginnings in 2009 when it was founded by her, Karla Saari Kitalong, and Bill Williamson. In 2012, Kirk joined Tracy as editor, and he has enjoyed the opportunity to learn from this process as well as to work with a great slate of editors and authors over the years.

Since its founding seven years ago, Programmatic Perspectives has grown significantly in scope and depth. It has contributed outstanding articles to the programmatic academic canon in Technical Communication and has become a central venue for publishing work and sharing ideas on programs and program development in the field. We’ve been proud to have been a part of its growth, and the entries in this issue contribute to this goal of expanding our understanding of programmatic research in the field.

In “Extending Participatory Assessment to STEM, Community, and Industry Stakeholders: Rhetorical Work and Ethical Considerations,” Kyle P. Vealey and Charlotte Hyde argue for the inclusion of external stakeholders in the program assessment process. The authors present an expanded concept of participatory assessment that focuses beyond program objectives and learning outcomes to include the broader rhetorical situation of the workplace. They offer a heuristic to promote ethical and reflective use of feedback from external stakeholders during the assessment process.
Brett H. Say investigates the challenges and benefits of adopting outcomes-based assessment for graduate-level programs in professional writing and technical communication. He prompts administrators to further discuss differences in learning outcomes for undergraduate and graduate programs.

Shifting away from program assessment, Nick Hall looks closely at the positioning of technical and professional communication programs in relation to other academic departments. He uses the literature to illuminate the history of technical and professional communication programs within the broader context of writing programs. He then describes current models for positioning these programs in the larger university context and suggests further areas for research.

Deb Balzhiser, Paul Sawyer, Shen Womack-Smith, and J. A. Smith apply participatory design research to the development of interdisciplinary graduate programs at a small rural university. The investigators used a questionnaire and focus groups with workplace professionals to help develop a program that meets the needs of professional writing, media journalism, and public relations. The authors provide insights into the participatory design model as a method for creating a new curriculum.

Drawing on extensive hands-on experience, Tharon W. Howard outlines the primary challenges and considerations for installing a usability and user-experience testing facility in the academic setting. The recommendations in this article serve as a guide for other programs to fund, develop, and maintain similar facilities, providing students with invaluable experience before entering the workforce.

The Program Showcases in this issue indicate a breadth and depth of technical communication programs. Dan Jones describes the interdisciplinary PhD in Texts and Technology at the University of Central Florida. Felicia Chong and Jim Nugent trace the history of the professional writing track at Oakland University. Meg Van Baalen-Wood and Mike Knievel describe the professional writing minor at the University of Wyoming, highlighting the minor’s benefits to students and the challenges in funding, logistics, and administrative priorities.

This issue also features three Curriculum Showcases, each describing a student-centered approach to developing and teaching courses. Rudy McDaniel explores an interdisciplinary course in the University of Central Florida’s Texts and Technology PhD program. This course teaches computer programming for humanities students, encouraging them to apply programming to their current research interests. However, coursework cannot always prepare students for every possible software program and technol-
ogy available in the workplace. Nicholas Carrington describes a course at Cedarville University that prepares students for learning new technology in the workplace. The course focuses on the ability to learn new technology and not necessarily on the technology itself. Erin A. Frost builds on her previous Programmatic Perspectives article, which explored apparent feminist pedagogy and embodiment in a face-to-face learning environment. In this Curriculum Showcase, she extends the conversation to a digital learning environment, describing the impact of apparent feminist pedagogies on student learning, particularly in an online graduate seminar.

The guest editorial from Michele Simmons, Kristen Moore, and Patricia Sullivan highlights the mentoring network initiated by Women in Technical Communication. They report on the current climate of mentoring in technical communication, particularly for women faculty, as well as future needs for mentoring and training of mentors.


We hope you enjoy the issue and we look forward to what future issues will contribute to our understanding of programmatic research in the field.

Tracy and Kirk
Extending Participatory Assessment to STEM, Community, and Industry Stakeholders: Rhetorical Work and Ethical Considerations

Kyle P. Vealey  
Purdue University

Charlotte Hyde  
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Abstract. This article argues that extending the scope of participatory program assessment to include external stakeholders, such as the STEM disciplines, community organizations, and industry representatives, requires an understanding of program assessment as complex rhetorical work. In doing so, the focus of participatory program assessment is not only on identifying learning objectives and measuring whether or not those outcomes are achieved by students but also on ways of rhetorically crafting programmatic goals that are of value to a variety of stakeholders in a variety of institutional contexts. Such rhetorical work calls for careful consideration of how professional writing programs solicit, value, and make use of feedback from different stakeholders. We offer one possible approach in the form of a question-based heuristic designed to sustain reflection on the ethics of engaging external stakeholders throughout the participatory assessment process.

Keywords. participatory program assessment, STEM, community, industry, ethics

In their 2007 essay, Michael Salvo and Jingfang Ren offered a participatory model of assessment focused on local examinations of programmatic goals and outcomes by negotiating “among various internal and program stakeholders, including students, instructors, and administrators” (p. 424). Citing their internal review of Purdue University’s Professional Writing Program, Salvo and Ren based their new model of assessment in participatory and user-centered design (Spinuzzi, 2005). Salvo characterized participatory-centered design as a “process of designing with users...
Extending Participatory Assessment to STEM, Community, and Industry Stakeholders

and stakeholders rather than designing for them” (2001, p. 273). Incorporating participatory design into program assessment, then, allows for an evaluation that leaves room for stakeholders to help shape the direction of the program. Unlike traditional forms of assessment that are often conducted by program administrators or external reviewers, the driving force behind participatory assessment is the way it considers students as full-fledged participants with valuable insight on how to improve program goals and outcomes. Overall, Salvo and Ren learned valuable information soliciting feedback from students, instructors, faculty members, and administrators. As they articulated, the scope of participatory assessment allows for the inclusion of “secondary stakeholders such as industry representatives who hire program graduates, department and university administrators, as well as program administrators and academic advisors” (Salvo & Ren, 2007, p. 424).

Using Salvo and Ren’s methodology for program assessment as a starting place, we explore the rhetorical work and ethical considerations required in extending participatory program assessment’s purview to include STEM disciplines, community organizations, and industry stakeholders. In doing so, we offer a rhetorical and ethical framework that builds on Salvo and Ren’s work by situating participatory program assessment as the process of continually negotiating and rhetorically crafting program goals that are of value to a variety of stakeholders in a variety of institutional contexts. Such rhetorical work likewise necessitates that we ethically consider how we conduct our assessment practices and the impact those practices have on all stakeholders involved. We need, in other words, a flexible framework that can carefully scaffold participatory assessment in an ethical and responsible way. In what follows, we seek to provide such a framework. To do so, we first articulate the advantages of extending participatory assessment to external stakeholders. We then describe the corollary risks of such a move in order to develop an ethical heuristic that calls for continual reflection on how stakeholders are engaged throughout the participatory assessment process.

**Ethical Participation in Program Assessment**

As Salvo and Ren (2007) suggested, a participatory-driven model of assessment reflects an important shift in discussions of usability and user-centered design, moving the focus from user evaluations to user engagement. Salvo (2001) described such a shift as a move from “observation of users to participation *with* users” (p. 273). Participation, in other words, means co-designing and co-decision-making with participants who have
a stake in the process. Salvo thus positioned dialogic ethics as the driving force of user-centered design and called for “full user-participation rather than mere user-representation in the design process” (p. 275). Indeed, from Robert R. Johnson’s (1998) work on user-centered technology to Liza Potts’ (2013) recent examination of participatory culture in disaster response, the work of professional and technical communicators has increasingly been reframed as user- and participant-advocacy. As Sam Dragga (2010) articulated, technical communicators are ethically obligated to maintain “the centrality of humanity” in scientific and technical work (p. 227). “The trick,” Dragga suggested, “is negotiating ethically if people possess unequal power, money, education, experience, sensitivity, flexibility, and the like” (p. 227). Our engagement with stakeholders, whoever they are, requires us to cautiously and carefully reflect on our decision-making processes and the impact such actions will have on all those involved.

The study of ethics is a vast and diverse terrain that crosses and blurs disciplinary boundaries. Professional and technical research, in particular, has characterized ethics as a practical art situated in local and dynamic contexts. More often than not, ethical decisions result not only from one actor but, as Mike Markel (2001) argued, from various stakeholders engaged in a collective and messy process of deliberation (p. 127). Drawing on Markel’s work, J. Blake Scott (2013) likewise suggested that ethics is an open process of inquiry that takes place among stakeholders with conflicting perspectives. An ideal ethical inquiry, in this sense, involves participants collaboratively determining what the best course of action would be. Michele Simmons (2007), however, found that the extent to which stakeholders are able to participate depends on various institutional practices and policies that enable or constrain participation. All participation, Simmons reminds us, is not equal (p. 6). Through an exploration of citizen involvement in environmental policy decisions, Simmons offered technical and professional communication a critical and flexible framework intended to interrogate “who participates, who is left out, who is allowed to speak, who listens, and how these voices are integrated into the resulting policy” (p. 14). In a similar way, we propose a framework that asks similar questions with regard to program assessment’s engagement with external stakeholders. To be clear, our goal is not to stifle assessment’s engagement with the STEM fields, community organizations, and industry representatives. Rather, we offer a critical framework that can help us scaffold approaches to establishing, maintaining, and strengthening these relationships in ethical ways.
Extending Participatory Assessment to STEM, Community, and Industry Stakeholders

**Situating Participatory Program Assessment**

Scholars in professional, technical, and scientific communication have long recognized that externally-mandated reviews of professional and technical communication programs generally aim to assess how well students achieve particular learning outcomes established by the program (Allen, 2004; St. Amant & Nahrwold, 2007). In this model, the process of program assessment was conducted as a holistic examination of a program occurring *after* learning outcomes were established and codified. Similarly, Chris Anson (2010) argued assessment in professional writing tends to distinguish course-level from program-level assessment. Course-level assessment, on the one hand, focuses its efforts on improving and supporting student learning in local contexts such as the classroom (Anson, 2010, p. 12). Program-level assessment, on the other hand, works toward making broader, curricular changes, particularly when a program perceives it has failed to meet its desired outcomes (p. 12). In other words, discussions of program assessment often describe it in reactive terms, whereby a gap between desired learning outcomes and current performance trends occasions faculty and administrators to retrospectively account for divergences. The end goal of program assessment in this view is to make sense of such gaps and respond by enacting curricular changes at the programmatic level.

Similarly, Selim and Pet-Armacost (2004) suggested that the work of program assessment involves “the systematic and ongoing method of gathering, analyzing, and using information from various sources about a program and measuring program outcomes in order to improve student learning” (p. 10). Essential to Selim and Pet-Armacost’s definition was their emphasis on assessment as an ongoing activity aimed at change. Ann Brady, Erik Hayenga, and Jingfang Ren’s work (2012) exemplified this form of program assessment by examining how programmatic changes impacted student learning. In their detailed account of three assessment paradigms enacted at Michigan Technological University, they described how programmatic changes, such as designing courses, revising graduation requirements, and offering internships and other professional opportunities to students, were programmatic ways of improving student learning (p. 114). While this kind of program assessment is not entirely divorced from course-level assessment, its attempts to improve local learning are enacted through both large and small institutional changes.

James F. Porter, Patricia Sullivan, Stuart Blythe, Jeffrey T. Grabill, and Libby Miles (2000) provided a useful methodology for understanding the
impact small changes have on everyday practices in institutional contexts. As they suggested, it is important to remember that institutions, while notoriously difficult to change, “are not monoliths; they are rhetorically constructed human designs (whose power is reinforced by buildings, laws, traditions, and knowledge-making practices) and so are changeable” (p. 611). While we do not mean to conflate the idea of institutions with academic programs, we find productive connections between Porter et al.’s understanding of how to go about enacting institutional change and traditional discussions of program assessment. Porter et al. described their frustrations with

the gap between local actions and more global critiques...we are frustrated, in other words, when global critiques exist only in the form of ideal cases or statements, which all too often bracket off discussions of materiality and economic constraints in favor of working out the best case scenario—which, all too often, does not come to pass. (p. 615)

As an alternative to “ideal cases or statements,” they argued that “[institutional] critique needs an action plan” in the form of rhetorical strategies that can be modified and enacted across various contexts (p. 616). These rhetorical strategies “aim to change the practices of institutional representatives and to improve the conditions of those affected by and served by institutions: especially, within our own field, writers, students, part-time composition teachers, workers, local communities, and those not traditionally served by the university” (p. 611). In seeking to improve the institutional conditions of diverse stakeholders, institutional critique takes the form of a critical practice attuned to how institutions make decisions through the use of established rhetorical systems. Because these systems are rhetorically constructed, they can be rhetorically altered, modified, and improved for marginalized stakeholders.

We find productive connections between the methodology and practices of institutional critique and the rhetorical work of program assessment. We align our understanding of program assessment with Salvo and Ren’s participatory model and place their work into conversation with Porter et al.’s rhetorical methodology. Doing so, we wager, enables professional and technical communication programs to examine feedback from diverse stakeholders as it conducts an iterative and multi-perspectival process of identity building. In other words, we see program assessment as a complex process of listening to and working with numerous stakeholders outside of the program in order to articulate “not only who we are but also
who we want to become” (Salvo & Ren, 2007, p. 426). Paul Anderson (1995), who Salvo and Ren cited as foundational to their participatory model, likewise argued that “a multiperspectival, multivoiced evaluation process… [enables] practicing professionals and educators to work together in a way that respects the validity of each stakeholder group’s perspective” (p. 633). The work of participatory program assessment, in other words, involves both listening to and negotiating with multiple—and sometimes conflicting—stakeholder voices.

In “Assessing Professional Writing Programs Using Technology as a Site of Praxis,” Jeffrey Jablonski and Ed Nagelhout (2010) took Salvo and Ren’s emphasis on stakeholder contributions to a new level by suggesting that professional writing programs are themselves “the property of all stakeholders” impacted by the program and its learning outcomes (p. 173). Indeed, program assessment for Jablonski and Nagelhout meant building and maintaining an academic program that is responsive to all of its stakeholders and their communication needs (p. 173). However, they argued that such a view of program assessment cannot be attained through traditional approaches to assessment and instead requires “a complex use of assessment strategies [that] underlie program development goals” (Jablonski & Nagelhout, 2010, p. 173). William Hart-Davidson (2010) reflected on Jablonski and Nagelhout’s radical claim and suggested that professional writing programs are, in fact, uniquely suited to contribute to and improve social well-being (p. 190). Much like Porter et al.’s (2000) institutional critique—which aims to improve the institutional conditions of marginalized voices—program assessment can be a means of positive social change for a number of stakeholders.

Put simply, we understand program assessment as complex, rhetorical work. Moreover, we argue that program assessment can and should work toward institutional change by rhetorically revising, tinkering, and reframing a program’s identity. From this perspective, we see program assessment as something more than a summative account of divergences between student performance trends and desired outcomes; it is, rather, a highly situated and inventive process that can occasion opportunities for change. We likewise heed Charles H. Sides’ (2007) advice:

In an era in which assessment has become the watchword of all things academic, we need…to pause and reflect. Before institutions and individuals engage in program assessment, it is important to devote time and effort in analyzing and reflecting on not only such practical concerns as purpose and structure of reviews, but also on the fundamental question of why we do it all. (p. 440)
In what follows, we juxtapose the benefits of including secondary stakeholders in participatory program assessment with the risks it introduces to professional and technical communication programs. Indeed, our exploration finds its motivation from arguments suggesting that all participation is not necessarily equal (Huot, 2000; Simmons, 2007).

**Ethically Engaging Stakeholders**

In charting out the future of their own program evaluation, Salvo and Ren (2007) noted that further assessments should also include secondary stakeholders such as “industry representatives who hire program graduates, department and university administrators, as well as program administrators and academic advisors” (p. 424). Brady, Hayenga, and Ren (2012), in their account of participatory assessment at Michigan Technological University, extended the scope of participants to include an undergraduate committee of scientific and technical communication majors as well as an advisory board made up of industry representatives (p. 128). However, while participatory program assessment productively engages faculty, students, and administrators in the assessment process, widening its scope to include external stakeholders presents both benefits and risks. As Clay Spinuzzi (2005) described, participatory design “attempts to examine the tacit, invisible aspects of human activity; assumes that these aspects can be productively and ethically examined through design partnerships with participants” (p. 164). As Elizabeth A. Smith (2001) defined it, tacit knowledge is “practical, action-oriented knowledge or ‘know-how’ [that is] based on practice acquired by personal experience, seldom expressed openly, [and] often resembles intuition” (p. 314). While articulating tacit knowledge is often fraught with difficulties, there is value in providing STEM, community, and industry stakeholders the opportunity to communicate the intuitive and embodied know-how that supports their work on a day-to-day basis. We can elicit and benefit from this tacit knowledge by inviting stakeholders to share stories from their local contexts of work. It is important to emphasize here that the locality of tacit knowledge means that such know-how is not always transferable across contexts. However, creating a dialogue with STEM, community, and industry stakeholders about the role of tacit knowledge in their local work settings can provide both programs and participants with a new or revised language to articulate the skills and competencies vital to 21st century work.

Extending participatory assessment to external stakeholders also entails considerable risk. Indeed, we argue diversifying participatory program assessment to include external stakeholders requires a careful and crit-
Extending Participatory Assessment to STEM, Community, and Industry Stakeholders

cal engagement with how we invite stakeholders to participate; how we solicit, gather, and analyze stakeholder feedback; and how we implement such feedback in ethically sound ways. Building on Salvo and Ren’s work, we explore the methodological implications of extending participatory program assessment to include three diverse groups of stakeholders: specifically, representatives from the STEM disciplines, members of the local communities and community organizations, and industry professionals.

Table 1 summarizes the risks and benefits of working with stakeholders from STEM disciplines, industry, and the community.

Table 1. Stakeholder Summary

<table>
<thead>
<tr>
<th>Stakeholder Category</th>
<th>Example Stakeholders</th>
<th>Benefits</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM disciplines</td>
<td>Mechanical engineering, applied physics, nursing, computer science</td>
<td>Helps programs understand STEM-specific conventions, genres, and rhetorical situations while fostering the field’s connections to marginalized parts of STEM such as nursing or speech pathology.</td>
<td>Runs the risk of treating STEM as a monolith and homogeneous entity, marginalizing the rhetorical differences that emerge across STEM fields. This also risks reducing writing instruction to a service-only discipline.</td>
</tr>
<tr>
<td>Local communities</td>
<td>Nonprofit organizations, local advocacy groups, community health centers</td>
<td>Helps reframe the work of professional and technical communication as potentially aimed toward community engagement and civic participation, particularly in regards to social justice.</td>
<td>Runs the risk of creating non-reciprocal relationships with communities that introduce potential harm to their day-to-day operations. Also, community participation may be unfairly devalued when juxtaposed with STEM or industry contributions.</td>
</tr>
<tr>
<td>Industry practitioners</td>
<td>Design and engineering firms, system designers, information technology contractors, and open-source software developers</td>
<td>Helps programs implement learning outcomes sensitive to: dynamic challenges in the modern workplace, technologies that enable and constrain technical communication’s work.</td>
<td>Runs the risk of treating feedback from industry stakeholders as immutable standards of excellence that determine, rather than shape, a program’s identity and goals.</td>
</tr>
</tbody>
</table>
STEM Disciplines

While many discussions often draw a stark contrast between the STEM fields’ adherence to positivistic conceptions of writing and rhetorical instruction, we instead ask here: what productive role can STEM play in participatory program assessment? That is, how can engaging diverse STEM representatives contribute to shaping programmatic goals in a critical and ethical manner? STEM representatives can provide us with disciplinary insight into particular genre conventions and distinctive rhetorical situations that comprise STEM-related writing tasks. In other words, representatives from different STEM fields can clue us into the numerous ways writing and communication intersect and constitute scientific and technical work on a day-to-day basis (Latour, 1979; Latour, 1987). Moreover, in maintaining STEM partnerships, a participatory program assessment can help historical and contemporary attempts to build bridges between professional and technical communication programs and many different STEM fields (Herndl & Cutlip, 2013). Specifically, such a participatory engagement might help us create and maintain connections with scientific and technical fields that do not enjoy the disciplinary visibility that is often associated with STEM writ large, such as the field of nursing or speech pathology.

Individuals working in STEM disciplines certainly provide the field of professional and technical communication with valuable partnerships. However, it is important for us to consider the corollary risks such a partnership entails. In particular, we need to question how to bring STEM practitioners into a participatory program assessment without privileging STEM expectations over rhetorical expertise; without privileging particular fields in STEM, such as engineering, over marginalized ones, such as nursing or speech pathology; and ensuring that programs in professional and technical communication are not solely in service of STEM expectations.

Inviting the feedback of representatives in STEM fields could possibly lead to programs struggling to meet competing goals. Many professional and technical communication programs serve both their own majors, who may seek employment in STEM-related fields and STEM students, who are seeking an understanding of specific disciplinary conventions that will aid them in their education and career. In each case, the writing requirements are different and these variations require program administrators to locate generalizable methods students can use to navigate discipline-specific requirements. To complicate matters further, job advertisements for professional and technical communicators are increasingly requiring skills that would typically be learned in the STEM disciplines. The following
advertisements simultaneously demonstrate the need to engage STEM representatives in participatory program assessment and the resulting risks of understanding professional and technical communication curriculum solely in terms of STEM expectations:

Google: Ability to understand technology, demonstrated either by having an engineering degree, by having been employed as an engineer for 3 years, or by having successfully written about engineering and technology for 5 years. (Google Technical Writer, 2014)

L3 Communications: Technical background in electrical engineering, hardware and software desired. (L3 Communications Engineering Technical Writer, 2014)

Technical Staffing Group: 1–5+ years of related (pharmaceutical or Biotechnology) Technical Writing experience in a similar manufacturing/production environment preferred. (Technical Staffing Group, 2014)

These job advertisements suggest a strong desire to hire professional and technical communicators who are situated in STEM fields and can demonstrate effective writing and communication skills. The danger here, of course, is a view of writing and communication in what Dombrowski (1992) characterized as the “window pane or conduit theories of language, [assuming] that the object of technical communication are ‘out there’ already” (p. 74). In other words, the somewhat paradoxical risk of engaging STEM disciplines is an unintentional reification of the false dichotomy between STEM only doing science and professional and technical communication only doing writing.

The very large and diverse nature of the STEM disciplines themselves raises questions of how to work with those disciplines without privileging one discipline over the other (for example, privileging engineering over biology). Of course a program cannot expect to tackle every genre and every nuance of every field, so instead we must consider how to tackle rhetorical thinking in the classroom so that students, both those in the field of professional and technical communication and those in the STEM fields are prepared to assess and negotiate the various genres. Including every stakeholder in a participatory program assessment is impossible, as Spinuzzi (2005) demonstrated:

in most cases, not every user can be involved in a participatory design study. For instance, if a participatory design study involved redesigning an interface used by 2000 workers, it’s simply not
practical or manageable to involve every worker in workshops and prototyping sessions. Instead, workers must be \textit{represented} in the same way that politicians are elected to represent the interests and view of their constituencies. (p. 170)

Similarly, not every field can be represented fully, so we must find ways to represent each STEM field in the best way possible by including representatives from each field. As Anderson (1995) cautioned, “practicing professionals and educators are employed by different types of organizations with very different traditions and missions, the two groups tend to emphasize different goals for education. Many practicing professionals want newly hired graduates to become immediately productive on the job” (p. 629). From the job ads above, professionals are very specific about the forms of knowledge they expect technical writers to have upon arrival, suggesting, in Anderson’s terms, that “[companies] want programs to require students to learn the specific technological or scientific subjects dealt with by their own organizations and to provide students with detailed instructions in the particular document types and computer programs that are used at their own employers’ sites” (p. 629). These are heavy expectations for a professional and technical communication program to bear, so how can we work to address these expectations while still fulfilling the goals of a program that direct students to achieve a more sophisticated knowledge of writing not tied to one specific disciplinary outlook?

\textbf{Community Organizations}

Engaging local community organizations offers professional and technical communication programs similar benefits and risks. Community organizations are diverse, local institutions that operate under their own distinct cultures, norms, and expectations. Partnering with local communities allows professional and technical communication students to experience the difficulties of working for and with organizations that may be underrepresented or marginalized. Moreover, Brenton D. Faber’s \textit{Community, Action, and Organizational Change} (2002) explored the value of engaging local communities in professional and technical communication. For our purposes here, bringing community partners into the assessment process can help address the problem Faber identified as occurring “when [individuals are] given partial information and little time, but [face] actual consequences, people rely on quick, inconclusive, surface readings of the stories they see happening around them” (p. 21). That is, working with community partners gives students the experience and ability to identify
the importance of taking the time to stop and learn the nuances of the particular partner’s culture they are seeking to work with while at the same time reframing the students’ work as contributing real value to the community partner. This involves understanding community stakeholders as composed of diverse voices, histories, and values that call for careful and reciprocal engagement. Finally, engaging local communities reframes the work of professional and technical communication as not solely tethered to industry practices but as a form of community engagement and social justice (Thomas & McShane, 2007). In this sense, inviting the community partners to participate in the program assessment can help the administration and instructors understand not only where partnerships with community partners can fail, but also how to help guide students to work with and ethically consider what Hart-Davidson (2010) called the constraints and expectations that enable “many-to-many interactions needed for communities to foster development in writing ability” (p. 191).

While bringing local communities into the participatory assessment process offers benefits to both programs and community partners, there are substantial risks to these local communities that require careful consideration. In other words, we should attend to the risks that we, as an academic community, can introduce to community participants. We may, for example, create non-reciprocal relationships with community members, gathering valuable information from them while offering nothing in return. Or, in a worse situation, community partners may find themselves being pressured into providing information they would otherwise not communicate—thus opening the community to potential harm. Unfortunately, community partners are often well versed in poor partnerships with academic programs. Such fraught histories can make establishing relationships with communities both difficult and unsustainable.

In addition to attending to the reciprocity of the partnership, technical communication programs will want to attend to the possible privileging of feedback from individuals in the STEM disciplines and/or industry partners above the feedback received from community partners. Because technical communication as a field often focuses on industry or STEM partners, we would need to identify ways to ensure that we are not eliciting feedback and participation from community partners only to have that feedback become completely eclipsed by the information and feedback received from STEM discipline stakeholders, from programs as diverse as mechanical engineering, applied physics, nursing, and computer science.
Industry Stakeholders

The complex and often-fraught relationship between academics and industry practitioners remains an unfortunate hallmark feature of professional and technical communication research. As Barbara Mirel and Rachel Spilka (2010) described, “many industry professionals…have claimed for years and still claim that academic research does not meet their needs because it is overly theoretical, focuses on the wrong issues, and is years behind the times in regard to the effects of tools and technology on information development and knowledge management” (p. 3). In addition, Linn K. Bekins and Sean D. Williams (2006) made a compelling case that operating on the basis of academic/industry and theory/practice dichotomies obscures the fact that “students need to experience complex workplace situations that allow them to put theories into action, to see that [professional and technical communication’s] work has both utility and significance” (p. 291). However, Anderson (1995) suggested that despite the seemingly divided goals of educators and industry, “most employers want college graduates to possess flexible knowledge that enables them to adapt to new developments and new assignments; similarly, educators realize that they must provide students with skills that enable them to contribute rapidly to their employer’s efforts” (p. 629). Inviting industry participants into program assessment thus allows us to understand the dynamic and evolving challenges that are encountered across diverse work settings.

If industry partners want graduates to be able to hit the ground running with little training, then a technical communication program could benefit from receiving feedback on what particular tools and technology industry partners may expect students to know. However, as educators, we have a responsibility to the students that goes beyond specific tools and technologies, but working with industry partners allows us to create local dialogues and perhaps educate industry partners. As Anderson noted, working together could help us “deal with such differences in a way that respects the integrity of differing viewpoints” (p. 629).

Moreover, 21st century work environments are dynamic sites of inquiry, textured by various synchronous and asynchronous communication methods, collaborative platforms, and content management systems (Cooper, 1996; Slattery, 2005). Research has attended to the professional and pedagogical implications of these distributed work environments, particularly emphasizing how to prepare professional and technical communication students for digitally mediated workplaces (Spinuzzi, 2007; Slattery, 2007). By gathering feedback from industry stakeholders, professional writing
programs avoid the risk of preparing students for outdated modes of work and can focus efforts on making learning outcomes reflect modern workplace challenges. Industry participants, in other words, can describe and attest to current workplace communication challenges and the critical skills needed to navigate them. Such input is important to preparing professional and technical communicators to navigate these complex communication scenarios. In addition to providing situated accounts of workplace changes, soliciting feedback from industry participants can also make the work, expertise, and value of professional and technical communication programs visible to practitioners who may otherwise not be fully aware of specific programmatic goals, means, and outcomes.

Including industry stakeholders in program assessment, however, runs the risk of industry feedback being treated as an immutable standard of excellence. Similar to discussions hinging on distinctions between theoretical academic work and real work contexts of practice, industry feedback is often seen as capable of fully shaping and determining learning outcomes. As with the STEM disciplines and community partners, industry comprises a variety of cultures, each, again, with their own norms and expectations. Some industry partners value writing and communication within their organizations, some may not understand the value writing can bring to the organization, and still others may view writing as little more than a necessary evil. Professional and technical communicators can find themselves in a position of having to establish their professional legitimacy to their coworkers and perhaps even to the managers and leaders of their specific companies. William Hart-Davidson (2001) wrote of the struggle to establish legitimacy: “I…cannot deny the pressure I have felt in the workplace to articulate the basic concepts that underlay my value to a software development effort, for example, when working with the project team or communicating with management” (p. 147). Further stating the challenging situation led to his “contributions [seeming], at best mysterious to [his] coworkers” (Hart-Davidson, 2001, p. 147). Professional and technical communicators in the workplace often face this problem with their “mysterious contributions,” and dealing with these pressures and “mysteries” can lead to a situation where managers or colleagues hold more power than the technical communicator to question and guide the technical communication work.

Taking these power differentials into consideration reveals the risks of inviting industry partners into program assessment. The foremost risk here, as we see it, is inadvertently privileging an industry definition of effective communication, which may be incommensurable with local program goals.
or the professional and technical communication’s scholarly work. Additionally, working with industry partners may lead to risks for both parties when dealing with proprietary information. That is, many industry partners require technical communicators to sign non-disclosure agreements, and often those in industry may not feel comfortable sharing their documents with academic partners for fear of violating these agreements, leaving academic partners without the information they may need to accurately determine what types of strategies and tools they can provide students for working within these organizations. To this end, the power remains in the hands of the industry partner, possibly leading to increased tension over the very definition of professional and technical communication.

**Heuristic for Ethical Participation**

Our framework for extending participatory program assessment to STEM, community, and industry stakeholders is grounded in a heuristic-based approach to ethical inquiry (Sullivan & Porter, 1997; Markel, 2001; Simmons, 2007; Scott, 2013). As provisional and situational frameworks for thought and action, heuristics help us navigate complex and ill-defined situations. They provide flexible constraints that enable and sustain inventive work. Thus, heuristics, used in ethical inquiries, help us reflect on the meaning and impact of our actions, particularly in the way such actions positively or negatively affect others. The following heuristic is designed to draw attention to how stakeholders are being engaged in participatory program assessment.

![Figure 1. Heuristic for Ethical Participation](image)
assessment. The categories include: the representation of stakeholder diversity; power differentials among stakeholders; methods of reciprocal engagement; and the sustainability of stakeholder participation. These categories do not limit the heuristic’s scope to particular moments or assessment activities.

As Figure 1 shows, the heuristic is intended as a recursive process that will prompt more context-specific questions throughout all of the assessment’s phases.

**Stakeholder Diversity**

- Who are stakeholders of our program? Which of these stakeholders are most visible and why? Which are least visible and why? What stakeholders remain invisible or marginalized? How can these marginalized stakeholders be included? How do we categorize these stakeholders? Are our categories (such as the STEM disciplines) obscuring important differences among these stakeholders?

- How can we ensure that diverse stakeholder representatives are included in the program assessment? How can we ensure all stakeholder participants are given an opportunity to participate?

- What tacit knowledge (such as intuitive know-how, values, assumptions, or beliefs) will the stakeholders bring to the table? How will this tacit knowledge influence their understanding of professional and technical communication? Do stakeholders have different motivations for participating in the assessment process? How do those motivations shape their participation and feedback?

**Power Differentials**

- How do representatives of different stakeholders relate socially, culturally, or economically to one another? How will this influence our program assessment? What accommodations or arrangements are needed to provide each stakeholder with the greatest opportunity for participation?

- Which stakeholders will be directly affected by the program assessment? Who will be affected least? Which stakeholders will benefit most? Which stakeholders will benefit least? What risks are involved in stakeholder participation? How do these risks vary for different stakeholders?
Extending Participatory Assessment to STEM, Community, and Industry Stakeholders

- How will we recognize when stakeholder feedback is being marginalized or silenced? What will we do to create and maintain an open and safe dialogue with and between stakeholders?

Reciprocal Engagement

- How will we design methods of engagement that are sensitive to stakeholders and their local contexts? How will these methods of inquiry shape different stakeholders’ feedback? How will we collect information that ensures proprietary or sensitive information remains confidential and allows for participants to revise their feedback at any time?

- How will we ensure that the method of inquiry does not impose any assumptions or pre-established frameworks on stakeholders’ understanding of professional and technical communication? Likewise, how will we account for our own disciplinary frames that we bring to the table?

- How will we determine or establish a common language that accurately identifies the work of professional and technical communicators? How could we provide stakeholders with the opportunity to consider alternative conceptions of professional and technical communication? And how could we likewise consider alternative conceptions of professional and technical communication?

Sustainable Participation

- Do our assessment practices reflect the participatory principles of designing with stakeholders? How are we representing stakeholders in any of the program’s curricular changes?

- How will we negotiate conflicting feedback from different stakeholders? How will we ensure that stakeholders have equal opportunities to participate in ways best suited to them?

- Is stakeholder participation sustainable? If it is not, what changes might make it more sustainable?

The heuristic offers a way to conduct ongoing inquiries into local assessment contexts. Its categories of questions, in other words, are designed broadly to help a variety of professional and technical communication programs conduct ethical and reciprocal assessments attuned to many stakeholders.
Program Assessment as Rhetorical Work

Leveraging participant-focused inquiry for assessment is vital to professional and technical communication because it emphasizes an understanding of academic programs as complex adaptable systems capable of learning from other disciplinary perspectives and diverse communities of practice. Here, we have argued that from a participatory standpoint, program assessment is less about identifying a series of learning objectives and measuring whether or not those outcomes are achieved by students and more about continually negotiating and rhetorically crafting programmatic goals that are of value to a variety of stakeholders in a variety of institutional contexts. This understanding, we argue, makes program assessment complex rhetorical work. Participatory program assessment, in particular, rhetorically draws feedback from diverse stakeholders to facilitate, shape, and craft programmatic goals. Doing so reframes program assessment as an iterative process of crafting programmatic identity and goals that can continually negotiate divergences, gaps, or discontinuities between our own disciplinary values and the expectations of diverse and unequally represented stakeholders. However, such rhetorical work, as we have argued, necessitates that we think carefully and cautiously about our assessment practices. In particular, we must remain reflective of the way we value feedback from different stakeholders. Participatory program assessment thus calls us to ethically consider how we construct a program’s identity and establish its continuously evolving goals.

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Developing Learning Outcomes in Professional Writing and Technical Communication Programs: Obstacles, Benefits, and Potential for Graduate Program Improvement

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Abstract. This article seeks to provide additional insight into the value of outcomes-based assessment in professional writing and technical communication programs, particularly at the graduate level, and show how the adoption of outcomes-based assessment can address disciplinary topics of concern ranging from professionalization to development of a standard body of knowledge. The article explores commonly cited obstacles for the adoption of an outcomes-based assessment model within professional writing and technical communication programs and describes perceived benefits and potential approaches for program implementation. Focusing on the need for increased knowledge at the graduate program level, this article aims to highlight a specific gap in the literature and provoke future discussion among program administrators who have noted the pedagogical differences between undergraduate and graduate education.

Keywords. outcomes, graduate education, program assessment, body of knowledge, professional writing, technical communication

Primarily in response to the global trend of increased emphasis on curricular assessment, much has been written in recent years on the benefits of outcomes-based assessment as a means of assuring program validity in higher education. The discussion to date, however, has largely focused on undergraduate curricula with less emphasis on graduate programs of study. For professional writing and technical communication, this lack of emphasis is especially problematic as the field has experienced a significant increase in graduate programs of study over
the past ten years. In 2003, Kelli Cargile Cook, Charlotte Thralls, and Mark Zachry identified the existence of 12 doctoral programs that were explicitly aligned with the professional writing and technical communication field. That number now stands at 25 (Association of Teachers of Technical Writing: “PhD Programs,” January 2015). Further complications can be found in questions surrounding the nature of technical and professional communication, which currently struggles with a definitive body of knowledge (Coppola & Elliot, 2013; Hart & Baehr, 2013).

In order to understand how outcomes-based assessment is relevant to these issues, and the importance of assessing graduate education in the professional writing and technical communication arena, it is essential to examine the overall methods and benefits of its application. In doing so, graduate administrators can explore this trend objectively to decide what is right for their respective programs.

Outcomes-based assessment has often been identified by professional writing and technical communication researchers as a process inherently linked to academic ownership and program development (Allen, 2004; Barker, 2012; Savage, 2010). This linkage parallels a general tenet of outcomes-based assessment; outcomes should primarily support programmatic goals and be governed by primary stakeholders (Walvoord, 2010). With this tenet in mind, exploring the trend of outcomes-based assessment in professional writing and technical communication programs holds potential for disciplinary researchers to address issues of the field, such as professionalization (Blakeslee, 2001; Reamer, 2012; Carliner, 2012), curricular reform (Allen, 2004; Johnson-Eioloa & Selber, 2001; Carter, Anson, & Miller, 2003), certification (Barker, 2012; Turner & Rainey, 2004), and the development of professional writing and technical communication core competencies (Barker, 2012; Cook, 2002; Savage, 1999) that have long been points of concern. Exploring these issues within graduate professional writing and technical communication programs could be especially helpful due to the traditional role graduate programs play in forming disciplinary identity.

Even with the increased emphasis on outcomes-based assessment over the past several years, the commitment of professional writing and technical communication program administrators to explore this pedagogical framework at the graduate level is questionable at best, with many not fully convinced of its effectiveness and others lacking knowledge of the practice (Barker, 2012). As a result, the collection of literature on the topic is scant and new research is slow to emerge. What little literature exists often focuses on addressing the “why” of outcomes-based
Developing Learning Outcomes in Professional Writing and Technical Communication assessment in professional writing and technical communication programs rather than the “how” of its implementation. The latter, as I assert, is potentially a more important topic of discussion.

**Background and Context**

**Issues of Core Competencies in Professional Writing and Technical Communication Programs**

In a 2002 article written for *Technical Communication Quarterly*, Kelli Cargile Cook identified a lack of clearly defined literacies for professional writing and technical communication students as one of the primary obstacles of the field. Over 12 years later, the same lack of clarity continues to be a commonly cited problem within the professional writing and technical communication literature and is often said to affect tangential issues of the field, ranging from professionalization (Carliner, 2013) to outcomes-based assessment (Barker, 2012). Gerald Savage (2010) echoed Cook’s observation of poorly defined literacies, stating “technical communication has, as yet, few if any established standards for disciplinary knowledge, or what is coming to be called ‘core competencies’” (p. 162), while other researchers question why professional writing and technical communication programs have had such difficulty creating a unified program vision (Brady & Schreiber, 2013). A common speculation is, unlike other disciplines, professional writing and technical communication program content is uniquely distributed across various departments and disciplines. Often described as interdisciplinary (Heart & Baehr, 2013), the ambiguity of the term may cause confusion. Terms such as interdisciplinary, multidisciplinary, or intradisciplinary are used almost interchangeably in numerous contexts. Kirk St. Amant and Cindy Narwhold (2007) noted professional writing and technical communication programs “exist within a range of departments and divisions across the country but also even within the same state” (p. 409). Building on that observation, multidisciplinary typically “brings two or more disciplines to bear on a problem without integrating disciplinary components” while interdisciplinarity is “marked by a synthesis of disciplinary knowledge and methods” (Knight, Lattuca, Kimball, & Reason, 2013). The term interdisciplinary is used in this article as a more accurate representation of the nature of professional writing and technical communication programs today.

The fact that professional writing and technical communication practitioners and faculty still have trouble explaining what it is they do to the outside world (Hart & Baehr, 2013) has caused many to question whether the field truly has a shared ideology (Barker, 2012; Coppola and Elliott, 2013;
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Hart & Baehr, 2013), or is simply defined through individual experience and understanding (Carliner, 2012). From an administrative standpoint, lack of clarity on this topic could create serious pedagogical obstacles.

One obstacle posed by ill-defined competencies is the potential to make faculty feel unsupported in their teaching. Amy Driscoll and Swarup Wood (2007) observed, when professional writing and technical communication faculty are asked to teach competencies within their programs, many feel as though they must do so independently due to a perceived lack of support. This belief implies poorly defined competencies are not only discouraging faculty efforts but also potential faculty collaboration, something Linda Suskie notes is key to ensuring program outcomes provide value and can be effectively used by faculty and administrators (2004). A lack of collectively agreed upon competencies puts faculty in a difficult position where they must rely on individual experience instead of a disciplinary body of knowledge. In this atmosphere, faculty may “struggle to define course goals or define them too narrowly, and may have difficulty developing situated activities and assignments that achieve course goals” (Cook, 2002, p. 7). Lack of competency definition also puts students at risk by putting the rigor of their education in question. Ultimately, a lack of definitive core competencies restricts the professional writing and technical communication community as a whole, but graduate programs may be placed in a particularly difficult situation. The formation of academic literacies and goals are traits commonly linked to graduate-level attributes in higher education (Platow, 2012). If the field continues to experience issues with defining core competencies, then it stands to reason administrators of professional writing and technical communication graduate programs will also have issues justifying the validity of their curriculum.

A second problem, peripheral to ill-defined core competencies, is the lack of an agreed upon framework to integrate competencies into professional writing and technical communication teaching, something complicated by our interdisciplinarity. Professional writing and technical communication instructors come from varied disciplinary backgrounds which may inadvertently guide their instruction towards teaching the literacies of a specific field (e.g. technological literacies or rhetoric) instead of a broader, more representative set of professional writing and technical communication literacies (Cook, 2002). Other researchers have also noted this problem. Gerald J. Savage (2010) states, “Assessment processes presuppose a standard body of knowledge for the field in which an academic program participates” (p. 164) and Thomas Barker (2012) notes, “Unlike disciplines, such as nursing or engineering, that create curriculums man-
dated through their accrediting bodies, we have no such body” (p. 194). A pedagogical framework through which faculty effectively teach core competencies is something that must be developed and tested, especially within graduate programs (Coppola & Elliot, 2010) where the primary goal should be to ensure students are provided with “an expansive view of the field” (Johnson-Eilola & Selber, 2001).

The Need to Develop Outcomes Based Assessment within Graduate Professional Writing and Technical Communication Programs

A lack of curricular guidance and outcomes-based assessment at the graduate level is not a flaw unique to professional writing and technical communication programs, but one that is globally problematic in higher education (Haworth, 1996; Bilder & Conrad, 1996; Platow, 2012). What is unique when discussing graduate-level education and outcomes assessment, however, are the motivating factors which warrant increased attention on this topic, the first of which is an increasing number of students interested in pursuing graduate degrees.

Advances in technology over the past 20 years have increased the need for a highly trained workforce, creating an incentive for many to return to school to receive additional education or complete previous programs of study (Smith & Pourchot, as cited in Nanna, 2008, p. 19). However, a recent report by the Council of Graduate schools cites, although applications to graduate programs are on the rise, both acceptance and first-year graduate student dropout rates are also on the rise (Patton, 2012). The dichotomy of these trends poses the question of whether students are fully convinced of the added value of a post-baccalaureate degree in today’s economy. One possible explanation for this uncertainty could be a lack of definition regarding the outcomes of graduate degree programs. If students are not clear on what they stand to gain from a graduate degree, they are less likely to expend time, effort, and money towards that goal. In the professional writing and technical communication arena these concerns surface, either directly or indirectly, through questions surrounding professional identity, employability and, more recently, an increased interest in service learning (Brady & Schreiber, 2013; Kline & Barker, 2012; Bourelle, 2014; Youngblood & Mackiewicz, 2013).

Although universities are being held more accountable for producing proof of student learning, research related to the development of graduate-level learning outcomes has lagged behind research done at the undergraduate level. Jennifer Grant Haworth (1996) supported this claim
nearly 20 years ago by stating curricular assessment had largely been “an undergraduate phenomenon” and that “a systematic approach to ongoing assessment—particularly of student learning outcomes—has been virtually nonexistent at the postbaccalaureate level” (p. 90) and little has changed since (Ehrenberg, Jakubson, Groen, So, & Price, 2008; Manathunga, Pitt, & Critchley, 2009; Platow, 2012). Professional writing and technical communication programs have particularly struggled with this issue largely because, as Thomas Barker (2012) states, “The scholarship on ways to derive outcomes is scant in the technical communication literature” (p. 198). Even with this recognition, however, reasons for the lack of scholarship remain unclear.

Any time new methods are introduced to an environment with ingrained ideologies, there is potential for resistance. Some speculate resistance to outcomes-based assessment at the graduate level may be caused by a long-held belief that graduate education is seen as, “self-regulating through the oversight of professional organizations” or, “uniquely tied to individual disciplines and departments” causing many to believe there is no convincing reason to study program outcomes at the graduate-level (Bilder & Conrad, 1996, p. 5-6). Even if true, the interdisciplinary nature of professional writing and technical communication graduate programs and lack of a standard body of knowledge provides questionable resources for these programs to govern with. Outcomes-based assessment has the potential to address this issue by acting as an organizational framework and marker of program validity. Turner and Rainey (2004) argue, “If we are a profession, then we need a mechanism by which that profession can be judged and held accountable for its work” (p. 214) and others have supported that sentiment (Coppola & Elliot, 2010; Savage, 2010; Hart & Baehr, 2013). Outcomes-based assessment can be that mechanism, as it is already widely accepted in the realm of higher education and used by many professionally based disciplines for accreditation (e.g. engineering, medical professions, etc.). Moreover, program outcomes have the potential to address the sociopolitical issues and “lingering negative perceptions of the discipline” (Moore, O’Neill, & Huot, 2009 p. 110-111), as a tested pedagogical tool. A primary goal of outcomes-based assessment is, after all, to help faculty teach more effectively and administrators communicate the value of their programs (Yu, 2010).

As more students explore graduate education in professional writing and technical communication, it is important to keep the benefits of outcomes-based assessment in mind. Clearly articulated program outcomes provide evidence of what students stand to gain from enrolling in
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a graduate professional writing and technical communication program. If students do not understand the added value of a graduate education in professional writing and technical communication, they may be more likely to enroll in a program that is more outcomes driven. Luckily, professional writing and technical communication educators are uniquely qualified to craft learning outcomes as their discipline is inherently focused on distilling and communicating knowledge.

Obstacles to Implementation

One of the most commonly cited concerns among faculty and administration when exploring the implementation of outcomes-based assessment is outcomes have a perceived tendency to place students in a box, limiting their education to subject specific skills as well as their ability to explore interests outside of a particular context (Dobbins, Brooks, Scott, Rawlinson, & Norman, 2014). For example, if the outcomes of a technical writing program have a strong focus on teaching skills within one disciplinary context, such as information technology, the program risks narrowing the student’s ability to work outside of that context (Carliner, 2012). Moreover, positioning professional writing and technical communication within a specific context can reinforce the idea that professional writing and technical communication is something to be added to an existing curriculum rather than being a self-standing area of study (Carter et al., 2003). Since the interdisciplinary nature of professional writing and technical communication programs is often cited as one of its strengths, attempting to place professional writing and technical communication outcomes within a specific context is problematic for many faculty and any attempt to do so is bound to be met with some resistance.

Another obstacle for programs attempting to utilize an outcomes-based assessment model is the perception that outcomes development often occurs independently of the program with the needs of third-party stakeholders in mind (Dobbins et al., 2014). Professional writing and technical communication researchers such as Teena Carnegie (2007) have discussed this issue, stating outcomes-based assessment does not simply involve reviewing internal, programmatic goals but must often also address administrative issues such as rates of enrollment or program resources. She also notes that program assessment in the US frequently requires responding to larger, sociopolitical agendas and argues, “Rhetorically astute program directors should consider this larger context in the process of developing program assessment” (p. 447). For many instructors, this argument may be a troubling thought. Some faculty and program
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administrators may not be convinced that addressing economic or political issues at the program level is their responsibility and might worry that incorporating these concerns within the outcomes of their programs will effectively weaken the educational value of their degrees (Barrow, Behr, Deacy, McHardy, & Tempest, 2010). As Jo Allen (2004) writes, “as an exclusively designed top-down mandate, assessment rarely has a chance to succeed beyond the immediate applications imposed” (p. 94). For this reason, professional writing and technical communication administrators should consider taking ownership of assessment within their programs as a way of preemptively addressing this concern. If they do not, they run the risk of being forced to argue against institutionally mandated standards for outcomes development.

The idea that outcomes-based assessment is driven by a need to ensure student employability may also be an obstacle for its implementation. Some faculty and practitioners argue curricular focus on employability may dilute program merit or impede students from developing skillsets they feel are personally or professionally unique (Barrow et al., 2010; Su, 2014). Too much emphasis on employability also risks separating disciplines into academic and practitioner sects, which could cause programs to produce graduates who either lack awareness of the disciplinary research of their field or are unable to translate research to practice (Savage, 1999). This consequence could be especially detrimental for professional writing and technical communication programs already struggling with disciplinary separation. It could also place graduate programs, which often deal with theoretical research, in a position where they must defend their programmatic value.

While the obstacles of outcomes development must be addressed, it is equally important to focus on the benefits of their development. In doing this, administrators can more accurately determine which aspects of outcomes-based assessment meet the needs of their programs and which simply meet the needs of the trend.

Evidence of Benefits

Another possible reason professional writing and technical communication graduate programs have been slow to explore outcomes-based assessment is the benefits of doing so are not always clear. To date, much of the literature on learning outcomes in professional writing and technical communication programs has been focused on undergraduate education, ideological resistances, or administrative obstacles. In other words, much of the discussion to date has focused on the problems of outcomes-based
assessments or has been placed in a context outside of graduate education. The natural transition, then, is to explore how program outcomes may benefit and be applied to professional writing and technical communication graduate education.

Establishing a set of universally accepted competencies within professional writing and technical communication programs is a necessary step towards both understanding our profession and conveying our worth to the global market (Coppola & Elliot, 2013; Hart & Baehr, 2014; Coppola, 2014). In the context of graduate education, the need to understand the worth of scholarship beyond the baccalaureate level is particularly important as graduate programs have historically been the arenas driving research within disciplines (Manathunga, Pitt, & Critchley, 2009). As there is no reason to believe professional writing and technical communication programs should be any different in this regard, understanding what we are doing at the graduate level within our programs is imperative. Discussing and analyzing the core competencies related to graduate education enables us to more easily “develop universal, programmatic measures that can be tested and validated by graduate programs within specific institutional contents” (Coppola and Elliot, 2010, p. 156), and so better positions us to argue for pedagogical methods and program support. And while the previous arguments, which question whether outcomes-based assessment is the best option to address professional writing and technical communication issues, should not be ignored, the fact that so many in our field have argued that outcomes-based assessment can be successfully used within our discipline is a strong reason to actively explore its implementation (Allen, 2004; Barker, 2012; Carter et al., 2003; Hart & Baehr, 2014; Coppola, 2014).

Allen (2004) explains this idea in more depth, arguing outcomes-based assessment can benefit professional writing and technical communication programs in two important ways. The first is communicative. The methods behind outcomes-based assessment inherently provide those not familiar with the professional writing and technical communication discipline insight into what it provides students, allowing outside reviewers to observe what is being taught, why, and the value it provides (i.e. the outcomes). The second lies in the inherent ability for professional writing and technical communication faculty and practitioners to further the discussion of outcomes-based assessment itself. Allen states, “technical communication courses are perfectly situated to engage in discussions of both knowledge and ability, making it a natural showcase for accountability and evidence of impact on knowledge/attitudes and skills/behaviors” (p. 95). This implies
professional writing and technical communication practitioners are not only well suited to participate in the discussion of outcomes-based assessment, but also are naturally positioned to help guide the ways in which it is implemented within programs and institutions. For a discipline concerned with issues of professionalization and program validity, this is an intriguing idea.

While Allen’s benefits focus on the concerns of faculty, staff, and administrators, outcomes-based assessment holds potential for professional writing and technical communication students as well, especially graduate students who are positioned to help contribute to the research on this topic. It is just as important to relay the benefits of graduate education to our students as it is to institutional or administrative stakeholders, as they are our practitioners and future leaders.

Outcomes-based assessment can be used to help students independently evaluate the goals of their respective programs, more effectively gauge their progress in those programs, and identify educational resources at their disposal. When faculty members can name the outcomes of their programs, and advertise those outcomes internally, the administration of the university can more easily serve the student. Student advisors with access to learning outcomes can analyze data for “overall patterns of success/nonsuccess and clues to unexpected student abilities that would be the basis of encouraging and challenging the student” (Shupe, 2007, p. 53). Program outcomes allow students to graduate with more than just a degree, but a “unique and visible pattern of achievement and readiness to contribute in a specific way to organizations and society” (p. 53). These outcomes are particularly relevant to professional writing and technical communication graduate students who may be unsure of why they should pursue education beyond the undergraduate level. In addition to providing a degree, the outcomes data provides students with a summary of their strengths and areas of expertise that they can use to market their unique skill sets.

One of the primary advantages to defining outcomes at the program level is it helps professional writing and technical communication programs begin to build a portfolio of knowledge. Many faculty members cite, when attempting to develop new outcomes, they often refer to similar, existing programs of study for guidance instead of a disciplinary ideology (Driscoll & Wood, 2007). If we begin to make our program outcomes clear within our own areas of work, we can contribute to the creation of a larger body of knowledge. Graduate professional writing and technical communication programs are a natural choice to begin building this body of
knowledge as they produce the future leaders of professional writing and technical communication. In fact, some professional writing and technical communication programs have already begun addressing this issue at the graduate level. (Grady, Coppola, & Krull, 2007; Coppola & Elliot, 2010).

**Approaches to Developing Learning Outcomes in Graduate Professional Writing and Technical Communication Programs**

Programmatic assessment and institutional change is a complex process and not one that should be pushed upon any program without guidance. When faculty and administrators take on the task of implementing outcomes-based assessment within their programs, there is a tendency to try to force the process to do too much when it should remain focused on primary objectives (Allen, 2004). As previously stated, one of the apprehensions faculty and administrators have towards adopting an outcomes-based assessment model is they feel it is a bureaucratic requirement often focused on anything but academic ideals. This, however, does not have to be the case. Driscoll and Wood (2007) argue these feelings often stem from a perceived disconnect between the motivations of external agencies and those of program faculty. They argue, if we take the time to familiarize ourselves with the motivating factors of those agencies, we often find “their values are consistent with ours” (p. 16). As an example, they cite the following *Policy on Institutional Effectiveness* from the Northeast Association of Schools and Colleges, and posit that it would be difficult for any educator to disagree with the philosophies expressed within.

> While assessment is an overall concern, as reflected in various standards for accreditation, its primary focus is the teaching-learning experience. To the greatest extent possible, therefore, the institution should describe explicit achievements expected of its students and adopt reliable procedures for assessing those achievements. (as cited in Driscoll & Wood, 2007, p. 16)

Creating outcomes transparency within a program does not have to be a difficult task. Many professional writing and technical communication programs at both the graduate and undergraduate levels have already done much of the “heavy lifting” by establishing what they feel students should learn within their programs (Cook et al., 2003; Rainey, Turner, & Dayton, 2005; Coppola & Elliot, 2010). What these programs may lack is an understanding of how to incorporate those ideas into a formalized system of program assessment (Allen, 2010) or how to make their efforts clear.
Developing Learning Outcomes in Professional Writing and Technical Communication (Cook, 2014). As with many novel tasks, simply knowing where to begin can be the most difficult step.

**Moving from Idea to Practice**

As a general rule, an internal, disciplinary-governed approach to outcomes-based assessment is preferable to an institutionally mandated approach. But for faculty and administrators unfamiliar with the process, moving from model to practice can be difficult. It is often helpful to begin the discussion at a larger, programmatic level, and gradually drive the conversation towards course specific assessment (Allen, 2004). This should be done collectively, and faculty can begin the process by attempting to answer general, albeit complex, questions about their programs. Allen suggests using the following series of questions as a starting point.

- What do we expect the student to know or to do as a result of our program?
- How well are we doing it?
- How do we know?
- How do we use the information to improve?
- Do the improvements we make, work? How do we know?

Once faculty have a chance to discuss these questions and document their thoughts, they can begin forming definitive outcomes statements that fit their specific programs and develop measures of learning for those outcomes. It is important to note that developing and deciding upon defined outcomes themselves is not the end of the process, and grades alone are often not an adequate measure of success, especially at the graduate level (Coppola & Elliot, 2010; Hardre & Hackett, 2014). Allen posits, “If just one person believes that faculty emphasize different things in their assignments and in their grading, then reliance on grades as a measure of program quality is unsatisfactory” (p. 102). Triangulation, and using both qualitative and quantitative methods of assessment, is critical for meaningful assessment (Allen, 2004).

Identifying program goals and understanding disciplinary motivations is the first step toward successful outcome development, but supporting those goals through the utilization of effective tools and measures is even more important. While faculty may be unsure of where to begin, there is a wealth of information on what data can be used to develop learning outcomes (Moore, O’Neil, & Huot, 2009) and some disciplinary researchers have even investigated outcomes development solely through the lens
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of graduate education (Grady, Coppola, & Krull, 2007; Coppola & Elliot, 2010). Through determining what tools best support identified program outcomes, professional writing and technical communication faculty can more effectively focus on the real motive of outcomes-based assessment; improving student learning and program effectiveness.

Exploring Best Practices

Difficulty in determining appropriate program outcomes at the graduate level is due, in part, to the traditional goals of graduate education that aim to develop nebulous skill sets such as critical thinking or leadership skills (Platow, 2012). Relying on a single measure of learning, such as grades or essays, often represents a student’s achievement on a particular assignment, within a particular context, and may not be as useful as measuring more metacognitive traits. A better way to assess student achievement in this arena is to connect student activities to a larger programmatic context. The following examples illustrate how learning outcomes can be mapped to larger frameworks within graduate professional writing and technical communication programs and help faculty more easily address the broader goals of graduate education when developing outcomes for their programs.

Aligning Outcomes with Professional Standards and a Common Body of Knowledge

One of the more common approaches to developing learning outcomes is to align them with the interests of professional societies and accrediting organizations. This alignment helps programs ensure the focus of their curriculum is in line with the established professional standards of a field or discipline. For example, the Accreditation Board for Engineering and Technology (ABET) has been directly involved in engineering education since the 1930’s (“History,” 2014) by guiding student learning via preexisting outcomes that can be easily incorporated into existing programs across various disciplines. This method is generally popular with faculty and administrators as it provides a template for program assessment. Existing professional standards save faculty time by eliminating the need to determine professionally acceptable competencies for their programs and allow them to go straight to the process of how they will assess those competencies. This approach, however, is not without its difficulties, especially when applied to graduate education.

It is important to remember that simply having an agreed upon list of core competencies is not the end result of their use; on the contrary,
it is the beginning. Competencies can provide professions with points of reference for what to assess and establish “uniform, worldwide performance standards” that help identify mastery by confirming knowledge and proficiency in the field (Why Certification?, 2014). In this way, program outcomes, focusing on the goals of professional societies, help confirm students learn what is important to their field. This confirmation is particularly helpful when addressing the idea of professional writing and technical communication professionalization. Savage (1999) has argued, for the field to establish itself professionally, it must look to the marketplace to find where professional writing and technical communication adds value and then develop, “certification or licensing standards which are accepted in the market as necessary credentials” (p. 362).

In a way, aligning outcomes with certification requirements is one of the more straightforward approaches to outcomes-based assessment and is similar to a trade school model, using a curriculum to guide students toward a certificate of completion (Turner and Rainey, 2004). Programs can choose to adopt the professional standards of any number of professional organizations (professional writing and technical communication has several, such as the Society for Technical Communication [STC] or the Institute for Scientific and Technical Communicators), and map their curricula to the standards of those agencies. The STC, for example, has identified one of its targeted proficiencies as information design, defining it as the ability to “Plan information deliverables to support task requirements. Specify and design the organization, presentation, distribution and archival for each deliverable” (Certification, 2012). Faculty attempting to adapt curriculum to address this aim would be expected to design assignments that focus on the development of that proficiency. The program outcome might be to ensure students are able to successfully sit for the Certified Professional Technical Communicator (CPTC) credential. Although this approach makes sense for undergraduate or practitioner programs, which need to ensure their students are developing skillsets and standard knowledge unique to the field, it may fall short when attempting to prepare students to become independent researchers and critical thinkers, outcomes commonly associated with graduate education, particularly at the doctoral level. For this reason, a different sort of alignment may be more appropriate for graduate program development.

Since 2009, the STC’s Technical Communication Body of Knowledge (TCBOK) project has been collecting and organizing data related to the “plethora of information necessary to train for and practice within the profession” (About Us, 2014). In response, professional writing and technical
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Communication researchers have begun analyzing the literature surrounding the development of a professional body of knowledge to better understand how these bodies shape disciplinary or academic practice (Hart & Baehr, 2013; Coppola & Elliot, 2013). Graduate professional writing and technical communication programs might consider aligning their program outcomes with this effort. Nancy W. Coppola and Norbert Elliot (2013) argue the TCBOK at present focuses primarily on cognitive aspects of the discipline, such as writing, design, development, etc., but should expand to address more intrapersonal issues (e.g. intellectual openness, work ethic, etc.) and interpersonal issues (e.g. collaboration and leadership). Hillary Hart and Craig Baehr (2013) echo this sentiment by stating that the TCBOK should be not only a collection of knowledge, but also an exploration of the “tacit practices, skills, experiences, products, processes, and interdisciplinary knowledge that define the field” (p. 265). Aligning outcomes with the exploration of a developing body of knowledge seems a more appropriate fit for professional writing and technical communication graduate education and administrators can use emerging models of assessment (Hart & Baehr, 2013; Coppola & Elliot, 2013; Coppola, 2014) as a guide.

Participatory Assessment: Engaging Students as Program Partners

The interdisciplinary nature of professional writing and technical communication means that our programs are filled with students whose interests vary dramatically (Johnson-Eilola & Selber, 2001). Much like faculty and administrators may feel outcomes determined by third-party stakeholders put their programs in a box, not consulting students about the outcomes of their programs may make them feel as if they are not able to freely pursue their individual interests.

Collaboration is imperative for successful curricular assessment, and true collaboration warrants the inclusion of all stakeholders. Even the most well planned assessment can, “fail to be realized if students are not made aware of [program] aspirations and if they are not actively engaged as partners in the assessment process” (Hughes & Barrie, 2010, p. 331). Bringing students into the discussion of program outcomes brings yet another set of eyes to the process that can reveal “gaps between programmatic intentions and student perceptions of the structures of this discursive technological artifact called a curriculum” (Salvo & Ren, 2007, p. 425).

It can be difficult, however, to determine the best way to incorporate student feedback into the assessment process. In a 2007 essay, Michael J. Salvo and Jingfang Ren outlined a variety of techniques and instruments used to solicit student feedback from professional and technical writing
students at Purdue University. Through a combination of information forms distributed to students, informal focus groups, interviews with faculty, and analysis of pedagogical goals and practices, they conducted an internal program assessment that was highly reliant on student feedback. The main purpose for this assessment was to determine if the program was meeting predetermined goals and whether the students recognized those goals as part of their course of study. When many faculty identified project management as an integral outcome of their program, yet few students identified it as such, administrators were able to identify gaps in the curriculum and a clear motive to reassess how they were approaching competency in project management.

For graduate education, participatory assessment has the potential to help students better understand the concerns of professional writing and technical communication and clearly focus their studies on topics needing additional attention. This focus can even provide graduate students with opportunities for new research by asking them to identify what issues they feel are pressing in professional writing and technical communication. This enhanced focus means graduate students may be able to provide more specific program feedback and will be better positioned to act upon feedback through their research.

Outcomes development should fundamentally be a collaborative process, so analyzing student feedback when developing learning outcomes should be viewed as a necessity rather than a supplement to the input of faculty and administrators. Although giving ownership of assessment to such a broad team may provide challenges, it ensures the assessment is being implemented effectively and the information gained is used to benefit all stakeholders (Suskie, 2004). Graduate professional writing and technical communication programs may vary dramatically in requirements and approach between institutions, however, with some stressing empirical research and others favoring an interpretive approach (Johnson-Eilola & Selber, 2001). Acknowledging this range of focuses, outcomes for graduate professional writing and technical communication programs should be developed by a broad representation of stakeholders, drawing from an agreed upon set of curricular and programmatic goals.

**Service Learning and Classroom-Workplace Collaboration**

There is no denying; professionalization is a key concern for professional writing and technical communication programs. A review of the literature shows non-occupation driven degrees (i.e. those in the arts and humanities) are successful in developing “soft skills” that are highly transferrable to
a number of different employment sectors, skills such as creative thinking, communication, and interpersonal aptitude (Barrow et al., 2010, p. 341). Although surveys have shown employers often value soft skills over hard skills (i.e. technical skills), direct methods of assessment, such as quizzes or exams, cannot accurately measure these traits (Zhang, 2012). To address this problem, professional writing and technical communication faculty and administrators have begun looking into service learning models as a way to supplement the academic curriculum and create outcomes relevant to professional development (Youngblood & Mackiewicz, 2013; Bourelle, 2014; Cook, 2014). Much like outcomes-based assessment, only a few researchers have been exploring this model in the graduate arena (Grady, Coppola, & Krull, 2007), even though the general goals associated with service learning, such as the development of research skills (Cook, 2014) and civic leadership (Bourelle, 2014) are easily adapted to graduate curriculum.

As Kelli Cargile Cook (2014) recently noted, one of the main obstacles professional writing and technical communication faces is overcoming the stereotype of a strictly practitioner-based discipline: “Given the field’s perceived practical focus, instructors sometimes find themselves privileging writing skills that lead to immediate job success over more subtle, and thus more difficult to teach, interpersonal and critical skills” (p. 29). She also notes service-learning opportunities, at their core, do more than simply develop practical, workplace skills, but rather foster research and personal development. For graduate programs, outcomes simply related to the development of practical skills would have trouble expressing an added value over undergraduate courses that provide the same outcomes. Instead, the development of a larger focus on synthesis (the ability to apply what one has learned in a new, original way) and metacognition (i.e. lifelong learning), are two integral aspects of assessment (Suskie, 2004) on which graduate programs should place a primary focus.

In recent years, a number of examples and models have been developed to help professional writing and technical communication administrators integrate service learning into the existing curriculum (Cook, 2014). For those new to the idea, Cook suggests a high-level, six-point approach:

1. Review institutional goals and mission statements (particularly related to service learning if available)

2. Connect these statements to program goals and assessment outcomes

3. Identify specific courses where service learning can be viably integrated (e.g. capstone courses)
4. Identify institutional resources; as Cook notes, many institutions, “now offer service-learning designation for courses and offer support in identifying community partners and projects” (p. 47)

5. If institutional resources are unavailable, refer to a number of outside resources such as Slot-C (Service Learning Opportunities in Technical Communication)

6. Conduct a course and programmatic assessment and revise activities, assignments, and outcomes as necessary.

Utilization of the Slot-C database is particularly relevant to helping develop graduate program outcomes as the database was originally developed with the needs of upper-level undergraduates and graduate students in mind. Moreover, the database itself was co-designed by graduate student interns (Youngblood & Mackiewicz, 2013).

Graduate outcomes development through a service-learning model is also transferable to online education. This adaptability is important to consider as the number of professional writing and technical communication online programs increases (Bourelle, 2014). A number of online, professional writing and technical communication graduate programs have already begun to implement practice- and work-oriented learning models to develop curriculum and form graduate learning outcomes (Grady, Coppola, & Krull, 2007). Nancy Coppola and Norbert Elliot have developed a multi-phased, relational assessment model for an online technical communication course that explicitly uses professional writing and technical communication core competencies and online portfolios to track graduate student development and evaluate programmatic outcomes (Coppola & Elliot, 2010). More recently the model has sought to incorporate the TCBOK as a way of further aligning program outcomes with issues in professional writing and technical communication.

Service learning and workplace collaborations often drive faculty to answer questions about students’ needs, such as “What kind of tasks will the students be asked to undertake [in the workplace]?” and “What genres does the client [employer] typically produce?” (Blakeslee, 2001, p. 190). These questions are not dissimilar to the previous questions posed by Allen (2004) in respect to developing outcomes for professional writing and technical communication programs. For graduate programs, a service learning model holds potential to develop both practitioner based skills and more analytical and research-oriented skills associated with graduate education.
Implementation Summary

The development and integration of programmatic outcomes in graduate professional writing and technical communication programs should not be viewed as a tedious, bureaucratic task—quite the opposite. Program outcomes should be a tool to help administrators ensure their curriculum aligns with disciplinary ideals and a platform to address critiques of program effectiveness (Allen, 2004; Barker, 2012). Moreover, for those new to the idea, the development process should not be intimidating, especially for graduate programs that have a long established focus on research and leadership. The following steps are suggested to help graduate program administrators begin to identify and integrate relevant outcomes within their respective programs.

1. Engage faculty in a discussion about program ideals; particular attention should be paid to the traditional tenets of graduate education and how they fit within a professional writing and technical communication context. Begin with high-level, programmatic questions such as those posed by Allen (2004).

2. Determine if there are professional standards or a disciplinary body of knowledge to which program outcomes should be aligned. When possible, choose outcomes that are especially relevant to graduate education and professional identity (Coppola and Elliot, 2010; Coppola, 2014).

3. Engage students in participatory development and assessment of outcomes. Outcomes development is a discursive activity; the product should support faculty, administrators, and students (Salvo and Ren, 2007). Developing a body of knowledge, either at the program or disciplinary level, requires involvement and feedback from all stakeholders (Cook, 2003; Hart and Baehr, 2013).

4. Find venues, inside or outside of the classroom, in which students can participate in professional, research, and leadership activities. Situated learning activities, such as service learning, have the potential to improve academic understanding and the ability to apply knowledge to broader contexts (Youngblood and Mackiewicz, 2013).

5. Evaluate outcomes at regular intervals. Program evaluation is not a static activity. To ensure outcomes are aligned with program ideals, administrators should review outcomes at regular intervals and verify that coursework aligns with program outcomes.
The use of formative assessment tools, such as student portfolios, can be particularly useful in the evaluation of learning outcomes (Charlton, 2012) and have been used to develop learning outcomes within graduate professional writing and technical communication programs (Coppola & Elliot, 2010).

**Conclusion**

An established body of knowledge and professional curriculum are prerequisites for addressing the disciplinary issues of any profession or field of study (Turner & Rainey, 2004; Savage, 2010). For professional writing and technical communication, the establishment of a professional body of knowledge and curriculum begins with a better understanding of what academic programs are teaching, why, and what students stand to gain from that instruction. Although it could be argued that increased growth and diversity of professional writing and technical communication programs may serve to enrich the field, increased growth may also threaten to divide it as faculty and students struggle to find a common ideology.

Issues of professional identity and ill-defined competencies pose a specific threat to graduate professional writing and technical communication programs which must intrinsically argue for the worth of their curriculum beyond the baccalaureate. Questions regarding graduate program validity can even be found among the ranks of professional writing and technical communication practitioners. In a FAQ-style page on the STC website regarding the professional certification in technical communication, the question of whether “a master’s degree or PhD in technical communication count[s] more than a bachelor’s degree [toward certification]” is posed. The response to this question is a simple “no,” with the justification that “Such programs do not provide additional preparation in the competencies assessed in the certification beyond what is covered in the bachelor’s degree programs” (CPTC Prerequisites, 2015). For any graduate program administrator, this response should cause concern, as it implies the value of professional writing and technical communication graduate work is unclear at best even within the field. And while outcomes-based assessment has been used by other fields to address these types of questions, the gap in the literature on outcomes-based assessment in professional writing and technical communication graduate education is potentially keeping those within and outside of the discipline ill-informed of its potential.

Traditionally, practitioners who have been successful in program assessment have understood it as a rhetorical act, requiring articulation of exigency, purpose, and audience, not just the process of implementa-
Developing Learning Outcomes in Professional Writing and Technical Communication (Moore et al., 2009). If so, professional writing and technical communication practitioners are uniquely positioned to achieve success in this arena, if enough information and support is available to them. The tide of outcomes-based assessment in higher education is not something that is likely to subside and program administrators cannot risk being uninformed. Increased focus on how defined outcomes can benefit professional writing and technical communication programs is imperative because, as Lynn Priddy (2007) argues, too much focus on the debate of practicality and compliance often keeps administrators from participating in a broader conversation which may uncover new opportunities. One opportunity outcomes-based assessment provides professional writing and technical communication graduate programs is a framework in which faculty and students can explore various issues of the field, from employability to the creation of a shared body of knowledge. Whether a trend or the new norm, outcomes-based assessment should be viewed as an opportunity rather than an obstacle. Responding to these issues, and framing responses within the concerns of the discipline, allows professional writing and technical communication practitioners to showcase their abilities as communicators while simultaneously providing a better education for the future leaders of their discipline.

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Departmental Positioning of Technical and Professional Communication

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Abstract. In this article, I examine the topic of departmental location of technical and professional communication programs and the effects of those varied locations on programs by focusing on the question: Where should technical and professional communication be positioned departmentally? In focusing on this question, I look at the historical formation of writing programs at universities before examining academic literature that addresses concerns and tensions with various departmental arrangements, starting with Carolyn Miller’s influential “A Humanistic Rationale for Technical Writing.” Examining the literature exposes common threads of concern among authors, despite their departmental leanings, including concerns over support, identity, practicality, and research. Finally, I examine the literature as a whole and offer ideas for areas that warrant additional research in hopes of sparking more informed debate on the question of placement of technical and professional communication programs, which has been posed through much of the discipline’s history.

Keywords. departmental location, departmental positioning, program location, departmental arrangement, program support, program efficacy, disciplinary identity, research support, practicality

Obviously we did not welcome what we considered an irrelevant prerequisite for our course, and we did not like the idea of our course being held hostage for the overstaffed literature courses. But were we willing to argue, indeed, could we argue that technical writing has humanistic value? (Miller, 1979, p. 610)

What seemed so obvious to Carolyn Miller in 1979 was anything but obvious to her colleagues in literature at North Carolina State University (NCSU). Miller’s description of an English department meeting set the stage for a valuable and seemingly discipline-
defining discussion over the relationship between technical and professional communication and the modern English department.

The set-up was simple and effective. NCSU, a land-grant research institution with a highly successful engineering program, perhaps more well-known for its strengths in science and mathematics than in the humanities, served as the backdrop for an English faculty discussion over whether or not students should be allowed to fulfill humanities requirements by taking a course in technical writing. Surprisingly, or perhaps not, the faculty were at odds over the issue. On one side were the literature professors, who believed that technical writing courses should not be allowed to satisfy the requirements, and on the other, Miller and her colleagues in technical and professional communication. The literature professors who opposed the suggestion countered with their own proposal: a literature prerequisite should be required for any technical writing course. That suggestion prompted the quote above, the talk about courses being held hostage, and what ultimately would become a test of apologetics. Miller would go on to defend the humanistic value of technical and professional communication, looking to mend not only the divide between opposing sides within her own department, but in departments across the country. The rest, as they say, is history.

Unfortunately, that history has been a tumultuous one. Miller’s likening of technical writing courses to hostages is not an image that fades away once the discussion about unifying humanistic principles concludes. Common themes of persecution, second-class status, marginalization and more have cropped up over the years in discussions of technical and professional communication’s relationship with its departmental home. At the heart of the tension is the apparent disconnect between technical and professional communication’s practical aim to teach students relevant workplace skills, one that has, at times, been negatively portrayed as being vocational, held in opposition to the theoretical and literature-based approach typically taken by departments of English. Miller’s apologetics did much to redefine how technical and professional communication academics, in particular those housed within departments of English, viewed their own endeavors, but the effects outside that group have been varied at the institutional level.

There are certainly examples of strong working relationships between technical and professional communication and its departmental home in English, such as the case with North Dakota State University, where faculty specializing in technical and professional communication and rhetoric and composition outnumber what is traditionally a majority held by literature
faculty (Maylath, Grabill, & Gurak, 2010), and the University of Cincinnati, where faculty have taken an active role in strengthening technical and professional communication’s position by focusing on providing departmental support (Rentz, Debs, & Meloncon, 2010), not to mention others with departmental histories not yet detailed in literature. However, there are still many cases where technical and professional communication is relegated to the margins within departments of English across the country, although the discipline as a whole is under-represented in conceptualizations of English as a field (Rentz, Debs, & Meloncon, 2010; Maylath, Grabill, & Gurak, 2010).

That marginalization and under-representation has manifested itself in a number of ways, many of which are more concrete than perceived inequality. At times, classes within technical and professional communication have received fewer (Porter & Sullivan, 2007) or under-qualified teachers (MacNealy & Heaton, 1999; Adams, 1993), and those teachers who were qualified and devoted to advancing the discipline have earned fewer chances for promotion and less recognition than their colleagues (Adams, 1993; Sides, 1994). The number of technical and professional communication courses offered has also been affected (Sides, 1994), causing concern within the discipline over what has been seen as a lack of moral and financial support (MacNealy & Heaton, 1999).

Because of the existing and longstanding tensions between technical and professional communication and the department of English, the question becomes, “Where should technical and professional communication be positioned departmentally?” That question spawns a myriad of responses this article seeks to examine. Within the literature some authors battle to secure a more comfortable spot in English departments; some advocate moves to departments of communication, engineering, or business; and still others call for the establishment of new, stand-alone departments. In spite of these differences in opinion, there are threads that unite the literature—common concerns relating to technical and professional communication’s departmental positioning. These common concerns arise in areas of support, identity, practicality, and research. They are outlined as follows:

- **Support:** How much financial support is the technical and professional communication program given by the department of English? How much moral support is given to technical and professional communication faculty by their department of English colleagues? How is that support, or lack thereof, perceived? How does it affect the quality of the technical and professional communication program?
Departmental Positioning of Technical and Professional Communication

- **Identity**: How does the departmental positioning of technical and professional communication affect disciplinary identity and integrity? How does it affect the interdisciplinary aspect of modern technical and professional communication programs?

- **Practicality**: How does the departmental positioning of technical and professional communication influence the practical aims of the program?

- **Research**: How does the departmental positioning of technical and professional communication affect the ability to conduct research effectively? How does it affect access to research data and facilities?

Before examining the literature in more detail, it is important to address both the historical background that gave rise to these tensions and the current conceptualizations of the field. Following this overview, I examine the two prominent camps of thought regarding the technical and professional communication’s departmental positioning and then analyze the common concerns that emerge through these discussions.

**Historical Background**

The story of the birth of technical and professional communication within the academic sphere and its subsequent appropriation and alienation by the department of English is just a fragment of a much larger narrative concerning the relationship between English and writing studies. As David R. Russell (2002) notes, the development of the modern writing studies curriculum came about in the late 19th Century and early 20th Century during a period known as the Progressive Era, and its inception was spurred on by the desire to educate a new generation of professionals looking to communicate more effectively in a blossoming, increasingly industrial workplace. The need that existed for effective communicators in the workplace was not immediately met by academia, causing many companies to educate their employees to the preferred writing format in-house. When the need was addressed at the university level, coursework was associated with a professional track, frequently isolated from the realities of the workplace and the greater concerns of academia. The inter-departmental struggle to effectively address the need for writing instruction could be likened to a curricular game of hot potato. In many cases, English departments refused to take on the task because of its vocational nature, which was far beneath their lofty liberal aims, while departments of engi-
neering and other sciences passed on the task because writing instruction provided no direct benefit to their research-oriented pursuits.

Prior to the 1870s, a different reality existed in academia that undoub-
edly gave rise to the tensions technical and professional communication and professional writing as a whole would experience in the early 20th Century and beyond. As Katherine H. Adams (1993) and Robert J. Connors (1983) explain, technical programs, such as those in engineering, had little in the way of formalized documentation to be used in the classroom for students, which meant that students in these disciplines were forced to supplement their primary studies with humanities. When better teaching aids became available to technical instructors, “many vocational educators and other professionals sought to eliminate this large humanities compo-
nent and substitute study of the latest technical research” (Adams, 1993, p. 28). The extreme transformation of technical programs from making heavy use of humanities courses to nearly barring them entirely had a profound affect on the writing skills of students in those programs while creating friction between departments, and inevitably, friction between writing instructors and literature instructors.

It was not until the early 20th Century, after years of patchwork instruc-
tion from a variety of departmental entities proved unsuccessful and employers decried the poor quality of workplace writing, that depart-
ments of English reluctantly took up the task (Moore, 2006). Adams (1993) addresses that reality when she describes the beginnings of professional writing courses “as experimental offerings in English departments… as reactions to a new college curriculum in which most students would become versed in a specific discipline, but not in writing” (p. 147). It’s worth noting that in some instances pockets of resistance remained, and writing programs emerged in engineering departments and other science areas to fill the need (Russell, 2002). Regardless of the departmental location, however, pay and prestige remained low. It was not until after World War II that technical and professional communication emerged specifically, seeking to address an increased need for technical documentation, but the plights of instructors teaching technical writing for the workplace, seen as operating in opposition to the culturally enriching study of literature, were the same (MacNealy & Heaton, 1999). As Adams (1993) explains, technical and professional communication “courses’ audience continued to waver… and the position of technical writing specialist had not yet become widely accepted. Thus these advanced writing courses were often the odd part of a technical or English degree, with no group dedicated to their success” (pp. 145-146).
Technical and professional communication endured, tolerated though not embraced, in departments of English until a major breakthrough—in 1976 the Modern Language Association (MLA) allowed a technical writing panel at its annual convention (Connors, 1982). The exposure signaled an upward move for technical and professional communication and a subsequent increase in enrollment in technical and professional communication classes. Rifts at the institutional level would not be mended overnight, however, and many remain in the current academic landscape.

**Current Conceptualizations**

Aside from the historical tensions that have existed between technical and professional communication and English, one of the more telling signs of the apparent disconnect between the two is the sparse attention technical and professional communication is given in recent conceptualizations of the field in academic literature. Kathryn Rentz, Mary Beth Debs, and Lisa Meloncon (2010) took an increasingly common approach to discussing the topic by detailing their own departmental history at the University of Cincinnati. In setting the stage for their discussion, they looked at current conceptualizations of English as a field through literature and found in the seven major analyses of English, which sought to break down the field as a whole into disciplines, technical and professional communication was largely ignored. It’s also worth noting that two of those surveys came from the MLA itself (Rentz, Debs, & Meloncon, 2010, p. 282).

The trend of ignoring technical and professional communication in literature examining English as a field is not a new phenomenon. Kathryn Rentz (2001) had already addressed the topic nine years earlier and found similar results:

If you were to read any of the books depicting English studies that have come out over the last fifteen years, you would never guess that professional writing figured significantly into English departments’ missions or activities…even the composition experts…ignore the presence of professional writing in English departments. Does this neglect imply that professional writing can simply be folded into composition studies—that the two areas of writing instruction are largely interchangeable, and thus that what we say about the relation of composition to literary studies holds true for professional writing as well? Or is professional writing a nasty little secret of English departments, one representing an embarrassing compromise with capitalism and the technostate about which we’d rather not speak? (p. 186)
Technical and professional communication’s mysterious absence from a large number of conceptualizations of the field within academic literature raises questions about how the discipline is perceived and portrayed on paper, but it does not address how the discipline is positioned in mental conceptualizations of the field. Patricia A. Sullivan and James E. Porter (1993) address the issue by breaking down the multitude of meanings associated with technical and professional communication, operating in spheres associated with research, the workplace, and academics, before discussing “disciplinary geographies” (p. 392). The geographies range from traditional views of English departments serving the interests of literature, with writing serving adjunct status, to views which house writing disciplines under a broad umbrella of rhetoric and composition studies, a connection which speaks to Rentz’s concerns, to views of English departments as serving a greater calling of promoting understanding of reading and writing. Sullivan and Porter ultimately propose a postmodern understanding of the relationship between English and technical and professional communication, viewed through a lens which focuses on the communication of information, where technical and professional communication exists in dynamic movement (p. 411, see Figure 1).

Sullivan & Porter’s (1993) vocabulary of curricular geographies and their subsequent discussion of conceptualizations, existing and proposed,
become a useful touchstone for the discussion of technical and professional communication’s departmental positioning. The discussion also speaks to the evolving mindset of technical communicators. When Marjorie T. Davis (2001) conducted an ethnographic study of students enrolled in a graduate-level course in technical communication at Mercer University, which offers a BS degree in technical communication, a minor in technical communication, and an MS degree in technical communication management, all contained in a technical communication program housed within the School of Engineering (“Academics,” 1999), she found students drawn from a wide variety of disciplinary backgrounds, with major backgrounds ranging from humanities, to social sciences, to hard sciences and engineering (p. 141). With a professional background just as varied, and an outlook of the discipline which reflected an understanding of their own professional development as consisting of a synthesis of engineering, writing and programming under a greater umbrella of communication, the mindset of the “new professionals” accurately reflects a postmodern understanding of technical and professional communication (Davis, 2001, p. 141).

Despite the wide variety of mental conceptualizations and the notable absence of technical and professional communication in current conceptualizations of English in academic literature, technical and professional communication has shown a steadfast presence in one area: numbers. The notable growth rate of the discipline in both numbers of students and numbers of programs, which played a factor in the increased exposure of the discipline in the 1970s, has persisted. Technical and professional communication had a remarkable jump in the eight-year span from 1997 to 2005, which translated into big gains for programs at the undergraduate level (22.5% growth) (Meloncon, 2009, p. 138). Lisa Meloncon (2009) extended her analysis to a 10-year period from 1997 to 2007 and found similarly impressive results at the graduate level, with master’s programs experiencing 31% growth (p. 138), while Rentz, Debs, & Meloncon (2010) cited unpublished data from Meloncon in noting an explosion in PhD programs during the same period (153% growth) (p. 283). Lisa Meloncon and Sally Henschel (2013) went on to update Sandra W. Harner and Anne N. Rich’s (2005) study—which examined 80 undergraduate technical and professional communication programs—and noted an impressive 131% increase in undergraduate programs, a jump from 80 programs to 185, in the following eight years (p. 46). In addition to identifying the growth, Meloncon and Henschel were able to make great strides in showing the constantly changing departmental landscape of technical and professional communication (see Figure 2). Where Harner and Rich (2005) found that
a whopping 60% of technical and professional communication programs were housed in departments of English, Meloncon and Henschel saw that number drop to 34% despite the overall growth of programs, suggesting a surge in new programs in different departmental locations (p. 55). The most notable increase came from standalone programs. Meloncon and Henschel saw fit to create a new category based on their data for writing departments, which contained roughly 10% of technical and professional communication degrees, and technical communication departments, which saw an 11% jump from Harner and Rich’s study (see Figure 2).

The juxtaposition of technical and professional communication’s sustained growth alongside what can be considered a noticeable under-representation of the discipline in current conceptualizations of English is another factor that has given rise to a number of calls within academia for technical and professional communication to find a new departmental home. Despite the diversity of opinions seen in these discussions, they converge in interesting ways.

**Positioning Technical and Professional Communication Programs**

**Technical and Professional Communication Programs at Home with English Departments**

Despite the tensions that have been experienced by technical and professional communication academics, the fact remains that being housed in English departments is still a common arrangement for technical and professional communication. It’s worth noting that the arrangement, owing to the unique history of the development of writing studies in academia around the turn of the century, is very much rooted in the culture and socioeconomic reality of the time (Russell, 2002). That being said, it was not a universal development, and technical and professional communication found itself, for better or worse, partnered up with departments of English in the United States, though this was and is not the case in Europe, where similar technical and professional communication programs are housed in departments of communication (Maylath, Grabill, & Gurak, 2010).

The presence of technical and professional communication programs in departments of English is well documented, even if that presence has not translated into conceptual acknowledgement. Harner and Rich’s (2005) study showed that English departments housed 61% of technical and professional communication undergraduate programs, and that number balloons up to nearly 75% when you add in programs housed in the
humanities at large (p. 214). Meloncon and Henschel's (2013) update of the Harner and Rich study, mentioned earlier, found that, although English and humanities departments still house a large number of technical and professional communication undergraduate programs (close to 50% combined), the departmental homes of technical and professional communication have become more varied (p.48). Nevertheless, the English departments remain the most commonly seen departmental home for technical and professional communication, and coupled with the discipline's growth, there is still much to talk about in regards to technical and professional communication's home life.

Articles that concern technical and professional communication's home in the department of English and call for technical and professional communication to remain in that departmental home, whether it is the departmental home that it already knows or an idyllic departmental home in English that an author advocates that technical and professional communication faculty should strive to create, span across the years and approach the topic from a variety of angles. Miller's (1979) article forms the backbone of many of the subsequent calls for technical and professional communication to embrace its departmental roots in English through a new epistemology, where knowledge is relative and the language of science becomes rhetorical, and by extension, humanistic. This, in part, helps combat an overemphasis on form and “objectivity” (p. 613). Patrick Moore (1996), who ultimately falls in support of technical and professional communication's location in departments of English, finds fault with the
dismissal of nonrhetorical uses of technical writing, which he dubs instrumental uses, and he argues for redefining technical and professional communication in such a way that it unites the rhetorical and instrumental uses of technical language. Furthermore, Moore (1996) defends form and objectivity for their uses in instrumental discourse, the side of technical communication seen when there are documents to be made, like “policy manuals, birth certificates, invoices, registration forms” (p. 103).

Moore’s arguments are met, more often than not, with criticism from fellow pro-English technical and professional communication advocates, but his argument for a balanced understanding of technical communication is aimed at addressing one common concern that crops up frequently in discussions of departmental positioning of technical and professional communication: practicality, sometimes referred to as the “pedagogy-practice gap” (Gordon, 2009, p. 121). This tension between the rhetorical and instrumental uses of technical communication and its influence on the discussion of departmental positioning is not isolated to technical and professional communication and is part of a larger discussion of communication studies. For more on the discussion, see Steven Mailloux (2009) and Thomas Miller (2009). Mailloux (2009) discusses the “ongoing tensions and exchanges between scientific and non-scientific rhetorics, between empirical and interpretive models of inquiry, and between scientistic and rhetorical hermeneutic conceptions of disciplinarity” (p. 132), while Miller (2009) describes the tension as existing between scientism and belletrism.

Taking an approach informed by the history of technical and professional communication’s development, Adams (1993) acknowledges the relationship between existing tensions between technical and professional communication and English departments and technical and professional communication’s increasingly varied departmental location, though she focuses on this “greater separation” between technical and professional communication and English as a product of growth: “Growth is…causing teachers of technical and business writing to separate from one another, often into different departments…For these writing specializations, growth has its costs” (p. 146). Ultimately, Adams (1993) places emphasis on the commonalities shared between technical and professional communication and its traditional departmental home and encourages “down-the-hall and across-campus talk” to “eliminate the current animosities and… understand what our colleagues are doing” (p. 151).

Technical and professional communication has been called to remain steadfast in its departmental home in articles taking theoretical approaches and carve out a proposed separate-but-equal relationship between the
discipline and the many subdivisions of English (Sullivan & Porter, 1993), and articles that take the oft-used departmental history approach and call for the resilience of technical and professional communication faculty in reforming their home department from the inside (Rentz, Debs, & Meloncon, 2010). As one might assume, however, with the growing number of technical and professional communication programs finding varied departmental homes across the institutional spectrum (Meloncon & Henschel, 2013), there have also been articles supporting this move.

**Technical and Professional Communication Out and About**

There is something of a continuum between articles calling for technical and professional communication to relocate to other departmental homes, such as departments of communications, engineering, or business, and articles calling for technical and professional communication to relocate to stand-alone departments. To some extent, advocates for one or the other, stand united in opposing technical and professional communication remaining in departments of English.

One of the earliest explicit calls for the relocation of technical and professional communication did so by examining possible departmental homes with all three of the previously mentioned departments, finding favorable conditions in communications, engineering and business, but ultimately arguing for technical and professional communication’s move to departments of communication (Sides, 1994). Charles H. Sides (1994) details the benefits of relocation and explains how the move will allow access to a more robust knowledge base in regards to communication technology, providing a better fit with social science research methods and greater access and commitment to communication theories (p. 5). Sides’ proclamation prompted a follow-up piece five years later by Mary Sue MacNealy and Leon B. Heaton (1999), who conducted a survey of technical and professional communication faculty and reported that respondents located in departments of English had a higher level of dissatisfaction with departmental support. While the true strength of the article might lie in the anecdotal evidence shared by survey respondents, it also represents an opportunity that has yet to be fully explored. With articles written within the past four years that address departmental positioning, and the regular analysis of programmatic data of technical and professional communication’s departmental location and growth as a discipline, greater insight could be gained by focusing attention to the effects of the growth and shifting departmental landscape of technical and professional communication on faculty perceptions.
Although connections are frequently made between technical and professional communication and departments of communication and business, with at least one article arguing for technical writing's qualification as an engineering discipline (Harney, 2000), a more common approach seen in academic literature is to propose either/or: that is, either technical and professional communication should be located in an existing department that is separate from the department of English, or it should be housed in a stand-alone, independent department. The University of Washington's (UW) department of Human Centered Design and Engineering (HCDE) operates along this gradient, one part engineering program located in the College of Engineering (COE) proper, one part stand-alone department, mostly autonomous (Ramey, 2011). Judith Ramey (2011) employs the departmental history to explain the evolution of UW's program in Scientific and Technical Communication (STC). The history is a complicated product of addressing departmental needs for writing instruction outside of the department of English, an occurrence which was common, particularly in departments of engineering (Russell, 2002). A Humanistic Social Studies Department (HSS) was formed by the COE, later dismantled with STC continuing unaffiliated to any existing department, only to re-emerge later as the Department of Technical Communication (UWTC), and then be re-named HCDE (Ramey, 2011). Ramey lists numerous benefits for the arrangement, but the value in this particular departmental history is its operation in the liminal space between engineering and autonomy.

Maylath, Grabill, and Gurak (2010) employ the departmental history model in an analysis that examines the formation and operation of technical and professional communication programs at the University of Wisconsin-Stout, Michigan State University, the University of Minnesota, and North Dakota State University. The supposition and conclusion center around the more effective operation of technical and professional communication programs outside of the traditional department of English arrangement, but the biggest contribution the article provides is in a robust list of significant issues concerning departmental positioning, a list similar in format if not completely in content to what we will look at shortly. An intriguing argument is made in the conclusion for the analysis of departmental “structures as disciplinary arguments” (Maylath, Grabill, & Gurak, 2010, p. 277). The concept is akin to what Sullivan and Porter approached in their 1993 discussion, which probably bears revisiting.

James E. Porter and Patricia A. Sullivan (2007) round out the spectrum by revisiting their 1993 discussion, one which envisioned technical and professional communication located within English but with separate-
but-equal status among the many subdivisions of the field, and advocating for technical and professional communication’s removal from English and relocation to a stand-alone writing studies department. This revisit is highlighted by references to technical and professional communication’s “colonization” and “second- or third-class citizenship” (Porter & Sullivan, 2007, p. 16). Aside from the new perspective, the retrospection contributes greatly to the discussion of departmental positioning by raising larger questions concerning the value of departmental structures in general, a question that deserves further exploration.

The spectrum of opinions over technical and professional communication’s departmental positioning can, at times, paint a picture of a discipline at odds with itself, but even those arguments which come across as diametrically opposed find common ground with shared concerns: concerns over support, identity, practicality, and research. This discussion begins with concerns over support.

**Exploring Common Concerns**

**Support**

It is telling that Carolyn Miller (1979) is prompted by what is perceived to be a lack of support, with literature professors balking at the idea of technical writing courses being used to fulfill humanities requirements. This lack of moral support from colleagues reveals a financial element when Miller references a course “being held hostage for the overstaffed literature courses” (p. 610). The financial language is even more apparent in Moore’s (2006) analysis: “Literature professors would tax technical communication faculty by demanding that a tribute be paid in the form of literature courses” (p. 168). The talk of ‘tax’ and ‘tribute’ underlines an actual financial element to the discussion—literature courses are overstaffed. This situation connects directly to the surge in technical and professional communication numbers in the 1970s despite the mostly unchanging numbers for the other English disciplines (Moore, 2006).

An interesting tangential discussion of support that further explores the dynamic between technical and professional communication courses and literature courses arises when one considers the idea of taxation. While technical and professional communication courses are seen as being taxed, or held hostage, suggesting a lack of support for technical and professional communication faculty and an abundance of support for literature faculty, technical and professional communication operates in a subdued state in order to ensure that literature faculty are properly supported when literature courses are overstaffed. In other words, when
literature courses are under-filled by students, technical and professional communication and writing courses in general, are providing the support. This hearkens to Sullivan and Porter’s (1993) use of curricular geography and description of disciplinary “space” to describe not only technical and professional communication’s departmental location, but also the power that the location provides (p. 390). That technical and professional communication and other writing disciplines are, in some situations required to support literature courses, displays technical and professional communication’s distinct lack of power and marginalization, as well as what can be interpreted as a preservation of the status quo.

Moore (2006) most directly addresses this idea of power imbalance when he references John Guillory’s (1993) discussion of cultural capital. Guillory (1993) writes the following, which can be seen as describing a power dynamic that perpetuates the aforementioned status quo, where he equates those pursuing technical knowledge, something more in-line with technical and professional communication and other skills-related endeavors, with a working or professional class, as opposed to an upper class, already financially secure:

The perceived devaluation of the humanities curriculum is in reality a decline in its market value. If the liberal arts curriculum still survives as the preferred course of study in some elite institutions, this fact has everything to do with the class constituency of these institutions. With few exceptions, it is only those students who belong to the financially secure upper classes who do not feel compelled to acquire professional or technical knowledge as undergraduates. The professional-managerial class, on the other hand, many of whose members have only recently attained to middle and upper middle-class status, depends entirely on the acquisition of technical knowledge in order to maintain its status, or to become upwardly mobile. (p. 46)

Moore (2006) explains that it is the plight of technical and professional communication faculty to struggle against this power dynamic. Failure to gain the upper hand in the power struggle means technical and professional communication will be forced to continue its supporting role in service to literature.

Concerns over support crop up in other pro-English department discussions, like Rentz, Debs, & Meloncon’s (2010) departmental history, with firsthand accounts of department heads arguing against filling technical and professional communication faculty vacancies (p. 289). Tensions over
adequately hiring for technical and professional communication positions are nothing new, and Adams (1993) notes, historically, as increasing numbers of writing instructors were hired and began moving “away from traditional methods of teaching composition, their classes began to seem like an anomaly in the English department and the teachers themselves did not fit in there” (p. 148), causing related “conflict…concerning the proper academic credentials and publication expectations for these faculty hires” (p. 151). Thus, the lack of support could be seen first in whether or not technical and professional communication positions were created and filled, and second in whether the new hires were embraced or criticized for their academic backgrounds.

Concerns over support similarly play a large role in those calling for technical and professional communication’s repositioning. It is mentioned in passing in Sullivan and Porter’s (1993) discussion when they question whether technical and professional communication will be given enough “resources (or respect)” (p. 416), but the issue rises to the forefront in their retrospection, and Porter argues that while technical and professional communication remains in departments of English it will never rise above “second- or third-class citizenship” (Porter & Sullivan, 2007, p. 16). When Sides (1994) argues that technical and professional communication should move to departments of communication, he brings up instances of departments resisting the addition of technical and professional communication courses, the questioning of technical and professional communication research and fewer opportunities for tenure and promotion for technical and professional communication instructors (p. 3). Maylath, Grabill, and Gurak (2010) explore issues of support at the institutional level at four universities and note the importance of support in both intra- and interdisciplinary arrangements.

Identity

Concerns over disciplinary identity are in many ways connected to perceptions of support. Moore (1996) argues for transforming disciplinary identity so technical and professional communication can properly extend to types of documentation not typically acknowledged by the humanities. Thus, departments of English may need to change to accept technical and professional communication’s identity. Rentz, Debs, and Meloncon (2010) note the importance of balancing traditional departmental areas of study with technical and professional communication’s interdisciplinary identity and the tensions that can arise from that balancing act. Identity is at the heart of Sullivan and Porter’s (1993) article, particularly the effects of cur-
ricular geography on identity and power. Porter and Sullivan (2007) note in their retrospection, “English departments often undermine the disciplinar-
ity of professional writing” (p. 16) and raise concerns over departments, in general, as being detrimental to interdisciplinary pursuits, a vital compo-
nent to technical and professional communication’s identity. Sides (1994) is concerned with what he perceives is a growing gap between the identities of departments of English and technical and professional communication, where an emphasis on literary theory is damaging and inappropriate for technical and professional communication’s identity and technical and professional communication’s interdisciplinary goals, particularly involv-
ing emerging technologies, are not sufficiently met. Maylath, Grabill, and Gurak (2010) explore issues of identity on a case-by-case basis with their institutional overview, but hint at a larger importance over departmental positioning, viewing “structures as disciplinary arguments” (p. 277).

MacNealy and Heaton (1999) describe something of an identity crisis among survey respondents, who are torn between preserving humanistic goals while embracing research and technology. It’s worth noting that some technical and professional communication faculty might be seen as channeling an inherent discomfort with what they perceive to be an over-emphasis on the practical aims of the discipline, which we will discuss in the following section. In particular, one respondent notes: “Professional writing should be linked to humanistic and cultural traditions—not turned into a trade school” (MacNealy & Heaton, 1999, p. 56). To better understand these tensions, which arise anecdotally in this and other articles, one could examine departmental history at the institutional level. In the discipline’s formative years, writing programs developed departmentally in areas of need (Russell, 2002), and as Davis (2001) explains, “we grew differently depending on where we were planted” (p. 141). Greater focus should be placed on how this departmental growth might affect perceptions of identity and desire for relocation. Those who have already undergone one or more departmental moves would also have a unique perspective.

As part of a larger trend, interdisciplinary identity is seen as something integral to technical and professional communication’s makeup, some-
thing that, if not cultivated properly, will affect the discipline detrimentally. When Rachel Spilka (2002) set forth important perspectives on technical and professional communication as a discipline, she noted that “modern technical communication has borrowed considerably from a variety of related fields, including rhetoric, linguistics, graphic design, psychology, organizational communication, and computer science” (p. 103). That atten-
tion to interdisciplinary identity showed up in the postmodern proposal
of technical and professional communication’s departmental position with English by Sullivan and Porter (1993), but technical and professional communication’s location within English has not always encouraged interdisciplinarity to the extent that some authors would prefer. Davis (2000) suggests technical and professional communication should be compelled to seek out the disciplinary insights of more technical disciplines in order to properly adapt to the “multidisciplinarity” and “cross-functionality” required the proper growth of the discipline in the modern age (p. 142).

Williams and Bekins (2005) propose technical communication relocate departmentally, while remaining its “humanistic and rhetorical core” (p. 668). Linn K. Bekins and Sean D. Williams (2006) reiterate the point in their argument that the success of technical and professional communication depends on strengthening its interdisciplinarity in order to produce individuals ready to become members of the “creative class” (p. 289). In particular, becoming a successful member of the “creative class” means embracing an interdisciplinary identity and harnessing skills that allow technical communicators to transcend a role of a subject matter expert, the skill-based aspect of technical and professional communication which limits the discipline to the transmission of data rather than the creation of data, and to embrace the roles of managers and leaders (Bekins & Williams, 2006, p. 289). Bekins and Williams (2006) look to “finance, management, organization communication, performance analysis…human resource development…business schools…psychology and communication studies…[and]…industrial engineering” for the requisite knowledge to move the discipline forward (p. 291).

**Practicality**

Practicality, in this case, how a program’s location influences its effectiveness in preparing students for practical applications in the workplace, also referred to as the “pedagogy-practice gap” (Gordon, 2009, p. 121), notably receives uneven treatment across the literature, though it is rooted deeply in technical and professional communication’s history. As Adams (1993) notes of technical and professional communication’s formative years, “teachers in all of these writing disciplines continued to ask whether their classes were providing better training than years in the world, on the job; whether they were too theoretical or too practical…whether they gave too much attention to the authors’ processes or their products” (p. 151). For Moore (1996), practicality is a major point of contention, and he argues the practical side of technical and professional communication is undermined by the removal of instrumental discourse to the point where there are
“students whose college educations have failed to prepare them well for writing in the marketplace” (p. 105). In this sense, practicality is at the heart of redefining technical and professional communication’s identity and role in departments of English. Rentz, Debs, and Meloncon (2010) describe meeting resistance within their own department, and must “justify teaching so pragmatic a subject and...defend the ethics of working for business or submitting to technology” (p. 287).

Practicality is also a major point of discussion for Sullivan and Porter (1993), and all four distinctive features of technical and professional communication which they identify—emphasis on “workplace writing,” incorporation of “human-computer interaction studies, graphic design, typography, computer-technology,” emphasis on “the roles that various technologies...play in composing processes,” and a “focus of interest...[on] the career writer”—are related to it (p. 415). For Sides (1994), practicality is one of utmost concern, and he worries about “falling behind industry pace” while questioning the practicality of the impact of literary theory on technical and professional communication (p. 2). It is Sides’ (1994) concern over the impracticality of applying literary theory to technical and professional communication too liberally that prompts this hypothetical situation:

While there may be some valid academic reasons for this line of study, it seems to take writing for the audience over the edge, and one can imagine the reaction of high-tech professionals if literary scholars cum technical writing instructors tried to convince them that any interpretation of a Patriot missile deployment manual was possible, even valid. (p. 3)

Moore (1996) would go on to use that scenario as ammunition in arguing for the role of instrumental discourse in technical and professional communication, even though he stands at odds with Sides over the issue of departmental positioning. MacNealy and Heaton (1999), in the research that follows Sides, do not make a point to discuss the practical aims of technical and professional communication, but Bruce A. R. Maylath, Jeff Grabill, and Laura A. Gurak (2010) do, noting technical and professional communication programs that operate outside of departments of English are faster at “respond[ing]...to workplace trends and employment expectations” (p. 277). The argument stems from technical and professional communication programs having less “direct competition” with other communication or English-related disciplines, and greater autonomy in making departmental decisions (p. 274). Technical and professional communication programs located outside of departments of English are still bound by larger institu-
tional concerns when it comes to attempting to make large changes, like adding a new degree, but they have greater freedom in establishing new courses, which in turn gives the programs a greater ability to respond to the constantly evolving needs of students in preparing for the workplace (Maylath, Grabill, & Gurak, 2010). While the departmental histories explored largely support their claims, the scope is limited by looking at only four universities, and they paint a broad swath with their argument without including quantitative data. Additional research and attention should be given to departmental arrangements and how those arrangements influence the ability to provide an optimal and flexible learning environment for students.

Concerns over practicality also come up in literature that does not always suggest repositioning technical and professional communication departmentally, but which frequently provides the background informing the authors that do. Jay L. Gordon (2009) took a different approach at analyzing a tension that he identifies as existing within technical and professional communication itself relating directly to practicality, which he dubs the “pedagogy-practice gap” (p. 121). By examining the discourse of what technical and professional communication programs promote on program websites, namely practical preparation for students entering the workforce, as opposed to the discourse of what technical and professional communication academics write in journals, primarily theory-based, Gordon (2009) concludes “the differences are simply too striking and consistent to suggest anything else other than an illustration of a deep, internal conflict within the pedagogical discourses of PTC [professional and technical communication] programs” (p. 117). While Gordon shows that there is a noticeable divide in the language that technical and professional communication uses when describing itself in academic journals versus how it describes itself on institutional websites, his methodology leaves much room for interpretation. He notes he began his study with a “detailed coding scheme” for analyzing language, but eventually abandoned it for “a flexible, open-ended method,” because the original scheme was “more fine-grained than necessary” (Gordon, 2009, p. 116). While the coding scheme might not have served his original aim for the discussion, many follow-up questions arise that cannot be answered unless more specificity is given. For example, what specific vocabulary do technical and professional communication programs use on websites? How often do they use it? What does that mean? How does that compare to the vocabulary used in journals? Where do they intersect? With what frequency is that vocabulary used in journals, and how often do journals devote space to discussions of workplace
preparation? A more transparent coding scheme with numbers to back it up would help readers see a quantifiable difference.

Gordon’s (2009) identified “pedagogy-practice gap” reveals concerns both hypothetical, like in much of the arguments mentioned earlier, and realized. Scott A. Mogull (2008) conducted research into the effectiveness of technical and professional communication programs based on findings of the “Scientific Communications Act of 2007,” which found, among other things, that students in science and engineering graduate programs were not afforded proper opportunities to develop communication skills (p. 357). Mogull’s own research, which involved interviews with eight scientific communication instructors selected through purposeful sampling, suggested the technical and professional communication courses only adequately prepared students to communicate in academic settings (p. 366), begging the question of the effectiveness of technical and professional communication courses, particularly those concerning scientific communication, in preparing students to communicate effectively in a number of practical situations. Mogull’s methodology is informed by grounded theory, and his qualitative analysis leads to a rich discussion, but a larger sample would benefit the study. Mogull acknowledges the limitations of the sample size himself, and follow-up research could help remedy this. In addition to a larger sample size of communication instructors, further research approached from the student angle could be valuable, particularly if looking at current and past students. The perspective of the student on his own learning process, and for past students, the effect of that learning process on transitioning into the workplace, would be valuable.

Research

Like practicality, concerns over research also receive uneven treatment across literature and more attention in articles arguing for technical and professional communication’s positioning outside of departments of English. Although research receives less attention than other common issues, it is worth noting research is sometimes addressed by proxy in discussions over financial support, and the willingness for departments to fund research. The question over accessibility to research data is another concern. Sullivan and Porter (1993) addressed research concerns along with other questions involving departmental location, wondering, “Will they have any faculty doing research in professional writing?” (p. 416), and Sides (1994) argued the benefits of improved research warrant repositioning technical and professional communication in departments of business and communication. Maylath, Grabill, and Gurak (2010) once again handled the topic
at the institutional level, but expounded on the benefits of locating technical and professional communication in technical and scientific departments due to increased access to research for both faculty and students.

Research is a major theme in Ramey’s (2011) departmental history of UW’s HCDE and is seen as a prime benefit from the program’s unique marriage of autonomy and engineering oversight:

The new faculty are coming in with healthy start-up packages that include personal lab space. They all have already won substantial external funding to support doctoral students on their projects. They are highly entrepreneurial and expect and intend to build up large, on-going independent research programs. This is really the full flowering of the phase of our evolution that began when we launched the graduate programs and adopted the engineering/sciences model of conducting research. (p. 93)

There is certainly a trade-off to operating under the engineering/sciences model of conducting research, and the willingness to make that leap draws attention to a significant divide between technical and professional communication academics following a similar model of research, with those academics almost always being located outside of departments of English, and those following a humanities model. Maylath, Grabill, and Gurak (2010) describe the trade-off when examining the University of Minnesota, where technical and professional communication degrees were housed in a college of agriculture. The effort required to bring technical and professional communication’s disciplinary pursuits in-line with those within a science and engineering college may be difficult, but the access to research data and the ability to “collaborate with actual scientists” can make the arrangement fruitful (Maylath, Grabill, & Gurak, 2010, p. 274). Bekins and Williams (2006) similarly promote the research advantages that come along with a greater connection with departments of engineering, noting the impact that increased access to “R&D labs” have on developing the conceptual skills necessary for technical and professional communication students to come fully vested members of the creative economy (p. 292).

Of these four common areas of concern, research comes up often enough and seldom enough to warrant additional consideration. In other words, concerns over research are raised enough to suggest that greater attention should be devoted to determining the relationship between departmental location and research. However, the fact that these concerns are not as widespread as some of our previous topics, like support and identity, suggests greater attention should be devoted to determining
the relationship between authorial concerns over research, departmental location, and authorial departmental preference, as well as a myriad of variables that might include variations that could be attributed to unique departmental histories, cultures, politics, structures, and more. For these reasons and others, concerns over research deserve further research.

**Looking Forward**

Despite a lack of consensus among academics over where technical and professional communication should be departmentally positioned, common concerns over the support of technical and professional communication programs, the preservation of disciplinary identity and interdisciplinary focus, and the ability for technical and professional communication programs to effectively prepare students to communicate in an increasingly technological workplace span the discussion. The ability for technical and professional communication programs to secure funding and resources to conduct meaningful research also show up as a commonly cited concern, though research is less pervasive than concerns over support, identity, and practicality, with research receiving greater attention and emphasis in literature proposing technical and professional communication’s positioning outside of departments of English.

From examining these common threads, and also the literature from which they emerge, there are a number of important points to consider going forward as academics continue to wrestle with the question of departmental positioning:

- There has been a noticeable trend in literature concerning the departmental positioning of technical and professional communication to rely on previous research, to provide commentary and analysis that focuses more on theoretical implications of departmental arrangements rather than new research and data. There needs to be more of a willingness to pursue new research with strict methodological rigor.

- There is a tendency among research to examine the departmental positioning of technical and professional communication in terms of location and growth, such as with Meloncon and Henschel (2013) but few attempts to connect location and growth to these common areas of concern (support, identity, practicality, research) to gauge effectiveness or perceptions of students and faculty.
• Because opinions of disciplinary identity can vary wildly due to individual experiences within institutions and local departmental histories, additional research should be done that focuses on how departmental growth affects perceptions of disciplinary identity and desire for relocation. Additional research should also focus on how those who have already undergone one or more departmental moves consider these questions.

• While there have been attempts to look at faculty perception of issues of support in broad manner (MacNealy & Heaton, 1999) and faculty perception over effectiveness in very limited scope (Mogull, 2008), methodologies differ greatly. Far more common is the detailing of departmental histories (Ramey, 2011; Rentz, Debs, & Meloncon 2010; Maylath, Grabill, & Gurak, 2010). Though these histories do not always provide the quantifiable data that can benefit the discussion, the histories prove valuable to understanding the nuances of technical and professional communication’s existence at the institutional level. Although greater attention should be given to quantitative studies, with such a small pool of new perspectives to work with, additional qualitative studies examining a greater perspective of departmental histories are also useful.

• Maylath, Grabill, and Gurak (2010) argued technical and professional communication programs located outside of departments of English are faster at “respond[ing]…to workplace trends and employment expectations” (p. 277), and use departmental histories to support the claim. However, with only four departmental histories to draw on, the scope of the article is limited, and additional research should be done with a much larger sample of universities.

• An interesting idea is brought up by Maylath, Grabill, and Gurak (2010) when they call for an analysis of departmental “structures as disciplinary arguments” (p. 277). The idea has been approached, even if not explicitly tackled, by a number of previous articles, including Sullivan and Porter (1993). That there has been some sort of conceptual connection between the location of disciplinary programs and disciplinary identity is largely acknowledged, but the extent of that connection and the ramifications of such have not been explored. One area worth looking at is how the multitude of departmental locations informs a fractured,
contradictory, or, at the very least, tenuous disciplinary identity, and how that shaky identity affects attempts at professionalization. Malone (2011) identifies the accreditation of academic programs as a major defining attribute of a profession (p. 287), and with technical and professional communication still lacking that attribute, one wonders what role the diversity in departmental locations and disciplinary conceptualizations plays here.

- Although Sullivan and Porter (1993) approached the discussion of departmental location and its affect on disciplinary identity, Porter and Sullivan (2007) later broadened their scope to question the value of departmental structures in general. Although questioning value is not isolated to the world of technical and professional communication, the discipline's interdisciplinary identity and willingness to break barriers and connect with a variety of departments means that the discussion might be well-suited here.

- Gordon’s (2009) discourse analysis identified a noticeable divide in the language that technical and professional communication uses when describing itself in academic journals versus how it describes itself on academic websites of institutions, but because his methodology is interpretive, there are unresolved questions. A more transparent scheme of analysis that looks at frequency of word and phrase usage would help readers see a quantifiable difference in the discourse.

- Mogull’s (2008) concern was primarily the efficacy of technical and professional communication courses in preparing students to communicate in professional workplace settings, and although his methodology was appropriate and well-explained, he acknowledged the limitations of his study due to a small sample size. Follow-up research looking at a larger sample of communication instructors would be of benefit, but additional research analyzing the student perspective would be illuminating. By looking at current and past students, one could have a greater understanding of the student’s perspective on his own learning process and the effects of that process on transitioning into the workplace.

- One potential hurdle that might explain why there is less new research and literature concerning technical and professional communication’s departmental history is the departmental loca-
tion of the researchers who would conduct the study or prepare the text. Research support is a problem that has cropped up in the literature at times, and one must consider if it would be more difficult to gain support for a study that might look at one’s own departmental configuration critically.

- Although concerns over research have arisen in some articles addressing technical and professional communication’s departmental positioning, there is still a noticeable lack of information concerning the effects of departmental positioning on the ability to effectively conduct research. Of the four major areas of concern (support, identity, practicality, and research), support, practicality, and research all fall in line with topics that could be quantifiably explored through further research. Research itself, however, remains the area that requires more information. All three provide ample opportunities for additional research. Doing so effectively might require jumping the hurdles mentioned above.

**Conclusion**

Although the attention given to technical and professional communication’s departmental positioning has waxed and waned over time, the body of literature addressing it continues to grow. Although authors can be firmly divided on the issue of technical and professional communication either remaining in its departmental home or exploring any number of different departmental locations, the concerns that those associated discussions address show, at the core, technical and professional communication academics care about the same issues. Literature relating to technical and professional communication’s departmental positioning forms a fabric which stretches through disciplinary discussions over the past 35 years, but that fabric can be strengthened greatly by renewed efforts to explore the debate through research. Whether or not that research will answer the question over departmental location once and for all remains to be seen, but the increased scholarship will undoubtedly improve the quality of the discussion and lead to more informed debate in the future.

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Departmental Positioning of Technical and Professional Communication


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Participatory Design Research for Curriculum Development of Graduate Programs for Workplace Professionals

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Abstract. The designer-researchers in this case study used participatory design research to investigate developing two interdisciplinary master’s degree programs tailored for workplace professionals in professional writing, media journalism, and public relations. Administrators asked faculty to develop programs that moved costs associated with education onto students, increased graduate enrollment, and improved graduate retention. This article shares details 16 workplace professionals gave during four focus groups and on a questionnaire. This article encourages participatory design for curriculum development of graduate degrees and offers the authors’ apparatus and reflections in order to give others a potential starting place.

Keywords. workplace professional, curriculum development, master’s degrees, graduate degrees, interdisciplinary degree, professional writing, media journalism, public relations, distance education, professional writing, technical communication, flexible learning, user-centered design, participatory design

The faculty in the case study discussed in this article received a top-down directive to develop one to two interdisciplinary master’s degree programs involving some combination of professional writing (PW), media journalism (MJ), and public relations (PR). The programs were
to incorporate alternative delivery methods and move at least some associated costs of education onto students. This directive came in the context of decreasing state support, economic hardship, and declining enrollment and retention at a small, former teacher’s college. A regional, urban university obtained the college to serve its outlying rural areas, expecting the campus to use flexible delivery options to help students overcome the challenges of travel time and costs of attending classes.

The directive indicated the graduate programs were to improve graduate recruitment and retention and support the economic development of campus. The purpose of the research, discussed here, was to simultaneously learn what was needed in order to create successful graduate programs and to design them as tailored for PW, MJ, and PR workplace professionals. The faculty who received this directive chose workplace professionals as their target learners in order to increase their chances at success, and they chose participatory design (PD) for curricula development in order to better construct these graduate programs with and for these practitioners. The purposes of this article are to (a) encourage PD for curriculum development of graduate degrees, (b) provide a potential place for others to begin such research-design by sharing the apparatus and reflections upon them, and (c) share details workplace professionals gave at one site.

**Background**

Although retention, recruitment, and finances are global concerns, it is important to understand local contexts when planning new curricula. A variety of factors seemed to contribute to diminishing recruitment and retention at the small campus, located nearly one and a half hours from the city. Existing programs were too similar to those nearby. The Internet was unavailable, unreliable, or unaffordable in the rural areas, meaning some students traveled up to three hours each way to attend. Many faculty members questioned distance delivery, students perceived remote campuses as inferior, and people used the classist referent “country” to describe the socio-geographic area of this campus. So, unless students benefitted from flexible delivery or a unique program, many had little incentive to attend this particular small campus and, therefore, tried to enroll at the city whenever feasible. If they needed to travel hours, they may as well go to the main, “reputable” campus.

Given these contexts and some pressure from legislation, the smaller university’s administration explored a number of strategies to cover costs. Out of a popular liberal arts graduate degree, they created a program wherein students received no in-state tuition or other “financial breaks”
and, thus, paid the full costs of their education. Going into its third year, the program remained somewhat popular, but the higher price tag for a degree available elsewhere did not provide the payout hoped for by administration. While there was not enough data to know if this degree was sustainable, these results suggested they could not yet rule out “no breaks” degrees from consideration.

Administration wanted to continue testing degrees that shifted costs onto students, so they adjusted variables and tried again. Unlike the liberal arts degree, the administration’s second attempt was a unique, professional, international business degree program focused on a very specific industry and was aggressively marketed overseas, targeting students who were denied admissions to such programs in their own countries. Administration saw the target students as highly motivated to pay for a graduate degree of this type. In terms of increasing enrollments and reducing financial stress, this program had some success; however, the nuanced combination of factors that went into making the program work also made it difficult to replicate even if other faculty, who sometimes viewed this scenario as predatory, would consider doing so.

Administration still sought a third graduate degree that moved costs onto students. Recognizing the first two as insufficient, they wanted a unique, applied, graduate degree that mattered locally. They turned to PW, MJ, and PR, seeing each as a potentially saleable degree program by itself and together as being in high demand, especially with media as a unifying factor. No institutions in this state offered PW within graduate degrees, and, while others offered communication and journalism, none emphasized PR or MJ. In the eyes of administrators, offering these concentrations together also made financial sense because the combination required just one administrative unit.

The university assigned one person each from PW, MJ, and PR to a Curriculum Development Committee (the Committee), charging them with creating one to two graduate degrees from these areas and enrolling students who would pay more than typical tuition costs. The Committee members did not really want to work together. Faculty in these areas sometimes dismissed each other’s disciplines, and they suspected potential students and their employers might be dismissive of a combined degree. If they could not address such tensions within an interdisciplinary degree, the programs would all be at risk.

The Committee saw their task as determining how to make a combined program work. This task was a problem-solving research and design challenge, and the Committee could not solve it alone. They needed the
students and stakeholders. The Committee judiciously selected workplace professionals, reasoning that professionals were most able to afford the higher costs, especially during the economic downturn; that employers would want higher quality employees; and that employees would want graduate credentials to be more promotable, marketable, and mobile. The Committee hoped that meeting the needs of workplace professionals would compel them to overlook the costs. Although, choosing workplace professionals meant targeting students closer to the city, which contradicted the university’s original objective of reaching people in rural areas.

To tailor their graduate programs for workplace professionals, the Committee conducted research by using participatory design (PD). PD is a way to “understand knowledge by doing” (Spinuzzi, 2005, p. 163), where “doing” means to “iteratively construct the emerging design” from “research results as co-interpreted by the designer-researchers and the participants who will use the design” (Spinuzzi, 2005, p. 164). Technical communication professionals in academe and industry became familiar with PD most especially through user-centered design (UCD), a form of PD that, since entering technical communication, has been a methodological and philosophical approach to researching and designing with users from the beginning of and throughout the design process (Dumas & Redish, 1993; Hackos, 2000; Hackos & Redish, 1998; Johnson, 1998; Nielsen, 1989; Nielsen, 1992; Norman and Draper, 1986; Rubin, 1994). Clay Spinuzzi (2005) explained that PD, often used during times of change, was an approach “just as much about design—producing artifacts, systems, work organizations, and practical or tacit knowledge—as it is about research. In this methodology, design is research” (p. 164). In this case, the iterative process using a variety of research methods was meant to systematically collect and check user data against faculty and administrator needs, desires, and assumptions about what workplace professionals and students want, need, and expect.

**Literature Review**

When the Committee began research on PD curricula development, their inclination for the literature review was quite simple. Each member would survey relevant literature and develop a canon for their discipline. For PW, this would be akin to developing the new *Central Works in Technical Communication* (Johnson-Eilola & Selber, 2004), *Solving Problems in Technical Communication* (Johnson-Eilola & Selber, 2013), or the *Technical Communication Body of Knowledge* (TC BOK). Then, the Committee would synthesize the individual surveys into a combined canon for the new degrees. While
the Committee understood the need to problematize canons, this served as a *topos* to begin working together across disciplines.

The initial move was clearly a misstep. For one, faculty members already knew the canonical work in their own fields, and, so, in their crisis-driven environment where disciplines and programs were fighting for existence, such an activity sometimes bordered on trying to prove worth or superiority. These experiences indicated that dividing and conquering the literature review task was also dividing the faculty. Second, this divide kept them in their familiar territory instead of investigating what they did not know in the other disciplines.

Peter Vandenberg and Jennifer Clary-Lemon (2010) provided a more thoughtful frame for thinking about a master’s program, which they described as “uniquely connected to its institutional home in a way that the PhD is not” (265). They explained that “by default,” master’s degrees must be responsive, diverse, and flexible, emerging as “more of a sluice between the institution at large and the wider community of which it is a part” (p. 265). According to the authors’ follow-up with programs listed in the 2005 *Rhetoric Review* survey, successful master’s programs usually responded to a local need, specific employment opportunities, or some institutional demand.

The Committee needed a better understanding of its wider community, particularly the needs of workplace professionals as students. Research to help practitioners and pedagogues understand technical communication as situated in professional and workplace contexts started in the mid 1980’s with Lee Odell and Dixie Goswami’s *Writing in Nonacademic Settings* and proliferated in the 1990s and early 2000s with collections by Rachel Spilka (1993), John Reynolds, Carolyn Matalene, Joyce Magnotto, Donald Samson, and Lynn Sadler (1995), Jean A Lutz and C. Gilbert Storms (1998), Jim Henry (2000) and more. While such research continues, this work provided insight about what writers needed to be successful and what they needed to know in the workplace, which can be used to frame thinking about curricula. However, these works did not tell the Committee about workplace professionals as students, and “[p]rogram designers need a clear vision of their goals and target student group” (Rude, 2005, p. 70). The Committee needed to determine what workplace professionals needed to succeed as students.

In their contribution to the *ASHE-ERIC Higher Education Report*, John Weidman, Darla Twale, and Elizabeth Stein (2001) promoted a plan of improving graduate program enrollment and retention through a collaborative, holistic approach to meeting graduate student needs. Their
strategy involved alternative learning approaches designed to end feelings of isolation felt by graduate students during the solitary process of writing a thesis or dissertation. The authors asserted that “collaborative learning communities, while helpful for many different types of graduate students, seem to be especially critical for the growing population of part-time and distance learning students” (Weidman, Twale, & Stein, 2001, pp. 95), and they encouraged interactive group learning with team activities to build collaborative skills. They suggested improving graduate programs by focusing on group work and professional networking and by upholding a collaborative educational community that encouraged questioning, debate, and critical thinking.

Regarding the online technical communication classroom, Angela Eaton (2013) replicated an earlier study designed to determine student needs. Students wanted online degrees because online degrees fit around work schedules and there were no relevant programs nearby. Students sought master’s degrees to improve their skills and retain their jobs. The students valued faculty who maintained an active presence; who had organized, structured courses; and who understood technology. Based on their Survey of Technical and Professional Writing Programs, Nancy Allen and Steven T. Benninghoff (2004) stressed that to be successful, programs must successfully develop students’ technological skills. Their article, “Closer Look at Four Developing Programs,” highlighted how Weber State University, Virginia Tech, Michigan State and Rensselaer State all had multiple courses that introduced students to new technology. It would seem that theory is fine, but practice is supreme.

The Committee needed to answer other questions. What scholarship about developing graduate degrees in their fields already existed? What challenges were already faced, problems addressed, and advice given? What were the experiences and outcomes of those designing interdisciplinary or professional degrees?

In a case similar to the one in this article, Barry Maid and Barbara D’Angelo (2013) asked, “What Do You Do When the Ground Beneath Your Feet Shifts?” Their article addressed the rise and shift of the Multimedia Writing and Technical Communication program at an Arizona State University campus meant to serve a geographic area where many students worked full time. This once independent program was rehoused in another school under a different unit and then given a new name, “Technical Communication.” The program lost control over its own budget, and the allotment for administrative tasks was decreased, resulting in fewer resources for assessment or ongoing conversations among program developers,
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As pointed out by Michael J. Giordano (2000), programs can easily disappear in turf and budget wars. The move also separated the program from its campus partners, some of which were also moved, and placed them in a less hospitable environment. The program became more generic but increased enrollment.

Before the administrative troubles escalated at Arizona State, the program found success by focusing first on establishing outcomes, standardizing course structure and modules, and then regularly assessing the program. The effectiveness of the classes declined, however, as flexible course design increased: Flexibility “resulted in inconsistency across sections,” thereby eroding the “programmatic cohesion based on outcomes and the curricular consistency” (Maid & D’Angelo, 2013, p. 16). Maid and D’Angelo (2013) advised that it is foundational that others taking on such work “be as inclusive as possible on the front end and then create options for all faculty teaching the course to engage in ongoing curricular development” (p. 20) as well as include flexibility for “pedagogical preferences and expertise” (p. 20) while being structured and consistent in learning outcomes and design.

Because the Committee worried about the program failing, they looked to the literature to see what causes failure. Programs in rhetoric, technical, professional, and scientific communication traditionally failed because they struggled to establish identities (Johnson, 2009) and had low program visibility (Leslie & Northcut, 2013). Kathryn Rentz, Mary Beth Debs, and Lisa Meloncon (2010) highlighted three tenants for professional writing programs to succeed in environments that are not just their own: become “visible contributors” by finding ways to integrate the “program’s purpose and needs into the Department’s priorities” (p. 290), “use caution when responding to the demand for professional writing coming from outside the department and encourage demand[s] coming from inside” (p. 291), and lastly “nurture an intellectual…compatibility across English subfields” (p. 292). The last tenant is clearly important because “most (81 of 127; 63.8%) technical communication programs are housed in departments of English” (Yeats & Thompson, 2010). Rentz et al. (2010) had wide and varied allegiances but learned to focus first on their students before adjusting classes or policies for others.

Johndan Johnson-Eilola and Stuart A. Selber (2001) also argued for engaging in ongoing cooperative development to enhance programs in one of only a few articles to offer advice on overcoming challenges of academics working with practitioners. They highlighted gaps of knowledge between practitioners and academics, indicating that neither camp can

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seem to agree on what to value in the other. Indeed, they cautioned us not to view the interactions of academics and practitioners as “a one-way process: students graduate to the ‘real world’” (Johnson-Eilola & Selber, 2001, p. 412). For a program to be successful, the path needs to be recursive.

Methods

The Committee started the PD curriculum development process by conducting four focus groups and implementing a questionnaire with workplace professionals. In PD, “research tends to be expressed in a purpose statement rather than a research question” (Spinuzzi, 2005, p. 169). Overall, the purpose of this research was to design interdisciplinary graduate programs tailored for workplace professionals. More specifically, the purpose of this research was to determine workplace professionals’ interests in postgraduate, potentially interdisciplinary, degree programs in the fields of PW, MJ, and PR. To do so, the Committee aimed to identify what workplace professionals wanted to learn, by what means, and under what conditions, and what would aid or prohibit workplace professionals as learners from successfully completing their programs. As discussed in this article, the Committee also wanted to understand workplace professionals’ expectations of people, support, and the learning experience. Finally, the Committee wanted to know what advice workplace professionals had and what should be explored during future research.

Designer-Researchers: The Committee

The designer-researchers are the Committee members and an independent facilitator. Member 1, a newly tenured professor, previously worked as a PR practitioner. Member 2, up for tenure during the time of this development, previously worked as a print journalist and then news editor. Member 3, an author of this article, was an interim faculty member while a PW faculty member was on leave and the department searched for two new tenure-track faculty members in PW. They each received one course of reassigned time for one semester, which is the timeframe for the PD research discussed, here. The independent facilitator worked at a consultancy that conducts research for companies and trains people in research methods. She was compensated per her current rate.

Participants: Workplace Professionals

The goal in PD research, as the Committee applied it to curriculum development, was formative: to develop and solve problems for a particular situation. So, rather than select participants through random sampling,
researchers recruit actual students and stakeholders. Because there were no actual students, yet, it was important to recruit active members of the target professional communities. Sixteen workplace professionals participated (without compensation other than snacks); although, the findings were based on 15 participants because one asked to be excluded from publications. Six participants identified primarily as PW, five as journalism, and four as PR.

**Sampling**

For initial analysis, 15 was an acceptable number of participants for two main reasons. First, the primary power in PD is internal validity, which the Committee accounted for in their design. Spinuzzi (2005) explained that internal validity in PD relies upon three criteria: quality of life for workers built in through reflection, agreement, and codetermination (see also Bødker & Grønbæk, 1991; Muller, 1991); collaborative development through involvement, consensus, agreement, and representation; and iterative processes through continual participation of revisiting stages and sustained reflection (Spinuzzi, 2005, pp. 169-171). The Committee used PD to design for “quality of life,” focusing on goals of higher education, disciplinary values, and accessibility of graduate credentials to learners. Regarding criteria two and three, the questionnaire and focus groups were just the first methods in an iterative, reflective process of co-designing with workplace professionals. Results of these additional iterations are outside the scope of this article.

Second, tailoring curricula for particular audiences is better measured by usability standards for gaining insights and identifying problems for practical purposes at a local site than it is for researching knowledge that is generalizable for other locations. Early research regarding usability indicated a need for only a small number of users (Al-Awar, Chapanis, & Ford, 1981; Virzi, 1990; Virzi, 1992; Wright & Monk, 1991). And, although later research problematized such findings (Spool & Schroeder, 2001; Bevan, Barnum, Cockton, Nielsen, Spool, & Wixon, 2003), more recent research suggested that five to ten participants could be acceptable when researchers understood what that number means (Nielsen, 2000). In an examination of 83 cases of usability studies conducted by the Nielsen Norman Group, having more users did not lead to “appreciably” more insights (Nielsen, 2012). The first five to eight users of a test found up to 85% of the problems that more than 31% of users would face, but finding more problems and improving the design came, not necessarily by running any particular test with more users but, by testing more tasks, conduct-
ing additional iterations, and triangulating through a variety of methods (Lindgaard & Chattratichart, 2007; Nielsen, 2012; Nielsen, 2013). From the perspective of return on investment, then, additional users are more valuable in these subsequent steps, the discussions of which are outside the scope of this article. The Committee planned additional research to complete after this initial analysis: walkthroughs, interviews, collaborative design sessions, and open meetings with multiple stakeholders.

**Selection**

Over a period of five weeks, the Committee recruited workplace professionals in three ways. They invited attendees at meetings of the Society for Technical Communication, the International Public Relations Society, and the Media, Entertainment, & Arts Alliance. They asked their 17-member advisory board (including fellows, government agents, company and organization board members, and editors of news organizations, television stations, and journals) for referrals, and contacted those referrals via telephone. Finally, the Committee sent a press release to chapter presidents of related organizations, advisory board members, and university announcement channels. In each case, participants were told the university was investigating the possibility of developing graduate degrees in PW, MJ, and PR and researchers wanted input from workplace professionals.

**Data Gathering: Procedures**

In a university facility in the city, the Committee conducted two 50-minute focus groups on two consecutive Friday nights, for a total of four sessions. The facilitator welcomed participants, prompted them to complete the informed consent form and questionnaire, and then encouraged them to talk with other participants. The facilitator then seated participants to best facilitate conversation, explained the purpose for the meeting, emphasized that they were helping develop graduate degrees, overviewed the process, indicated that they were being audio recorded, reminded them that they could withdraw from participation at any time, and asked if anyone wanted to leave.

To increase confidence in the validity of notes the Committee took during the focus groups and to increase reliability of understanding responses across team members, the Committee stepped aside in order to summarize what they heard during the facilitated conversation. The facilitator read the Committee’s summary to the groups and asked participants to verify its accuracy. A Committee member recorded responses. The Committee thanked the professionals, encouraging them to participate in the
next steps, refer participants, and phone or email comments or questions. The research team debriefed, focusing on accuracy of data and verifiability across each other, and they noted identifiable patterns or surprises. During later analyses, the team referred to handwritten notes from the sessions, the debrief, and the audio recordings.

**Apparatus: Questionnaire and Focus Group**

The apparatus included an informed consent form, questionnaire, and a focus group note-taking form with script. The independent facilitator designed the apparatus in consultation with the researcher-designers and based on their goals.

**Questionnaire**

Researchers distributed a questionnaire (see Appendix A) to learn about participant demographics: where they lived or worked in proximity to campus, professional qualifications and engagement in professional development, and employment disciplines, positions, and roles. The Committee chose a questionnaire for the economy of time in answering, balanced with the ease of analyzing and comparing results because of uniform questions and, for most of the questions, a highly standardized structure.

**Focus groups**

The Committee chose focus groups to help researchers make decisions and guide product or program development because these groups are designed to make people feel comfortable and get them to disclose something (Greenbaum, 2000; Krueger & Casey, 2009). When people disclose something, they influence others, and focus groups help researchers observe responses and how people and responses influence others (Greenbaum, 2000; Krueger & Casey, 2009). According to Richard A. Krueger and Mary Anne Casey (2009), if there are at least three focus groups, they can help researchers find a range of opinions in a group that otherwise has some similarity. The Committee sought opinions and insights into program development from groups of people interested in graduate studies. The focus group script and note-taking form contains a rationale for each question (see Appendix B).

**Findings**

Findings in this section summarize demographic and professional data as well as responses to questions about workplace professionals’ interests in post baccalaureate education, expectations about graduate programs, and
their deciding factors for enrolling and maintaining enrollments. When looking at tables in this section, numbers in parentheses indicate the number of respondents who made such a remark.

**Demographics**

General demographic data about participant age, gender, and family makeup can be found in Table 1 (see Appendix C for Tables 1-19). There are not enough participants for the data to be generalizable to other sites or to the degrees being developed, but this gives a starting place for thinking about the next iterations of research.

Although the Committee wanted to understand how having dependents at home might influence the likelihood of participating in post-baccalaureate education, the data received was unreliable because more respondents left the question blank than those who answered it. In response to other questions in the initial analysis, participants indicated that the university should provide childcare. Future iterations in this PD need to emphasize the importance of participants disclosing such information if the Committee is expected to design appropriate support systems.

The questionnaire asked where participants lived and worked, although this is not represented in the table. During the focus groups, students said they would travel no more than 30 minutes on a regular basis to get to class. Almost no respondents lived within 30 miles of the rural campus, which makes sense given the Committee recruited at meetings held in the city. Although the Committee found this worrisome, these participants did not expect classes in these proposed degrees to meet on a regular basis. We address this later.

**Professional Data**

When the questionnaire and focus group data regarding professional details were combined, it became clear that, during future iterations, terminology needs to be analyzed and operationalized more fully. The Committee used the term “professional writing” because it was the name of an existing undergraduate emphasis. Although the Committee meant “professional writing” to generally reference technical communication, workplace professionals viewed the term as an umbrella descriptor, not an indicator of a specific discipline: Six participants identified on the questionnaire as professional writers, but, according to focus group conversations, they meant that they wrote for a living. Three “professional writers” worked as technical communicators, two as journalists, and another as a television scriptwriter. Although the Committee thought it was representing a broad
version of technical communication, others did not understand the term that way.

When the technical communicators explained their profession during the combined focus group, MJ and PR administrators implied that such a profession was inferior because MJ and PR professionals do technical communication work as a mere part of their “actual” work. Consequently, a participant suggested that including technical communication in the graduate programs would diminish the program’s worth, to which others agreed. During informal conversations before the focus group, one participant said to a Committee member, “I can’t believe they have us here with these technical writing people.” Another participant whispered, “It’s the journalists who shouldn’t be here.” These comments might reflect only this small group, that the Committee did not define the disciplines, or that the PW member of the Committee was brought in from elsewhere while the MJ and PR members were well-established practitioners in the area. Alternatively, MJ and PR might simply be dismissive of technical communication and, therefore, such an interdisciplinary degree might be doomed to failure. In any case, the data indicate technical communication was neither well defined nor well represented in the participant group and the Committee has more work to do to figure out the relationships between disciplines. The Committee decidedly did not define the disciplines. They wanted to gauge responses, which is a power of focus groups. Future iterations need an established technical communicator to connect the Committee to the technical communication community.

Subsequent iterations need participants to fully understand each discipline. During PD, designer-researchers need to further investigate how the disciplines might fit together from the perspectives of skills, knowledge, and working relationships. Additionally, participant answers on the questionnaire suggested that “trainer” and “manager” be explored as potential content areas, and answers during focus groups suggested that “scriptwriter” (screen and television) be explored more fully.

**Workplace Professionals’ Interests in Post-Baccalaureate Education**

Before developing graduate programs, it seemed important to know if workplace professionals were even interested in them.

*Have they looked?*

When combining participants who have completed graduate work with those who have investigated it, 66.66% of participants were interested in
post-baccalaureate education (see Appendix C for Figure 1), which suggests it is worth continuing analyses.

**Why did they look?**
Most often, employment factors prompted participants to look into post-baccalaureate work, as did educational and environmental factors (see Table 3). The responses highlight the importance of the Committee investigating which theories, practices, and research would support learners and which would make them competitive within each discipline.

**What benefits did they perceive?**
Although participants investigated post-baccalaureate education primarily because of employment factors, their perceived benefits included knowledge, personal benefits, and marketability nearly equally (see Table 4). The responses emphasize the need to use future iterations to determine what knowledge, practices, and theories would be most valuable in the workplaces.

**What did they most desire in such programs?**
The quality of graduates (4) was named most often as the desired characteristic of graduate programs, followed by program reputation (2), accreditation (1), and recognition at work for education (1). These results indicate a need to define “quality graduate” during PD, and it might indicate the need to emphasize to students that their peers believe their performance is not only a matter for themselves but also for upholding the reputation of their classmates and program.

The desire for a program with multiple exit points (accreditation, certificate, and master’s degree) was stated with great emphasis, indicating the Committee needs to think strategically about how to study these options further. Some employers required journalists to have specific accreditations, which is why accreditation was emphasized, but thinking about the program as one whole with multiple exit points was new. Scholarship related to certification programs can help begin such investigations (for example, Carliner, Pohland, & Jong, 2014; Carnevale, Rose, & Hanson, 2012; Nugent, 2013).

**Expectations about Graduate Programs**
When workplace professionals were asked about their expectations for graduate programs, they focused on three areas: people, support, and the learning experience.
Expectations of People
Workplace professionals had expectations for faculty and other graduates.

Faculty. Undeniably, workplace professionals expected faculty to have a practitioner background (see Table 5). They expected those who did not would supplement the classes with guest lecturers that were practitioners. As development of the degree moves ahead, the Committee needs to consider how to meet these needs while also considering what workplace professionals may not yet know is important.

Graduates. Workplace professionals identified two key expectations of graduates (see Table 6): Experience (14) and an understanding of the industry (13). Understanding of the industry was particularly important at the graduate level, and practical experiences mattered more than the degree focus. These suggest curricula may need to focus on practice as situated in conceptual knowledge, which is something to explore in future PD phases. It also raises more questions about how to define technical communication and the degree focus; how to explain “the industry,” especially within an interdisciplinary program; and how to fit these questions together.

Expectations of Support
Workplace professionals had expectations for support regarding faculty and staff (24), the library (20), and technology (20).

Faculty and staff. Table 7 identifies workplace professionals’ expectations for faculty and staff. There was general consensus that workplace professionals expected the same professional standards in academe as they did in industry. Overwhelmingly, workplace professionals expected timely—for many, immediate—responses from people at the university, particularly faculty. Elsewhere, dissatisfaction with faculty communication was also common. A 2010 project on student expectations found that students were most disappointed with activities linked to student-faculty interaction, including communication frequency and faculty availability (Mancuso, Desmarais, Parkinson, & Pettigrew, 2010). As the PD moves along, designer-researchers need to determine how to manage this demand.

The expectation that the university provide childcare was surprising, but it came from more than one focus group, so the
response was not a result of group dynamics. Given the number of people who answered that they had children at home and the number of people who did not answer, childcare may be a key consideration to investigate through PD. If the degrees are an imperative to the university, and childcare is imperative for recruitment and retention, it might be worth making childcare available.

**Library.** Table 8 identifies expectations about the library. Some participants expected the library to “serve” them rather than just be available to them. They wanted all course-related materials to be available online, thus eliminating the costs and chores of purchasing materials. They also expected librarians to gather materials and, as one person suggested and others agreed, send them to learners. If this transfer was not completed electronically, it might be done via postal service or courier. Future iterations in this PD need to determine how to manage these expectations and investigate the return on investment of such services, particularly if this audience is key to success. Britt Fagerheim (2013) provides hope for such students when describing new instructional materials and “embedded librarians” designed to serve students.

**Technology.** Participant responses about technology, as identified in Table 9, implied technology was a course topic or tool rather than a course delivery mode. In short, participants expected a business center so they could still function in their professional capacities from campus, and, to a lesser extent, to use technology to engage in the class while away from campus. Campus stakeholders need to be involved to determine how to address or manage these expectations.

**Expectations of the Learning Experience**

Participants also identified expectations and desires for support, resources, and their educational experience. In each case, future iterations of the PD research need to further investigate needed and desired characteristics of the learning experience.

**Place.** Given the background of the directive to build these degrees, place was a key concern during PD. While administration assumed campus should provide distance courses, participants called for more nuanced solutions (see Table 10). While participants did not reach consensus about how often to meet face-to-
face, it was clear that they expected to do so. They indicated that they valued interacting with others face-to-face, did not want to go to campus every week, but also did not want a distance degree. This highlighted the need to use PD research to consider flexible delivery options.

**Time.** Participants gave varied responses when asked when they would like to participate in graduate courses (see Table 11). Evenings, weekends, and holidays stood out as the most common responses. This feedback suggests, if tailoring to workplace professionals is paramount to the success of the programs, then faculty might need to rethink their work hours; although, further research needs to be conducted to see if other workplace professionals have similar expectations. One focus group session called for rethinking time altogether because the goal of education was not seat time but demonstrating knowledge and skills. This group suggested meeting at the beginning of the semester to go over the course and deciding as a class when and where it would meet. These responses further emphasized the need to consider flexible delivery options.

**Environment and delivery.** When asked about the learning environment, participants did not reach consensus (see Table 12). During one focus group, participants imagined remote learning centers where students shared physical workspace, could meet up with others, or could get their own work done. These would be located close to their homes or workplaces and would be offered in addition to class environment. Participants indicated there should be a variety of course structures both for face-to-face and alternative meetings (see Table 13). These responses underscore an increasing need to explore flexible delivery options.

**Curriculum.** The most common expectations, here, were: work focused on application, alternatives to theses, and program credit for workplace competencies (see Table 14). The Committee had expected to hear more about content. They were also hoping to obtain information to help them think about ways to combine theories, practices, and knowledge within interdisciplinary programs. Additional PD research needs to concentrate on content, and it needs to include workplace professionals as well as a more exhaustive literature review that synthesizes materials from across
these disciplines. The literature review would help the Committee members become familiar with the key research in the other fields.

**Instruction.** Despite a pattern of responses indicating participants did not want traditional instruction by meeting weekly on campus, when asked how they learned and about a worthwhile learning experience, most participants identified some sort of formal sessions (see Table 15). When combining this response with other responses about how participants learned—talking and experience—the data suggested that what people say they want and what they need may not completely align. Throughout the PD process, the Committee needs to identify how to best balance wants and needs.

**Deciding Factors**

Although 66.66% of participants expressed interest in graduate work, the Committee wanted to know the deciding factors for enrolling and completing graduate programs.

**Reflections**

After reflecting upon their conversations, participants’ primary thought was employers needed to offer incentives for additional education (see Table 16). Given the Committee was targeting workplace professionals, it is important for them to involve employers as stakeholders throughout the rest of the PD research and to determine potential incentives. Further, participants indicated there should not be any or, at most, low educational fees, and there should be low interest loans available. Given the Committee chose workplace professionals because of a perceived ability to afford “no breaks” programs, more work needs to be done to work with employer and campus stakeholders along with potential learners in order to see if the solutions are viable.

**Deciding Factors for Enrolling**

Key deciding factors for enrolling included *ethos* of both the program and faculty, flexibility in the structure of the program, and support from employers (see Table 17). The clinchers for workplace professionals to enroll, though, were program excellence and relevance (see Table 18), highlighting the significance of non-pecuniary benefits. Focus group participants wanted an improved personal status or employment situation. At least according to what participants said, then, even if the programs were flexible
and supported by employers, to get people to enroll, the programs would need excellence, relevance, and an influence on the potential learner’s personal or professional status. The Committee needs to do more research to understand how participants define excellence, relevance, and personal and professional status.

**Barriers to Enrolling in or Completing Programs**

Workplace professionals identified the following barriers to enrolling or completing graduate programs: resources, content, faculty and pedagogy, personal motivation, knowledge, access, and poor quality students (see Table 19). As hypothesized, time was the biggest hurdle. Counter to the assumption that professionals had (or would be willing to spend) financial resources to enroll at all, no less to enroll in “no breaks” degrees, workplace professionals were concerned about costs. This finding aligns with results from other studies. Gayle V. Davidson-Shivers, Wilhelmina C. Savenye, and Karen L. Rasmussen (2012), for example, identified budgeting and the student body as two barriers to education. This finding stresses the importance of the Committee co-designing and co-researching with workplace professionals to determine ways to incentivize the programs and to bring data back to administration to discuss implications and solutions.

**Discussion**

This discussion provides broad stroke profiles of participants based on this first pass at gathering information, and it offers additional notes about revising the apparatus for future use.

**Profiles of Potential Students**

After analyses, it is common for PD designer-researchers to develop user profiles. The Committee needs more data before making more concrete, representative profiles, but they were able to produce a first glance at three emerging profiles they could use to move forward, profiles they will continue to develop as they continue their research. Because the following profiles emerged from participant responses, and because some participants had more than one response, participants may be included in more than one profile. For example, one respondent whose personal mission was to create the best journalism-training program in the country already hired employees but indicated an interest in further education to improve skills and increase knowledge.

Although the Committee thought it was investigating potential students and master’s degree programs, three categories of participants emerged: those who may want graduate degrees, those who may want
accreditation or certificates, and those who may want to hire graduates. Unsurprisingly, there was a correlation between those with the lowest salaries and those who expressed interest in obtaining graduate credentials and, inversely, between those with the highest salaries and expressed interest in hiring.

One unexpected characteristic seemed to have some significance across categories: The majority of people interested in obtaining graduate credentials had been in their current position for one year or less, even if they had been in the field much longer. Further investigation is needed to determine the strength of this correlation. This characteristic may reflect that active membership in professional organizations includes a high percentage of job changers or that job changers were more likely than other members to participate in this study. The Committee plans to consider alternative ways of recruiting for future iterations.

**Pursuing graduate degree, 20% of respondents**

Based on this exploration, the profile for a person who aims to complete a graduate degree is anywhere between 20 and 69 years of age (based on one response in each category: 20-29, 40-49, and 60-69) with an undetermined gender, marital status, and number of dependents living at home. This person has a 67% likelihood of being in the lower salary range with a 33% chance of being in the upper range. The person could be a manager (65%) or freelancer (35%) without a stated goal, with the goal to keep doing the same thing, or with a goal to achieve something particular for which the education is integral. Participants who expressed interest in obtaining a graduate degree were in their field for an average of 13.6 years and a median of 13 years but in their current positions only one year or less. Further studies would look at potential students and employers separately. There needs to be more data about workplace professionals who may be interested in obtaining graduate degrees. The participants in this study seemed more likely to want to employ graduates, suggesting it was worth pursuing the PD research.

**Seeking professional credentials, 33.33% of respondents (only 7% of professional writers)**

Based on this investigation, the person who aims for professional credentials through accreditation or a certificate is most likely (5:3) male and married or is female and single or not revealing marital status, with a slightly higher chance than not of being between 40 and 49 years of age (2 respondents in this category)—or might be anywhere between 20 and 59
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(based on one response in each category 20-29, 30-39, and 50-59). There is a 60% chance the person earns in the lower salary range, a 20% chance the person is in the highest category but sees this as a way to achieve a goal, or 20% chance they are in the middle category. Most likely, the person seeking professional credentials is seeking to keep doing what they are doing (40%) but could be looking to obtain a job at a larger corporation (20%), or, as stated, pursue a particular goal (20%). This person has an average of 19 years in the field with only about nine months in the current position. The person is likely a manager, executive, or owner, as all respondents fit this categorization.

Before professional writing faculty add this data to an argument for developing accreditation or certificate programs, they should consider that only one of these five respondents identifies as a professional writer. Three of these participants identify as journalists, and their conversations during the focus group indicated what they want to do requires accreditation, certificates, or both. This data is not to dissuade people from developing certificate programs—only to help interpret this profile.

**Looking to hire, 53% of respondents**

Based on this exploration, those interested in hiring graduates are most likely (75%) between 40-49, more likely to be male than female (5:3) and likely to work at a consultancy or as a freelancer (50%), in a corporation with over 500 people (37.5%), or at a non-government agency (12.5%). Of those who expressed an interest in hiring graduates, three (37.5%) were executives, two (25%) consultants or contractors, one (12.5%) an owner, one (12.5%) a manager, and one (12.5%) a writer. Based on the respondents in this case, it is 50% likely the person who wants to hire is from the upper salary range, 38% likely to be from the middle range, and 12% likely to be from the lowest salary range. It is most likely that those who want to hire have been in their field for 20 years (mode), with a mean of 16.88 years and a median of 13 years. It is 50% likely that they’ve been in their position for less than a year but with a mean of 3.75 years and a median of 5 years.

Those interested in hiring had a wider range of goals than those interested in pursuing graduate work. In addition to the goal of building the best journalism training program in the country, one participant aimed to hire and expand a consultancy, one to complete “a master’s degree in organizational communication via distance education,” two left the 5-year goal question blank, and one wrote, “None.” Two responded differently: “Take it as it comes (always have)” and “Continue learning, enjoy, increase flexibility.”
Lessons Learned: Apparatus

As a note to other designer-researchers who might conduct similar studies, the Committee would change, or define, confusing or misleading wording on the questionnaire. The Committee recommends eliminating “suburb” from the zip code question because it assumes everyone lives or works in the suburbs; changing “award” under qualifications because people listed accolades rather than the degrees or certificates they received; considering changing any wording that assumes the final deliverable will necessarily be a master’s degree, unless the goal is to see how people respond to that idea; and, more importantly, clarifying about dependents, adding “zero” and “choose not to answer” so that researchers can determine whether a blank indicated zero or an ignored question.

In addition, the Committee suggests thinking more fully about the goal for obtaining information about disciplines at any given point in the process. If the goal is to have professionals fit into predefined disciplines, then use those categories; however, as the focus groups demonstrated, this led to some misleading answers. The Committee thought they had accounted for such problems because they recruited and received participants from the target professional organizations. If the goal is to think about how to better represent the actual disciplines and roles of people at these organizations, then, perhaps, let participants fill in answers. Most likely, the purpose and method will vary throughout the PD research.

Focus groups should focus on what researchers really want to know. Future focus groups facilitated by the Committee might focus less on finances and more on participant needs. In this case, the Committee was responding to a particular directive from administration and wanted data to be able to address it. The Committee would like a future group to “dream” about their ideal degree in these areas before being asked any further questions. This setup would help the Committee see what people wanted without being influenced by the researchers’ framework of possibilities.

Conclusion

The number of participants interested in hiring potential students suggested a need for such graduates; thus, it was worth the researchers’ time to conduct a next iteration in this PD. The preliminary research revealed working professionals bring a complex set of performance expectations for graduate programs, some more unrealistic than others. Working professionals expected the university environment to mimic the professional environment and provide perks like childcare. The professionals knew when and how they wanted to learn but had less input about the actual cur-
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Curriculum, which the researchers wanted to know more about. Developing a program meeting the needs of working professionals would be a balancing act. At least according to this first iteration, programs would need to be affordable but offer a reputation of excellence and distinction for graduates. They must benefit the student with both financial and non-pecuniary gains. Programs have to be flexible but not too flexible. Programs have to be up to date on the latest technological advances but still offer personal face-to-face interactions. The next iteration of research would be designed to answer questions identified throughout the findings.

Epilogue

At the time this first iteration ended, the project was put on hold for a number of reasons, including hiring two PW faculty members. There were larger problems, though, including increasing tension among disciplines. Tension was stated before disciplines started working together, revealed during the literature review, and indicated through snide comments participants made during the focus groups. Additionally, during an open session to discuss progress toward the graduate degrees, faculty from across the school questioned participatory design (PD). Students, they argued, could not possibly know what they needed. The PD process illuminated additional obstacles within the university setting. Participants gave little input about content and a lot of input about the logistics and reputation needed to convince them to enroll in the program, missing the primary intent of the study.

In the end, a full professor decided to resign after completing the initial PD research. The resignation may have been hastened by this PD research for developing professional degrees, but it existed among contentions already prevalent across campus. A chair and a vice president had previously been released and, in a demonstration of solidarity, several remaining faculty members had simultaneously resigned their administrative appointments. These resignations and changes were a moment for reflection, where critical discourse analyses might determine the fate of many programs and departments on campus, where everyone from the highest levels of the university would need to assess the institutions’ values, vision, mission, structures, and practices and then determine what comes next.

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Author information

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Appendix A: Focus Group Registration Form & Questionnaire

As a note, in order to retain confidentiality, all identifying information about the institution has been removed from these materials. The included documents retain errors. It is slightly possible that any errors on the questionnaire could have influenced perceptions of the researchers and, by association, the potential programs or even campus, particularly given its current context.

Personal Information

1. Name:
2. Suburb where you work: a) live: b) postcode:
3. Suburb where you work: a) work: b) postcode:
4. Age:
   - 20-29
   - 30-39
   - 40-49
   - 50-59
   - 60 and over
5. □ Male □ Female
6. Marital/Family situation:
   - □ Single
   - □ Married/partner
   - □ Number of dependents living with you:
7. Do you have a tertiary qualifications/s (e.g., diplomas, certificates, degrees?)

<table>
<thead>
<tr>
<th>Name of Award</th>
<th>Name of Institution</th>
<th>Date Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>
8. Do you consider yourself: (more than one may apply)
   □ Journalist
   □ Professional Writer
   □ Public Relations Practitioner
   □ Other:

9. How would you describe your interest in a professional postgraduate program? (more than one may apply)
   □ Enrollment in the course
   □ Accreditation of the course by a professional body
   □ Employment of graduates of the course
   □ Other:

**Employment**

10. What position do you currently hold:
11. How long have you been in that position?
12. How long have you worked in your chosen field?
13. Would you categorize yourself as (more than one may apply):
   □ An employer
   □ An employee of an organization
   □ Approximately how many people in this organization? _____

Is the organization:

   □ Corporate
   □ Government
   □ Non government organization
   □ Consultancy
   □ Other: ______________________
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☐ A partner in a partnership arrangement

How many partners? ____
How many people? ____

☐ Self employed

Do you employ other people? ☐ Yes ☐ No

If you answered yes, how many other people do you employ?

full-time ____
part-time or freelance ____

☐ Freelance

14. Your gross annual salary:

☐ 20,000 - 39,000 ☐ 60,000 - 79,000
☐ 40,000 - 49,000 ☐ 80,000 plus

15. Were you previously in another field (or fields)? ☐ Yes ☐ No

If so, what was it and how long were you there?

16. What is your short-term (five year) career goal?

Professional Development Activities

17. Do you attend professional development further education courses/conferences?

☐ Yes ☐ No

18. How many have you attended [in the last year]?

19. How many do you usually attend?

_____ per two years

_____ per year

_____ per six months

_____ per month
20. What professional associations are you a member of?

<table>
<thead>
<tr>
<th>Name of Association</th>
<th>Describe Your Level of Activity (e.g. member only, committee member)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. What was the reason for joining the above association(s)?
Appendix B: Focus Group Questions

Rationales for the questions are included in square brackets. Prompts were given after asking questions only when they were needed to spark conversation or seek more specificity. Errors on the focus group script and note-taking form had no negative impact on the research because the researchers were the only people to see them.

The descriptions of the following questions have been paraphrased from Richard Krueger in his book Focus Groups and from his seminar course in focus groups. Thanks Dick!!

Focus Group

Number

Date

Time

Place

Participants

Seating Arrangement

Moderator

Co-Moderator

Opening Question

1. Please introduce yourself and tell us something you have always wanted to learn but haven’t gotten around to . . . yet!

[Rationale: to give each participant an opportunity to speak and to share some personal information with the rest of the group, which underscores a characteristic they all have in common]

Introductory Questions

2. How do you currently learn new knowledge and skills about your field?

[Rationale: to get the participants to think about learning new skills or knowledge as something they are already doing; to find out how they currently learn new information.]
3. Think about something you have recently learned which you have been able to apply at work. eg., knowledge which has given you new insight to your work; something technical; or interpersonal, such as how to communicate more effectively with a co-worker.

   a. What are some of the things you have recently learned?
      - general knowledge
      - technical skills
      - management skills
   b. What made it worthwhile?
   c. How could it have been improved?

Prompts

   What other categories?

   Where were you? (atmosphere, noise level, what else)

   Who were you with? (co-workers, family, students, alone, who else)

   How did you learn it? (taught by other, self taught, etc.)

   What made it worthwhile?

   How could it have been improved?

[Rationale: to have participants visualize a learning experience that probably occurred outside the classroom; to have participants recognize their current participation in alternative learning approaches; to have them consider the factors which contribute to the learning experience - person, place, etc; to create a group experience in which everyone participates and reinforces the researchers desire for details of personal experience.]

**Transitional Questions**

4. To what extent have you looked at existing post graduate degree programs?

   a. For what reasons have you looked at these programs?
b. What were the positives and the negatives of these programs?

[Rationale: to determine the extent to which the group is interested in a postgraduate degree by seeing what steps they have actually taken in looking at other programs; to examine “why” they are interested in a postgraduate degree by looking at the features of current programs they are interested in (attributes) and what their motivations are (influences)].

**Key Questions**

5. A full-cost postgraduate program is one in which the students pay for the majority of their university courses and which is sensitive to consumer needs and expectations.

a. What are your expectations and needs as an adult learner in terms of how, when and where you want to receive postgraduate education?

Prompts

- types of courses
- learning environment (university classrooms, at home, seminars . . .)
- modes of delivery . . .
- types of students (same degree seeking students or mixed)
- types of professors (academic only or field experience too)

Note: Keep in mind that the types of services you want will also determine the costs of the program:

- Where would you like to learn in a postgraduate program?
- When would you like to learn in a postgraduate program?
- How would you like to learn in a postgraduate program?
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What subjects should be covered in a postgraduate program?

Who should be able to participate in a postgraduate program?

Who should teach a postgraduate program?

What knowledge, skills and experience [teachers] should they have?

What types of administrative support would you want in this program?

Prompts

contacting professors and tutors (email, phone-in office hours, in-person in office hours, fax)

what other services?

b. What types of postgraduate student services would you want in this program?

Potential Prompts

library access (checkout length, other libraries); parking; computers, fax, photocopying, and telephone access; learning assistance; child care; email; address and access; what other services?; contacting professors and tutors (email, phone-in office hours, in-person in office hours, answering machine, fax); what other services

c. Out of all of these things what are the essential features that the fees must cover?

[Rationale: to introduce the concept of full fee-cost degrees and to determine the types of courses, modes of learning and delivery, types of students and professors, and administrative and student services they would want in a full-cost program.]

6. There are three designs proposed for full-cost postgraduate degree programs. One program would be developed to cross-skill areas in Professional Writing, Journalism, and Public Relations
to offer a broad based degree. The second design would offer a highly specialized degree in each of the prospective areas of Professional Writing, Journalism and Public Relations. And the third design would be a combination of two of these programs.

[Rationale: to introduce the interdisciplinary degrees and to determine which would be most appealing and why (attributes)].

7. [No overview because 6 was numbered without questions]
   a. Which of these three degree designs to you find most viable?
   b. What would be the advantages of the broad based degree?
   c. What would be the disadvantages of the broad based degree?
   d. What would be the advantages of a specialized degree?
   e. What would be the disadvantages of a specialized degree?
   f. What would be the advantages of the combination degree? (which two programs would be a good combination)?
   g. What would be the disadvantages of the combination degree?

[Rationale: To determine whether participants prefer to propose specialized degrees or broad based degree programs and what they consider to be the advantages and disadvantages of each.]

   h. What special features are you looking for from postgraduate education?
   i. what are the career benefits of a postgraduate degree?
   j. what are the personal benefits of a postgraduate degree?
   k. what would encourage you to enter a postgraduate degree program?

8. What would be the clincher? What would make this program a sale for you?

Prompts

   employer tuition reimbursement; study leave; promotion; higher salary; etc.
distance learning; flexible academic year; entry and reentry; assessment process/review

[Rationale: To identify incentives or support which could be provided to increase employment; to present to employers as ways in which they could promote postgraduate education for employees. To present to university administration to promote postgraduate enrollment.]

9. What are the current or past barriers which have prevented you from pursuing a postgraduate degree?

[Rationale: To identify barriers which prevent potential student from enrolling in postgraduate programs.]

Ending Questions
The purpose of these questions is to bring closure to the end of the discussion and to enable the participants to think back on previous comments. These questions are critical to the analysis.

Summary Question
10. Is this an adequate summary?

[This question gives a summary of the key points which have been raised during this discussion and focus primarily on the key questions. The assistant moderator gives a brief 3-minute summary after which the participants asked “is this an adequate summary?”]

Final Question

[This is a standardized question asked at the end of the focus group to determine that nothing of significant importance has been left out of the discussion. The moderator gives a short overview of the purpose of the study and asks the final question “Have we missed anything?”]

[It is best to have 10 minutes left of the allotted time for this question. This question is particularly important at the beginning of a series of focus groups to assure that the questioning route is complete and logical.]

Have we missed anything?
The purpose of this research is to determine the interest in full cost postgraduate degree programs in the fields of Professional Writing, Journalism, and Public Relations. In part, we are interested in knowing what potential candidates want to learn, by what methods and ways of learning, and the services and conditions which will aid them in successfully completing their degree. Is there anything that we have missed that you feel is important for us to explore in future research on this topic? Do you have any advice for us?

Thank you for joining us this evening.

Your contribution of time and insight is much appreciated. If you have further questions you would like to ask about the degree programs, [researchers] will be available to answer them.
### Table 1. Personal Data about Gender, Age Range, and Family Makeup of Participants

<table>
<thead>
<tr>
<th>Focus Group</th>
<th>Participants</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Percent of</th>
</tr>
</thead>
<tbody>
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<td>Gender</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
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<td>1</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>46.66</td>
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<tr>
<td>Male</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>8</td>
<td>53.33</td>
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<td>-</td>
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<td>1</td>
<td>2</td>
<td>13.33</td>
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<tr>
<td>30-39</td>
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<td>-</td>
<td>2</td>
<td>-</td>
<td>3</td>
<td>20.00</td>
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<tr>
<td>40-49</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>4</td>
<td>26.67</td>
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<tr>
<td>50-59</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>5</td>
<td>33.33</td>
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<tr>
<td>60-69</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>6.67</td>
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<tr>
<td>Family Makeup</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>26.67</td>
</tr>
<tr>
<td>Married</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>60.00</td>
</tr>
<tr>
<td>Blank</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>6.67</td>
</tr>
<tr>
<td>People with Children at Home</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>40.00</td>
</tr>
</tbody>
</table>
### Table 2. Professional Data about Participants’ Experience, Disciplines, Positions, Salary, and Interests Regarding Post Baccalaureate Education

<table>
<thead>
<tr>
<th>Profession</th>
<th>Years</th>
<th>Current Position</th>
<th>Organization</th>
<th>Interested in</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In Position</td>
<td>In Field</td>
<td>Role</td>
<td>As</td>
</tr>
<tr>
<td>PW Consultant Training</td>
<td>&lt;1</td>
<td>1.5</td>
<td>Editor</td>
<td>Casual Employee</td>
</tr>
<tr>
<td>PW Consultant Training</td>
<td>5.5</td>
<td>5.5</td>
<td>Owner Consultant</td>
<td>Self Employed Freelance</td>
</tr>
<tr>
<td>PW Training Training</td>
<td>&lt;1</td>
<td>20</td>
<td>Contractor</td>
<td>Freelance</td>
</tr>
<tr>
<td>PW Management Consultant</td>
<td>2</td>
<td>20</td>
<td>Senior Consultant</td>
<td>Employee</td>
</tr>
<tr>
<td>PW Journalism</td>
<td>&lt;1</td>
<td>6</td>
<td>Writer</td>
<td>Freelance</td>
</tr>
<tr>
<td>PW Journalism</td>
<td>7</td>
<td>17</td>
<td>Owner</td>
<td>Self Employed</td>
</tr>
<tr>
<td>Journalism Training</td>
<td>1</td>
<td>20</td>
<td>Manager</td>
<td>Employer</td>
</tr>
<tr>
<td>Journalism Training</td>
<td>&lt;1</td>
<td>23</td>
<td>Manager</td>
<td>Employer</td>
</tr>
<tr>
<td>Journalism</td>
<td>4</td>
<td>12</td>
<td>Chief Correspondent</td>
<td>Employer</td>
</tr>
<tr>
<td>Journalism Training</td>
<td>1</td>
<td>15</td>
<td>Manager</td>
<td>Employer</td>
</tr>
</tbody>
</table>
### Table

<table>
<thead>
<tr>
<th>Profession</th>
<th>N</th>
<th>Notes</th>
<th>Network</th>
<th>Employee</th>
<th>Corporate</th>
<th>PR</th>
<th>Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journalism</td>
<td>1</td>
<td>15</td>
<td>Editor</td>
<td>Employee</td>
<td>Corporate</td>
<td>700</td>
<td>Q2</td>
</tr>
<tr>
<td>PR</td>
<td>&lt;1</td>
<td>8</td>
<td>Executive</td>
<td>Employee</td>
<td>Corporate</td>
<td>700</td>
<td>Q1</td>
</tr>
<tr>
<td>PR</td>
<td>5</td>
<td>20</td>
<td>Executive</td>
<td>Employer</td>
<td>Employee</td>
<td>3500</td>
<td>Q3</td>
</tr>
<tr>
<td>PR</td>
<td>10</td>
<td>25</td>
<td>Manager</td>
<td>Employee</td>
<td>Non Government</td>
<td>160</td>
<td></td>
</tr>
<tr>
<td>PR Communications</td>
<td>&lt;1</td>
<td>15</td>
<td>Executive</td>
<td>Self Employed</td>
<td>Consultancy</td>
<td>Q2</td>
<td></td>
</tr>
</tbody>
</table>

Notes. In the Profession column, the first term indicates the discipline participants chose from a list; the italicized terms were provided by participants. “Quartile”: Q2 is the median 50th percentile, Q1 is the lowest 25th percentile, and Q3 is the highest 25th percentile.

### Figure 1: Participants Who Have Looked at Post Baccalaureate Education
Table 3: Workplace Professionals’ Reasons for Having Considered Post Baccalaureate Education

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment factors (9)</td>
<td>better compete in the market (2)</td>
</tr>
<tr>
<td></td>
<td>receive training (2)</td>
</tr>
<tr>
<td></td>
<td>obtain job (2)</td>
</tr>
<tr>
<td></td>
<td>become more specialized (1)</td>
</tr>
<tr>
<td></td>
<td>gain practical experience (1)</td>
</tr>
<tr>
<td></td>
<td>keep up (1)</td>
</tr>
<tr>
<td>Educational factors (5)</td>
<td>learn to balance theory, practice, and research (2)</td>
</tr>
<tr>
<td></td>
<td>do something properly (1)</td>
</tr>
<tr>
<td></td>
<td>pursue an academic life (1)</td>
</tr>
<tr>
<td></td>
<td>take time out (1)</td>
</tr>
<tr>
<td>Environmental factors (4)</td>
<td>talk to others (2)</td>
</tr>
<tr>
<td></td>
<td>complete it (1)</td>
</tr>
<tr>
<td></td>
<td>told to do so (1)</td>
</tr>
</tbody>
</table>
### Table 4: Workplace Professionals’ Perceived Benefits of Post Baccalaureate Education

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge (9)</td>
<td>general knowledge (3)</td>
</tr>
<tr>
<td></td>
<td>enhance practice (3)</td>
</tr>
<tr>
<td></td>
<td>understand the next step up (1)</td>
</tr>
<tr>
<td></td>
<td>think theoretically (1)</td>
</tr>
<tr>
<td></td>
<td>identify future trends (1)</td>
</tr>
<tr>
<td>Personal benefits (8)</td>
<td>more money (3)</td>
</tr>
<tr>
<td></td>
<td>build confidence (2)</td>
</tr>
<tr>
<td></td>
<td>change from the day-to-day (2)</td>
</tr>
<tr>
<td></td>
<td>curiosity (1)</td>
</tr>
<tr>
<td>Marketability (7)</td>
<td>ability to move markets/broaden options (2)</td>
</tr>
<tr>
<td></td>
<td>find recruits (1)</td>
</tr>
<tr>
<td></td>
<td>do a better job/study craft (2)</td>
</tr>
<tr>
<td></td>
<td>gain qualifications (1)</td>
</tr>
<tr>
<td></td>
<td>network (1)</td>
</tr>
<tr>
<td>Category of Responses</td>
<td>Responses</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------</td>
</tr>
</tbody>
</table>
| Experience (32)       | industry background (8)  
                        | industry and academic background (7)  
                        | academic background (4)  
                        | guest lecturers (4)  
                        | practitioners (2)  
                        | from many disciplines (2)  
                        | current specialists (1)  
                        | broad-based (1)  
                        | from the media (1)  
                        | at different levels in their careers (1)  
                        | have similar experiences [to what is unclear] (1)  |
| Reputation (8)        | recognizable names (6)  
                        | reputation (1)  
                        | degree (1)  |
| Communication (3)     | fair (1)  
                        | believes in students (1)  
                        | humility (1)  |
| Engagement (2)        | committed (1)  
                        | not burned out (1)  |
### Table 6: Workplace Professionals’ Expectations of Graduates

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding of industry (15)</td>
<td>understand workings of industry (4)</td>
</tr>
<tr>
<td></td>
<td>broad-based understanding of industry (2)</td>
</tr>
<tr>
<td></td>
<td>basic understanding of field (2)</td>
</tr>
<tr>
<td></td>
<td>for undergraduate students</td>
</tr>
<tr>
<td></td>
<td>practical (1)</td>
</tr>
<tr>
<td></td>
<td>know theory (1)</td>
</tr>
<tr>
<td></td>
<td>understand nuts and bolts (1)</td>
</tr>
<tr>
<td></td>
<td>for graduate students</td>
</tr>
<tr>
<td></td>
<td>know more than nuts and bolts (1)</td>
</tr>
<tr>
<td></td>
<td>know practical but also larger concerns (1)</td>
</tr>
<tr>
<td>Experience (14)</td>
<td>degree does not matter (5)</td>
</tr>
<tr>
<td></td>
<td>practical experience (5)</td>
</tr>
<tr>
<td></td>
<td>not too theoretical (1)</td>
</tr>
<tr>
<td></td>
<td>have taken short courses (1)</td>
</tr>
<tr>
<td></td>
<td>can understand technical jargon (1)</td>
</tr>
<tr>
<td></td>
<td>have training in all areas (1)</td>
</tr>
</tbody>
</table>

### Table 7: Workplace Professionals’ Expectations of Support from Faculty and Staff

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication outside of class (16)</td>
<td>talk directly to the person (not staff or voice-mail) during the workday (7)</td>
</tr>
<tr>
<td></td>
<td>definite contact hours with faculty (6)</td>
</tr>
<tr>
<td></td>
<td>24-hour turnaround from faculty (1) and staff (1)</td>
</tr>
<tr>
<td></td>
<td>ability for asynchronous communication (1)</td>
</tr>
<tr>
<td>University support (5)</td>
<td>child care (4)</td>
</tr>
<tr>
<td></td>
<td>technical support (1)</td>
</tr>
<tr>
<td>Faculty regarding class (2)</td>
<td>good organization (1)</td>
</tr>
<tr>
<td></td>
<td>materials arrive on time (1)</td>
</tr>
</tbody>
</table>
### Table 8: Workplace Professionals’ Expectations of Support from the Library

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
</table>
| Access to (7)         | Quality library (1)  
|                       | overseas materials (2)  
|                       | all materials to be online/all required materials to be online (3)  
|                       | indexes (1)  
|                       | relevant, current articles (1)  |
| Services (5)          | support staff (3)  
|                       | photocopying services where the library copies materials and sends them to students (1)  
|                       | close parking (1) |
| Hours (5)             | long hours (3)  
|                       | before work (1)  
|                       | long hours on weekends (1) |

### Table 9: Workplace Professionals’ Expectations of Technological Support

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
</table>
| Students (6)          | assume all have computers/skills (4)  
|                       | don’t assume they have any computer skills (2)  |
| Resources (5)         | access to fax, email, photocopying, and computers on campus (5)  
|                       | to rent computers (1)  
|                       | internet access to course off campus (1)  
|                       | access to relevant media (1)  
|                       | access to required resources  
|                       | discussion lists with faculty (1)  
|                       | video-conferencing with people across the country (1)  |
| Standards (4)         | set industry standards (4)  |
Table 10: Workplace Professionals’ Expectations about Where They Learn

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific places (8)</td>
<td>worksite (3)</td>
</tr>
<tr>
<td></td>
<td>in the city (2)</td>
</tr>
<tr>
<td></td>
<td>not at the office (1)</td>
</tr>
<tr>
<td></td>
<td>at the center of industry (1)</td>
</tr>
<tr>
<td></td>
<td>and not at the remote campus (2)</td>
</tr>
<tr>
<td>More nuanced responses (15)</td>
<td>would travel no more than ½ hour/short distance (4)</td>
</tr>
<tr>
<td></td>
<td>be happy to travel (3)</td>
</tr>
<tr>
<td></td>
<td>travel two times per year (3)</td>
</tr>
<tr>
<td></td>
<td>no travel (2)</td>
</tr>
<tr>
<td></td>
<td>travel once per month (1)</td>
</tr>
<tr>
<td></td>
<td>long trip occasionally (1)</td>
</tr>
<tr>
<td></td>
<td>to this place once every three months (1)</td>
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</table>

Table 11: Workplace Professionals’ Expectations about When They Learn

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of day</td>
<td>4 pm (2)</td>
</tr>
<tr>
<td></td>
<td>6-8/9 pm (2)</td>
</tr>
<tr>
<td></td>
<td>8-10 am (1)</td>
</tr>
<tr>
<td></td>
<td>10 am to noon (1)</td>
</tr>
<tr>
<td></td>
<td>before 6 am (1)</td>
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<td></td>
<td>after 10 pm (1)</td>
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<tr>
<td></td>
<td>evenings (6)</td>
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<tr>
<td></td>
<td>mornings (2)</td>
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<tr>
<td></td>
<td>never (2)</td>
</tr>
<tr>
<td>Time</td>
<td>weekends (5)</td>
</tr>
<tr>
<td></td>
<td>holidays (4)/ Easter (1)</td>
</tr>
<tr>
<td></td>
<td>summers (1)</td>
</tr>
<tr>
<td></td>
<td>in their own time (2)</td>
</tr>
<tr>
<td></td>
<td>less than 15 meetings a term (1)</td>
</tr>
<tr>
<td></td>
<td>not in a whole year course (1)</td>
</tr>
<tr>
<td></td>
<td>asynchronously (2)</td>
</tr>
<tr>
<td></td>
<td>synchronously (2)</td>
</tr>
<tr>
<td></td>
<td>less than four hours on site (1)</td>
</tr>
<tr>
<td>Category of Responses</td>
<td>Responses</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>tutorial environment (3)</td>
</tr>
<tr>
<td></td>
<td>university center (2)</td>
</tr>
<tr>
<td></td>
<td>place to interact (2)</td>
</tr>
<tr>
<td></td>
<td>something other than a university (2)</td>
</tr>
<tr>
<td></td>
<td>an open university (1)</td>
</tr>
<tr>
<td></td>
<td>a self-paced learning center (1)</td>
</tr>
<tr>
<td></td>
<td>something other than a lecture hall (1)</td>
</tr>
<tr>
<td></td>
<td>something high-tech (1)</td>
</tr>
<tr>
<td></td>
<td>informal (1)</td>
</tr>
<tr>
<td></td>
<td>at home (1)</td>
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</tbody>
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Table 13: Workplace Professionals’ Expectations about Delivery of their Degree Program

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course structure</td>
<td>group activities (5)</td>
</tr>
<tr>
<td></td>
<td>flexible (4)</td>
</tr>
<tr>
<td></td>
<td>no lectures (4)</td>
</tr>
<tr>
<td></td>
<td>no fixed lectures (2)</td>
</tr>
<tr>
<td></td>
<td>lectures (1)</td>
</tr>
<tr>
<td></td>
<td>lectures for general principles only (1)</td>
</tr>
<tr>
<td></td>
<td>seminars (2)</td>
</tr>
<tr>
<td></td>
<td>it depends on what they are doing—education, training, skills, or theory (1)</td>
</tr>
<tr>
<td></td>
<td>formal education not just self-paced (1)</td>
</tr>
<tr>
<td></td>
<td>teaching others (1)</td>
</tr>
<tr>
<td></td>
<td>study groups (1)</td>
</tr>
<tr>
<td></td>
<td>self-learning (1)</td>
</tr>
<tr>
<td>Media</td>
<td>internet (5)</td>
</tr>
<tr>
<td></td>
<td>computer-based training (3)</td>
</tr>
<tr>
<td></td>
<td>distance (2)</td>
</tr>
<tr>
<td></td>
<td>video (2)</td>
</tr>
<tr>
<td></td>
<td>teleconferences (2)</td>
</tr>
<tr>
<td></td>
<td>no computers (1)</td>
</tr>
<tr>
<td></td>
<td>no phones (1)</td>
</tr>
<tr>
<td></td>
<td>written materials (1)</td>
</tr>
<tr>
<td>Interaction with faculty</td>
<td>guaranteed one-on-one time with faculty (2)</td>
</tr>
</tbody>
</table>
### Table 14: Workplace Professionals’ Expectations about the Curriculum

<table>
<thead>
<tr>
<th>Category of Responses</th>
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<tbody>
<tr>
<td></td>
<td>application (6)</td>
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<td></td>
<td>thesis alternatives (4)</td>
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<td></td>
<td>relevance (2)</td>
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<td></td>
<td>trends (1)</td>
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<td></td>
<td>range of electives (1)</td>
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<td>different skill sets (1)</td>
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<td>specific information (1)</td>
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<td>general information (1)</td>
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<td>training modules (1)</td>
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<td>internships (1)</td>
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<td>industry (1)</td>
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<td></td>
<td>sponsorship (1)</td>
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<td></td>
<td>competency based entry criteria (1)</td>
</tr>
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<td></td>
<td>not two years of work (1)</td>
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<tr>
<td>Category of Responses</td>
<td>Responses</td>
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<td>------------------------------------------------</td>
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<tr>
<td>Formal sessions (14)</td>
<td>workshops (3)</td>
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<tr>
<td></td>
<td>short courses (2)</td>
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<tr>
<td></td>
<td>conferences (2)</td>
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<td></td>
<td>external training (2)</td>
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<td></td>
<td>internal training (2)</td>
</tr>
<tr>
<td></td>
<td>in-house courses or groups (2)</td>
</tr>
<tr>
<td></td>
<td>adult education classes (1)</td>
</tr>
<tr>
<td></td>
<td>seminars (1)</td>
</tr>
<tr>
<td>Talking (9)</td>
<td>to others (3)</td>
</tr>
<tr>
<td></td>
<td>colleagues in same position (2)</td>
</tr>
<tr>
<td></td>
<td>people in office (2)</td>
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<td></td>
<td>other agencies (1)</td>
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<td></td>
<td>clients (1)</td>
</tr>
<tr>
<td>Experience (9)</td>
<td>as you go by doing (5)</td>
</tr>
<tr>
<td></td>
<td>modeling (1)</td>
</tr>
<tr>
<td></td>
<td>transfer of skills (2)</td>
</tr>
<tr>
<td></td>
<td>send people out (1)</td>
</tr>
<tr>
<td>Reading (8)</td>
<td>journals (3)</td>
</tr>
<tr>
<td></td>
<td>trade publications (2)</td>
</tr>
<tr>
<td></td>
<td>books (2)</td>
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<tr>
<td></td>
<td>other research (1)</td>
</tr>
<tr>
<td>Technology (5)</td>
<td>internet (3)</td>
</tr>
<tr>
<td></td>
<td>videos (2)</td>
</tr>
<tr>
<td>Teaching (4)</td>
<td>others (3)</td>
</tr>
<tr>
<td></td>
<td>self in unstructured way (3)</td>
</tr>
</tbody>
</table>
### Table 16: Participant Reflections on the Focus Groups

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer role (13)</td>
<td>reward employees who finish with promotions (3) raises (4) paid release time to pursue the program (4) should offer incentives (1) work experience should count toward course credit (1)</td>
</tr>
<tr>
<td>Courses (10)</td>
<td>courses and program should have a good structure (1) students should be given clear notes (2) whole course and expectations should be made available to students from the first day (2) coursework should prepare them to be qualified overseas [journalists have such a certifications] (5)</td>
</tr>
<tr>
<td>Services (6)</td>
<td>not have to physically bring in materials (3) should be a courier service (extending to the full range of work and home locations) for dropping off or picking up materials, books, and papers (3)</td>
</tr>
<tr>
<td>Delivery (4)</td>
<td>synchronous work (2) self-paced (1) divided for learning styles (1) not involve other people (1)</td>
</tr>
<tr>
<td>Finances (4)</td>
<td>no fees (2) low fees (1) low interest loans (1)</td>
</tr>
<tr>
<td>Admission (1)</td>
<td>no entrance criteria (1)</td>
</tr>
</tbody>
</table>
Table 17: Workplace Professionals’ Deciding Factors for to Enroll

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethos (8)</td>
<td>associated with high profile people (3) well established (1) excellent faculty (1) the right person teaching (1) relies upon guest lecturers (1) includes overseas people (1)</td>
</tr>
<tr>
<td>Structure (7)</td>
<td>multiple exit points (certificate, for example) (2) entry/reentry possible (1) flexible (1) flexible academic year (1) negotiate contracts (1) no grades—assessment for self only (1)</td>
</tr>
<tr>
<td>Support (5)</td>
<td>employer funds (3) employer provides study leave (2)</td>
</tr>
<tr>
<td>Communication (5)</td>
<td>treated as clients/university has the attitude of providing service (2) faculty tell how to make something right not what is wrong (2) opportunity to talk to others (1)</td>
</tr>
<tr>
<td>Content (4)</td>
<td>has a mix of ideas (1) is relevant (1) includes a mix of industries (1) includes overseas materials (1)</td>
</tr>
<tr>
<td>Marketability (4)</td>
<td>employers find the program credible (2) leads to a new job (1) helps further careers (1)</td>
</tr>
<tr>
<td>Affordability (2)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 18: Workplace Professionals’ Clinchers for Enrolling

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellence (7)</td>
<td>industry names associated as partners/patrons (2)</td>
</tr>
<tr>
<td></td>
<td>reputation of faculty (2)</td>
</tr>
<tr>
<td></td>
<td>reputation of institution (2)</td>
</tr>
<tr>
<td></td>
<td>credibility (1)</td>
</tr>
<tr>
<td>Relevance (7)</td>
<td>content (3)</td>
</tr>
<tr>
<td></td>
<td>relevance/not required to do irrelevant work (2)</td>
</tr>
<tr>
<td></td>
<td>accredited (1)</td>
</tr>
<tr>
<td></td>
<td>do hands on work, not all theory (1)</td>
</tr>
<tr>
<td>Flexibility (3)</td>
<td>options (1)</td>
</tr>
<tr>
<td></td>
<td>within parameters (1)</td>
</tr>
<tr>
<td></td>
<td>too flexible is not marketable (1)</td>
</tr>
<tr>
<td>Attitude (2)</td>
<td>see me as client (1)</td>
</tr>
<tr>
<td></td>
<td>I feel wanted by institution (2)</td>
</tr>
</tbody>
</table>
### Table 19: Barriers to Workplace Professionals Enrolling

<table>
<thead>
<tr>
<th>Category of Responses</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resources (15)</td>
<td>time (9)</td>
</tr>
<tr>
<td></td>
<td>money (5)</td>
</tr>
<tr>
<td></td>
<td>money and time (1)</td>
</tr>
<tr>
<td>Content (5)</td>
<td>relevant (1)</td>
</tr>
<tr>
<td></td>
<td>current (1)</td>
</tr>
<tr>
<td></td>
<td>not given what is expected (1)</td>
</tr>
<tr>
<td></td>
<td>not what looking for (2)</td>
</tr>
<tr>
<td>Faculty/pedagogy (3)</td>
<td>not involved (1)</td>
</tr>
<tr>
<td></td>
<td>lack of guidance (1)</td>
</tr>
<tr>
<td></td>
<td>busywork in course (1)</td>
</tr>
<tr>
<td>Knowledge (2)</td>
<td>faculty not knowledgeable (1)</td>
</tr>
<tr>
<td></td>
<td>[school] not watching market trends (1)</td>
</tr>
<tr>
<td>Personal motivation (2)</td>
<td></td>
</tr>
<tr>
<td>Access (2)</td>
<td>ease of access to materials (1)</td>
</tr>
<tr>
<td></td>
<td>inflexible (1)</td>
</tr>
<tr>
<td>Poor quality students (1)</td>
<td></td>
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</tbody>
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Building Usability and User-Experience Testing Facilities in Professional and Technical Communication Programs

Tharon W. Howard  
Clemson University

Abstract. In this retrospective, the author looks back over 20 years of experience designing, building, and maintaining usability testing and user experience research facilities. The author identifies five major areas that have significantly impacted the designs he has created which he labels: 1) Methodological Myopia, 2) Cost Recovery and Mission Drift, 3) Methodological Stifling, 4) Hand-To-Mouth Staffing, 5) and Mission Critical Non-Disclosure Agreements. Because of the negative impacts these five areas have on technical communication programs and their usability testing facilities, the article ultimately argues 21st Century facilities avoid the classic usability testing design with two rooms divided by one-way mirrors. It argues instead for spaces designed for methodological flexibility such as a large collaboration space surrounded by smaller studios and provide specific guidance to help technical program administrators create sustainable and pedagogically sound usability and user experience testing facilities.

Keywords. usability testing lab, user experience design, think-aloud protocol analysis, eye-tracking, facility design

Over the past two years, there has been a significant increase in the number of technical communication programs that have begun planning and designing usability testing facilities for their programs. We don’t have an exact count of the programs actually considering the construction of such a space (after all, it’s difficult to count facilities that haven’t been constructed yet). As someone who built one of the first usability testing facilities in our field back in 1993, I’m often contacted by friends and colleagues seeking advice on how they should build and maintain usability testing facilities at their home institutions. Based on these experiences, I’m seeing a rush to build usability labs. This essay serves as a guide to help the administrators of technical communica-
cation programs better understand the dynamics of adding a usability lab to their programs so they can make more informed choices about how to address usability within the context of their programs and allocate/plan funding accordingly.

**The Rise of Usability Testing**

The reason for the dramatic increase in usability testing labs isn’t really difficult to understand. Usability testing has long been an interest among programs in technical communication. However, since 2010, helping students demonstrate their competencies in professional communication in order to help them get certified by the Society for Technical Communication (STC) has made the development and construction of usability testing facilities desirable for many faculty and program directors. As most of us know, the STC began offering a certification program for “Certified Professional Technical Communicator” (CPTC) back in 2010, and since then they announced their first recipients of the certificate at the 2012 STC Summit in Chicago.

Naturally, we academic community members who educate professional technical communicators were and continue to be tremendously interested in the criteria the STC’s Certification Commission used for their credentialing. Even though the STC has temporarily put the certification program on hold while they reexamine its processes, many faculty and program directors (myself included) have long held the view that usability testing was a mainstream skill all professional communication graduates ought to possess. As a result, we were very pleased that the first of the five competencies that the Certificate Commission expected as part of becoming certified as a technical communicator was “User, Task, and Experience Analysis.”

Of course, not all of the programs are deciding to build usability testing facilities because they want to help their graduates achieve their STC certification goals. The STC’s Certificate Commission requires their candidates to have at least one year of work experience after receiving an academic degree before they’re eligible for the CPTC. This effectively creates a disconnect between the earning a degree and receiving the certificate. Thus, most of the program directors aren’t expressing an interest in building usability testing facilities specifically for certification reasons.

Instead, what they do say is the STC’s adoption of usability as one of its core competencies has been the tipping point for the faculty in their

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programs, convincing them that usability testing and UX analysis are now recognized in industry as a mainstream skillset. Faculty and administrators are motivated by a desire to keep graduates competitive on the job market. Sadly, it’s at precisely this point where I’m seeing many faculty and program directors begin to go astray.

Problematically, the types of usability testing facilities many of my colleagues dream of building are inefficient for preparing students to work in mainstream UX research today or in the future. Consequently, for the remainder of this essay, I want to share some of my experiences and, perhaps more importantly, some of the mistakes I’ve learned from over the last quarter of a century working with usability testing technologies and research methodologies. Specifically, I discuss five areas that most significantly impact my thinking about designing usability testing facilities. These areas are:

- Methodological Myopia
- Cost Recovery and Mission Drift
- Methodological Stifling
- Hand-To-Mouth Staffing
- Mission Critical Non-Disclosure Agreements

As the discussion of these five areas will make clear, a one-size-fits-all usability testing facility does not exist. Instead, I’ll provide a high-level overview of the major features of an affordable usability testing and UX research facility.

**Methodological Myopia**

One of the first problems I encountered as I helped colleagues think about the type of usability testing facility they wished to construct was a discrepancy between the “dream” facility and the reality of supporting actual research methodologies. We often forget just how many types of usability testing methodologies exist. When most people use the term “usability testing,” they really mean, “think aloud protocol analysis.” As a result, the type of usability testing facility they dream of building involves one of the most expensive designs and one of the least methodologically flexible.

Labs designed for think-aloud studies usually have an office-type environment where test participants sit and conduct their work. Microphones and video cameras are usually embedded in the room, mounted in the ceilings and on the desktops. In the most efficiently designed labs, the flooring is elevated so the staff can run new wires easily and convert the
Building Usability and User-Experience Testing Facilities

space into different types of use environments for study. A one-way mirror separates the naturalistic user space from the test administration space.

In the suggested configuration, the test administrator or data logger sit in a room on the other side of the mirror to observe the participant without being seen and without unduly influencing the participant’s behavior. Instead, the test administrator usually speaks into a microphone and his or her voice projects into the participant’s office space through hidden speakers in the room. The data logger uses software like TechSmith’s Morae to capture key comments the participant makes and tag the comments on the video as it’s collected. Because this classic design was made famous by testing facilities such as the one IBM constructed at Boca Raton going back into the 70s, it is usually the first image of a usability testing lab that comes to mind.

Although separating the user’s observation space from the test administrator’s space with one-way mirrors is one of the first designs people consider, some more elegant designs include a third room behind the test administration space. The third space is used to separate executives, software engineers, project managers, or marketing representatives from the data loggers and test administrators. The third space also allows important stakeholders to observe the test through windows, yet it forces them to observe without interfering in the test administrator or data logger’s work. Frequently, executives, software engineers, marketing representatives, and others involved in the project’s development want a space where they can sit and observe the study being conducted. They need to observe without distracting the test administrator from collecting and coding the data and without biasing the test participants’ behaviors by asking inappropriate or leading questions, blurtng out solutions to problems the participant struggles to resolve, laughing or snickering at the participant’s behaviors, and/or introducing new tasks into the research design.

This type of tri-partite design with its reconfigurable user space, isolated data logger space, and executive observation room is often our dream facility because it does an amazing job of supporting both traditional and active-intervention think-aloud protocol analyses. And there is still a need for facilities designed in this way. Recently, for example, I completed a usability study of low-fidelity wireframe prototype of an application designed to help students write more effective research papers on their cellphones. We needed to test the navigation system and the mental

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models on which the interface was designed, and active intervention protocol analysis was the ideal method for studying the research questions my client had. In addition, because the Director for Marketing wanted to observe several of the studies as the data were being collected, the tri-partite design would have been ideal. The Director of Marketing could observe the studies without my being conscious of her also observing the administration of the study.

I acknowledge the usefulness of tri-partite designs and confess I secretly have kept some of the closed circuit cameras, motorized ceiling mounts, and control boxes from the old testing facility IBM used in Boca Raton in case I might need them for my campus. Nevertheless, the tri-partite design doesn't help much with the research methodologies I use when I'm conducting other types of usability tests for clients. A “dream” design like the tri-partite space doesn't help when I need to do a card sort study with 6-8 users simultaneously or when the test administrator needs to be in the room fitting the equipment to the participant and calibrating the tracker for eye-tracking studies. It's actually an impediment.

Additionally, the design doesn’t help with data collection during a diary study where participants are asked to keep journals of their use of a product. A tri-partite design is also useless for data collection from users to create a journey map of their experiences with a client’s product. Nor will it serve conducting remote usability studies where often only a workstation with a dual monitor is needed because the participant is in another city and is being interviewed online with software like WebEX. Indeed, when push comes to shove, I’ve been forced to conclude that a “dream” design really leads methodological short-sightedness. Like a pair of excellent reading glasses that allow its user to read small print up close, a “dream” design allows researchers and students to collect and examine data from think-aloud protocols in minute, well-focused detail. Yet, if the perspective and the viewing distance for the data changes, then the tri-partite usability testing facility design doesn’t bring the phenomena my clients want me to study into any sharper focus.

Cost-Recovery and Mission-Drift

The startup costs of a usability research and teaching facility like the tri-partite “dream” facility described here can easily reach $100K-$250K in terms of erecting walls, installing mirrors, sound proofing rooms, purchasing new furniture, acquiring current software, and so on. This figure may sound obscenely high, but it’s easy to underestimate startup costs. To illustrate unexpected expenses, consider that I once spent $6,000 just
installing a high-output, low-noise blower for the heating and cooling system because the normal ventilation systems in traditional classrooms are so noisy they disrupt audio recording. I’ve even encountered enormous expenses when we were converting a classroom space from an older building on campus and had to core drill through four floors and install new circuit breaker panels because there weren’t enough electrical circuits in the building to support the facility. Unexpected renovation costs are omnipresent and unavoidable.

Even if you keep the costs under $100K, is the $100K justifiable? Can the $100K investment be justified in terms of the amount of use the facility will get? It’s important to realize an institution’s central administration is almost certainly going to demand creation an externally-funded revenue stream because of the expense. Nearly every institution with whom I’ve consulted (including mine) has a central administration that requires the program director to develop a business plan that will project a sufficient revenue stream to justify the initial expenditures necessary to build a facility of this type. Even if you simply rented out your facility to companies who wanted to use it for their testing, it’s difficult to recover the initial startup costs.

The going rate for fully equipped facilities can range from $1,500-$2,500 per day for a commercial group to conduct their usability testing.\(^3\) At those rates, you would need to rent the space around 100 days to recover the cost of the initial investment. However, that startup cost still doesn’t take into consideration the costs your institution would incur for advertising the space’s availability; the administrative overhead involved in billing for the space; or the indirect costs for network services, electricity, parking, waste disposal, and other routine services that cut into your profit margin. It also ignores the fact that your program can’t use the facility for your pedagogical or research purposes during those 100 days of external use. After all, faculty aren’t going to be able to teach in the space if it’s being rented by someone else.

Offering full-service usability testing services on a contractual basis is an even more challenging prospect because the competition with consultants and vendors like User Analytics, Usability.com, usertesting.com, and others, is so great that most academic institutions are priced out of the market from the get-go. Your academic institution tries to recover the costs of the faculty member to supervise the study, stipends and tuition remission for one or more graduate assistants to collect the data and conduct

\(^3\) See, for example, <http://www.wyoming.co.uk/london/rates/>. 
the research, honoraria or payment for the test participants, and the funds for the indirect costs and administrative overhead which a university’s Office of Sponsored Research is going to charge. To recover these costs, you’re typically looking at $20K per six-week-long study with 12 participants engaged in think-aloud protocols. Yet some of my clients tell me commercial vendors are charging approximately $8K-$10K for similar work. Others, who don’t believe $20K for such a study is unreasonable, still question whether they should take the risk of contracting for students who are learning their profession when there are seasoned professionals available at similar rates. What’s more, if your institution is not in an urban area where lots of high-tech companies are looking for usability testing services, you’re not going to find enough clients for whom you can conduct studies and generate a revenue stream.

Now, my point here isn’t simply that programs are going to find it difficult, challenging, or even impossible to create a business plan that can recover the costs of building a usability testing facility. Obviously, programs like those at Clemson, Southern Polytechnic, Texas Tech, Washington State, and others, are just a few examples of institutions that have had at least some degree of success. What’s more, as a long-time advocate for integrating more usability testing pedagogy into our curricula and for making user research mainstream, I don’t want to discourage programs from pursuing the resources needed to be successful. Instead, my point is that, if you’re not careful, once you start down the path of building a usability testing facility designed to conduct think-aloud protocols, you can find that you’ve experienced “mission creep.” Instead of building a resource your program can use to provide students with opportunities to develop experience and expertise in usability testing methods and technologies, faculty can find they’ve created a business requiring revenues, advertising, salaries for personnel, insurance for contract disputes, and other programmatic resources that suck all the oxygen out of the pedagogical mission.

Any business plans wholly attempting to recover the costs of building a usability testing facility are an insidious trap that needs to be avoided. We must avoid being put in the position of creating units in our programs that compete with the very businesses and industries in which we hope to place our graduates. When the central administration demands a business plan (as they almost certainly will), then we can and we should provide them with at least some modest cost recovery mechanisms they can expect. Yet rather than making cost recovery mechanisms the sole return on investment argument made in our business plans, I recommend the plan include deliverables such as:
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- the number of graduates from the program who obtain positions requiring usability testing skills;
- the number of masters theses, dissertations, and research papers produced by studies conducted in the facility;
- the number of conference presentations given by faculty who use the facility;
- the number of refereed publications generated by faculty who use the facility;
- the number of students who took courses which met in the facility; and so on.

By incorporating these kinds of deliverables in our business plans, we can help the upper administration understand, just as Biology majors need labs with Bunsen burners and microscopes to develop marketable skills in their fields, technical and professional communication students also need to be provided with the tools they need to conduct the kinds of research studies that bring name recognition and prestige to their home institutions.

**Methodological Stifling**

Eye-trackers are an extraordinary research tool, and they have become so popular and well known that I’ve had a number of potential clients approach me with requests for usability studies that also employ eye-tracking techniques. Often, clients have seen heat maps or gaze plots on the Internet, and they’re curious to collect data on where their customers are looking when viewing the client’s website or software application. As a result, I’ve had to borrow eye-trackers and other equipment necessary for research projects. There are situations where there simply is no substitute for showing a client a video of a reticule of where a user looked as the user’s eye traveled around the screen.

The problem today is—despite the fact the costs of eye-trackers have dropped dramatically over the past few years—it’s still the case that the high end systems that are easy to set up, are easy to train your staff to use, are easy to calibrate with a wide variety of users, and don’t lose calibration after the slightest head movement still cost over $25,000. Although popular vendors like Tobii or SMI give lower out-of-the-box costs for, say, a head-mounted eye-tracking system, by the time you figure in the additional software costs, support costs, training costs, and other expenses necessary to actually utilize the system in field research with actual clients,
their final costs are much higher. Similarly, the $99 eye trackers available from companies like Eye Tribe only come with SDK’s for Windows, Android, or OS X.⁴ Thus they require you hire full-time software engineers to program the tools your students and your faculty need to use the systems, once again driving the deliverable costs of such systems out of reach of many programs.

However, I fear the real cost of these enormous infrastructure investments is the encumbrance they place on methodological creativity. Too often I’ve seen a research team force a project into a predetermined design because they have to justify the laboratory and equipment they acquired. In other words, rather than creating a new and potentially more creative research method that might address a client’s research questions, researchers tweak and adjust the study into an approach, justifying their use of the expensive eye-tracking equipment they just purchased—equipment they know will become obsolete and need to be replaced in two or at best three years. Being forced to cost-justify an expensive “hammer” while it’s still shiny and new provides reason to find as many “nails” as you can, rather than investing more resources in designing a radically new tool.

Now, I’m not trying to suggest people who purchase eye-trackers aren’t servicing the needs of clients. Indeed, we all define clients’ problems and research questions in ways that enable us to provide useful information to them by taking advantage of the tools and resources available to us. Nevertheless, I do worry the extreme cost of the most popular commercial eye-trackers prevents us from pursuing new and innovative research methods. The expense of the systems and the pressure to recover and/or justify costs discourages us from taking the additional financial risks necessary for innovation, and so it stifles methodological creativity.

I also worry the costs of these systems is leading some program directors to make poor pedagogical tradeoffs. We can purchase one of the popular commercial head-mounted eye-tracking systems and get it set up for $25,000, but it’s extremely difficult to teach an entire seminar with 12 graduate students or an undergraduate course with 19 students when you only have one eye tracker. It’s not impossible. I did it last semester by putting students in groups and using a Google calendar for some creative scheduling and reservations of the equipment. However, there’s little doubt the students’ productivity was severely hampered, and because they had to share the system, they were only able to obtain one group project experience using the equipment for a single eye-tracking research project.

⁴ See ‹https://theeyetribe.com›.
study during the semester. Logistically, it wasn’t possible for them to do more research projects with the equipment. As a result, students told me they learned a great deal about the limitations of eye-trackers, such as how difficult it is to calibrate the hardware and how difficult it is to collect aggregated data from lots of different users when the researcher can’t control what screens users will view when they are browsing a website in a naturalistic fashion (e.g., heat maps basically force researchers to use static images in their studies).

Because of the students’ limited exposure to the equipment, I can’t honestly say they were able to learn how to conduct studies well. They really needed to be able to repeat their studies and revise their research designs to improve their competency with both the equipment and the type of research designs the instruments required. In other words, just as we expect students to learn to write technical reports more proficiently by first writing and then rewriting the documents, it seems counterintuitive to expect students to become competent usability researchers when we can only provide them with a shared, one-time experience using the research instruments.

In terms of making pedagogical tradeoffs in the design of a usability testing facility, imagine the same $25,000 had been spent on 15 laptops outfitted with HD webcams and usability testing software like OVO STUDIO Logger or multiple copies of MORAE Recorder and a few installations of MORAE Manager. Alternatively, the funds could be spent on less popular and less costly systems like those being developed by Grinbath out of Texas Tech. Although such systems may be more difficult to set up, utilize, and maintain, such an approach has the advantage of providing teaching faculty with multiple systems that individual students could check out frequently over the course of a semester. Students may not be getting hands on experience with the most popular eye-trackers used by deep-pocketed commercial organizations. Yet, by giving students easy and frequent access to the basic tools they need, we would be allowing each student to pursue multiple research studies over the course of a semester so they can become competent with the research methodologies.

**Hand-To-Mouth Staffing**

Of all the problems I’ve had to address with the designs of my usability testing facilities, I believe the most vexing problem, and the one I’ve had the least consistent success addressing, has been staffing the facilities. My experience has been fairly easy to obtain one-time funding from sponsored research grants or other sources. Foundations and corporate clients
have been prepared to foot the bill for expenses like software upgrades or maintenance contracts, new or replacement A/V recording equipment, cash for participants in a particular study, travel to present our results to clients, printers, supplies, and a variety of other costs involved in starting up a new project. After some explanation, foundations and corporate clients have even been willing to pay the overhead or “indirect costs” universities charge for services like electricity, waste disposal, parking services, telephones, and accounting/administration services. What I have rarely been able to fund to my satisfaction, however, is the recurring cost of staffing the facility.

Most program directors with whom I’ve consulted over the years are at least partially interested in building usability testing facilities because they see them as a potential means of finding external sources of funding for graduate assistantships. These sponsored assistantships are an asset to a program because they can be used for recruiting high quality students. The best students typically want the types of experiences and industry contact that sponsored assistantships provide, and programs can increase their enrollment numbers without burdening the graduate budgets of their home departments. When they work, sponsored assistantships are a win for everyone involved. They not only benefit the students and academic programs, but they also benefit the industry client by providing them with the research deliverable specified in the contract as well as access to well-trained students whom they often employ at end of the contract.

The problem, however, is one of logistics and timing. Unlike the relatively flexible pay periods for part-time, hourly employees, graduate assistantships require semester-long employment periods. Because they are often tied to tuition remission, assistantships or fellowships generally need to begin at the start of an academic semester. Worse, in order to use the assistantship to recruit students, a program director usually needs to have the contract for the sponsored assistantship in place several months in advance of the time when the student begins the assistantship. In my program, for example, most of the admission decisions regarding applicants who begin the program in August are made in February and March. Consequently, in order for me to offer the assistantship to an incoming student, I need to create a contract with an industry partner almost six months prior to the date when the student could begin working on the research deliverables for the client. What’s more, once the student starts the assistantship in, for example, August, it takes a few weeks to receive the necessary training for setting up the equipment, using the software for data logging and coding, obtaining certification by the university’s Insti-
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tutional Review Board (for working with human subjects), and becoming proficient in usability test administration.

Obviously, finding industry partners who are willing to wait several months before the personnel are in place to conduct the research they need is a major impediment. Indeed, since 1993, I’ve only been able to create two academic-industry partnerships, sponsoring research assistantships, far enough in advance to use them for recruiting purposes. In both cases, the clients were large corporations whose ongoing research needs allowed us to make three-year commitments for sponsored research. Additionally, both organizations were large enough to have a significant number of products being developed, needing a usability testing center for research conducted on the organization’s behalf. By entering into a long-term agreement where our facility was essentially serving as a standing resource for the client’s ongoing needs, I was able to obtain recurring funds for three graduate assistantships each semester. Thus, after the initial startup period, I could develop a rotation schedule ensuring at least one well-trained and experienced graduate research assistant always on the facility’s staff.

Identifying clients who have both the resources and research needs necessary to fund long-term agreements for an external usability center is a rare occurrence—so rare that it feels a bit like winning the lottery. Creating a staffing model for a new facility based on the likelihood your program is going to find such a client isn’t very realistic. Besides, even if you can find an industry partner willing to enter into this type of agreement, it’s unlikely they will sustain the agreement for more than three years before deciding to hire the graduates from your program and build their internal usability testing facilities (which is basically what happened to us). In my experience, new clients nearly always approach me in the middle of a semester, and they have product development cycles requiring us to begin and end the research study well outside periods where a sponsored assistantship used for recruiting is possible. Consequently, I’ve had to develop alternative staffing models.

One approach is soliciting funding for assistantships from the department or college in the form of “seed funding” that can be recovered once an external funding source can be located. Essentially, the graduate assistant or undergraduate fellow is funded internally and conducts research studies on behalf of the university, testing the effectiveness of the university’s admissions website for example. Then, once the program’s faculty locate an external client to sponsor a research study, the funding for the assistantship transfers to the industry sponsor. The now trained
and qualified assistant begins working on the client's research project and abandons or postpones the internal research study.

The obvious advantage of this model is the allowance for students to obtain some training before they are thrown into a sponsored research project. There are serious liabilities here, including the fact that abandoning an internal research project is demoralizing for the student research assistant and can so thoroughly antagonize the people who own the site being studied that they will be hesitant to work with you again. Worse, asking the dean or department chair to front the seed money for the assistantship with the promise that the cost will be recovered later is precisely the sort of thinking leading to the kind of “mission drift” problems I discussed previously. It creates unrealistic and counterproductive expectations with upper administration and works against your pedagogical goals for the usability testing facility.

A third approach to staffing that I’ve attempted involves creating a group of volunteer students who staff the facility in return for access and the right of first refusal for any sponsored assistantships which may develop. In this model, I send out a call for participation to all the students in the program and invite those who would like access to the usability testing facility for their personal research projects to join a special interest group (SIG) that meets regularly to work on usability studies together. Naturally, students who participate in the SIG receive extensive and personalized training in the use of the usability testing facility’s equipment and software, enabling them to immediately accept any assistantship offers faculty may develop during the semester. In addition, they receive keys to the facility and access codes to the facility’s reservation calendar, thereby allowing them exclusive access needed to conduct research for their theses, publishable papers, or dissertations.

Unlike the previous two models, the downsides to the SIG model are that it doesn’t provide the program with readily available assistantships used for recruiting. Plus, it also requires the faculty member who runs the SIG to donate time for training the students and overseeing the collaborative research studies conducted by the SIG. On the positive side, however, this approach encourages both students and faculty to engage in more academic research that leads to more publishable papers and more dissertation projects involving user-experience observation. Hence, the third option avoids the problems of cost recovery and mission drift and is, therefore, more consistent with the pedagogical goal of preparing graduates with mainstream usability testing research skills.
Mission-Critical Non-Disclosure Agreements

It’s rare for industry clients to approach me to work on a sponsored research project that doesn’t involve a product or service mission-critical to the company. Few companies are willing to pay for usability studies for a product not viewed as a high priority by management. For this reason, companies are compelled to protect their investments in the products or services being tested, and they are willing to go to extraordinary lengths to protect their intellectual properties. The stakes are high for high-tech companies today where small startup companies lack the resources to compete with the Googles, Facebooks, Apples, and other giants of the high-tech world. The only way to compete is to use the Instagram model—small startups must out-innovate the big companies, build a product like Instagram, file patents, and then sell to Facebook or some other giant that needs to pad its patent portfolio. Small wonder, therefore, companies don’t want students who might be taking a usability class in the facility where their product is being tested to casually walk by and sneak a peek at, for example, an interface and unique UX interaction that the company’s software engineers have been working on for the past two years.

Protecting intellectual property is such a *sine qua non* for industry clients that, when a program is building a new usability testing facility, the design must take into consideration demands from corporate clients for signed non-disclosure agreements (NDAs) from anyone with access to their intellectual property. Additionally, you’ll need to prepare for federally mandated Institutional Review Boards, responsible for the protection of human subjects, that have become increasingly concerned about digital data being leaked or stolen from research facilities because of the potential violation of the privacy and confidentiality of study participants.

Over the past five years or so, nearly all university IRBs are no longer satisfied with simple password protection on laptops and workstations that can be stolen. In addition to providing physical security for the data collection systems, now they are also requiring any digital data collected in a research study use 256-bit data encryption with software such as Bit-Locker for Windows, DiskCryptor, FileVault2 for Mac, or Linux Unified Key Setup. Usability testing data frequently takes the form of digital video clips, often requiring multiple gigabytes of storage for each participant’s data. It’s not unusual to need a 2 terabyte external drive for the storage of raw data from a single usability study—data that must be protected.

It’s safe to assume the usability testing facility needs to be used by multiple researcher teams for different studies and to assume students
need to access the facility during certain specified hours for studies they be conduct as part of their class activities. There are several items needed to ensure each research team using the facility is able to protect their cli-ent’s intellectual property as well as their test subjects’ private and confi-dential data. First, it’s very important the workstations, laptops, and mobile devices the research teams are using with their test participants have some type of cloning system. For example, on the Windows workstations we use in my lab, we use Symantec’s GHOST to create an image of the hard drive that participants use to test a client’s products. During a study, we create multiple ghost images of the workstations, including the base image of the workstation with the non-confidential software loaded on it that students and faculty normally use during their classes. I also create another image of the workstation with the client’s private, confidential software loaded on it. We keep the ghost images of each unique software load on separate ex-ternal hard drives that are physically locked in secured locations. Depend-ing on how the workstation is used, the appropriate software is deployed.

When the workstation needs to be used for a study where the client’s confidential software is going to be tested by a usability study participant (who has signed an NDA and informed consent statement), the worksta-tion is cloned using the appropriate ghost image from an external hard drive. After the participant is through, and the study session is concluded, the second important issue can be addressed. At the end of each testing session, the test administrator copies the participant’s confidential data and digital video clips from the workstation’s internal hard drive onto an-other external hard drive. These files are encrypted and the external hard drives are once again physically locked in a secure location that can only be opened by members of that particular research team. In other words, because each research team has its unique IRB protocol, physically secure storage unique to the members of that research team must be provided by the usability testing facility. Finally, after the participant’s confidential data have been encrypted and secured, the test administrator clones the work-station once again, only this time using the base image lacking the client’s proprietary software. This final ghosting process effectively removes all traces of both the client’s proprietary software and the participant’s confidential data, and it restores the workstation’s internal hard drive to condition allowing it to be used by students taking classes in the facility.

Designing from a Program Director’s Perspective

I’m often asked what I would design if I was starting from scratch and building a new usability testing facility today. As I hope is clear by now, I
would not build a facility designed primarily to collect think-aloud protocol analyses the way I did my first lab. Neither would I invest in renovating a classroom at my school so it had one-way mirrors, soundproofing, speakers and cameras mounted in the ceiling, and microphones embedded around the room. That was my dream facility in the 1990s and would have served me well at the time. However, I simply haven’t needed that kind of facility to conduct the research my clients have been asking for in the past decade. Today, my clients are more interested in making informed design decisions about their users’ needs so early in the product development process the beta units and high-fidelity prototypes necessary for think-aloud protocol analyses in a naturalistic environment simply aren’t available for testing. I’m doing far more task analyses, functional analyses, diary studies, persona designs, and context analyses than the traditional “usability study.” When I do conduct think-aloud protocols, they’re nearly always active-intervention think-alouds with low-fidelity prototypes that don’t require much more research equipment than a computer for the test participant, another computer for the data logger, an HD camera with a high quality microphone, Morae, and external drives for data encryption and ghosting.

My recommendation to program directors designing usability testing facilities today is to design for methodological flexibility first. Although it may sound heretical, rather than starting the design by thinking about the space where users are going to be observed and recorded, I prefer to start by thinking about the large collaboration space where my staff and I meet with product development teams; the same space where we conduct card sorts, focus groups, and participatory design activities with clients. I find this is the space that gets used the most in my facilities, and what people most require from it is the ability to share everything from websites and interfaces, to product demonstrations, to hand-drawn sketches, to cell phone screens.

For these reasons, I generally recommend installing large, 70-inch to 80-inch flat panel monitors at least on each end of the room so groups of 12-14 people can easily view the monitors. Both audio and video connectivity for laptops is obviously a requirement, and in order to display cellphone screens, tablets, sketches, and books, we use either an ELMO or Ziggi HD USB document camera to project displays to group for discussion and feedback. The document cameras and laptops also have the advantage of allowing us to share screens from mobile devices or from hard copy books with people who may be participating remotely through teleconferencing systems like Adobe Connect or WebEx. The walls around the room
are designed with corkboard covered in fabric so Post-It notes from focus groups or storyboards from interaction design meetings can be tacked up on the walls for easy viewing. Finally, the flat panel monitors around the room can also be used in lieu of one-way mirrors to observe any testing going on in the observation studios.

The observation studios are small, soundproofed rooms where the think-aloud protocols and observational testing takes place. The studios are immediately adjacent to the larger collaboration space and are entered through secure doors. The studios allow for privacy; are large enough to support at least three people with laptops; and are easily configurable so they can be set up like a living room/den where users might play video games, an office space with a desktop system, or even a dorm room where students prepare for classes. Video feeds from the observation studios can be sent to the monitors in the larger collaboration space allowing large groups of observers to view the studies being conducted in a studio. However, because the studios are quiet and private, they are also used at the end of research studies to analyze and code results from digital videos, to record voiceovers and any narration needed for highlight videos, and to produce the highlight videos or PowerPoint presentations needed for a client. The studios serve a dual purpose: first as testing spaces for participants, and second as office space for the research teams.

Finally, the third major space in the facility ties back to my earlier points about mission critical NDAs, the need for secure storage lockers for ghost hard disks with client’s proprietary software on them, and the IRB’s need for hard disks with participants’ encrypted videos on them. But in addition to storage for this equipment, I’m never prepared for how much additional storage space we need for other equipment, furniture, and paperwork necessary to run a multipurpose usability testing facility. The filing cabinets needed to securely store the informed consent statements and NDA agreements each participant signs are a significant space consideration of their own. Also, the space needed for storing and recharging the batteries for the laptops used by the testing teams as well as the iPads, Surface tablets, and Android tablets used in mobile testing requires a major space and electrical circuit commitment. Add to these items the miscellaneous items usability studies need such as wireless microphones, microphone stands, HD webcams, extension cords, network cables, video light setups, digital cameras, eye-tracking hardware, and so on, and if your experience is like mine, it will only take two or three years before you’ll find you need more storage space and have to rent off-site space. My recom-
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mendation here is to calculate what you think you will need for storage, and double it.

**Conclusion**

This overview of some of the major issues that have come to inform my thinking about how to design a 21st Century usability testing facility should help prevent your faculty and industry colleagues from making many of the mistakes I’ve made. Naturally, there is no such thing as a one-size-fits-all usability testing facility since the resources available to a program are always unique, and since the floor plans, HVAC, networking, and electrical systems in every building I’ve ever used are also unique and require special planning. Nevertheless, I hope I’ve been able to map out some of the landmines involved in planning and managing a usability testing facility. I’ve also shown some of the ways programs can actually afford to build usability testing and UX research facilities.

I recently renovated the collaboration space in my facility and installed two 80-inch flat panel monitors, a 40-watt ceiling mounted sound system, new electrical circuits, new network ports, and a control system for under $23,000, including labor. So it doesn’t have to take hundreds of thousands of dollars to build research labs anymore, and if your program can address the 5 major problems areas I’ve described above, then I hope this discussion will help you find ways to put a usability testing and UX research facility within your program’s grasp so that your graduates can demonstrate they have developed the mainstream usability and user experience testing skills industries require of certified professional communicators.

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*Thrive: Creating Social Networks and Online Communities that Last, A Rhetoric of Electronic Communities*, co-author of *Visual Communication: A Writer’s Guide*, co-editor of *Electronic Networks: Crossing Boundaries and Creating Communities*. 
Technical Communication at the University of Central Florida

Dan Jones
University of Central Florida

Abstract. This article traces the history, ongoing development, and successes of our undergraduate and graduate technical communication programs at the University of Central Florida in Orlando. I focus on our particular strengths, including our well-established place at a university classified by Carnegie as having “very high research activity,” our long-standing ties to our local chapter of the Society for Technical Communication, our strong relationship with local industry, our advantageous location for job placement, and a faculty with wide-ranging research interests and decades of teaching experience. After describing the minor we started in the fall of 1981 with fewer than a dozen students and the BA program we started in the fall of 1984 with not many more, I review how we found successful ways to promote our programs to enlist further support from higher administration. Then I discuss the MA program we began offering in the fall of 1992 and the challenges we encountered in converting this program into an online one beginning in the fall of 2008. I also review the role our faculty play in the Texts and Technology doctoral program hosted in our College of Arts and Humanities. I cover some key lessons learned concerning open communication, advance planning, faculty support for online teaching, support for our students’ professional development, and our flexible approach to program administration. I conclude by providing some data on the salaries and job titles of selected students among the now hundreds of our graduates.

Keywords. technical communication programs, program administration, administrative challenges, online programs, teaching online

The University of Central Florida (UCF) in Orlando is one of Florida’s 12 public universities and has a current student population of approximately 61,000 graduate and undergraduate students. Founded in 1963, UCF is still a relatively young university, and over time, the technical communication program at UCF has become an integral part of the Department of English and a much-valued part of the community of technical communication professionals in the area.
As with all technical communication programs, the one at UCF has evolved to develop its own strengths and advantages, and the faculty at UCF believe ours to include

- A well-established place at a university classified by Carnegie as “very high research activity”
- A long-standing connection to the Orlando Central Florida Chapter of the Society for Technical Communication (STC)
- A close working relationship with local companies and industries
- A location that provides students with access to a wide array of industries
- A faculty with wide-ranging research interests and experience in teaching technical communication

In this entry, I discuss these strengths while telling our story.

**Program History**

Our technical writing minor and certificate programs were established 34 years ago in a Department of English with 15 faculty and fewer than 200 majors. Like many colleges and universities with a large number of computer science, engineering, and science majors, UCF offered an introductory technical communication course, but nothing more. In 1980, however, our department chair began discussions with various companies in the research park near campus, for he recognized the need for our department to expand course offerings in technical writing. These discussions resulted in a minor and the certificate program being approved by department, college, and university curriculum committees in the spring semester of 1981.

**The First Programs**

The most innovative component of the minor and certificate program was the three-part Technical Documentation series of courses that included

- An initial course where student teams created a corporate style guide for a local client
- A second course where student teams developed training guides, policies and procedures, or some other documentation for a client
- A capstone course in which individual students worked with a client to revise or develop a central document or group of documents for that client
This initial approach proved successful; both students and clients commented on the effectiveness of this approach to teaching technical writing.

The start was a modest one with a dozen students enrolled in the minor or the certificate program and with most classes held in a classroom housing one computer and one printer. In the fall of 1981—the program’s first year—the Department hired Gloria Jaffe, a local technical writer and President of the Orlando Central Florida chapter of the STC. Gloria’s connections allowed her to build a strong relationship with other technical communicators in industry, and these relationships would later become—and remain—one of the greatest strengths of UCF’s program.

In 1982, the Department received additional funding to invite Mary Lay (from the University of Minnesota) to visit campus and work with faculty on expanding the minor in technical writing into an undergraduate major. By the fall of 1984 UCF’s BA program in English/Technical Writing received final approval and was offering its first BA courses. In the fall of 1985, IBM donated 20 computers and several printers for a new technical writing lab as well as published a 12-page brief showcasing UCF’s technical writing program. The resulting publicity led to more on-campus recognition, increased support from UCF administration, and allowed for additional faculty hires over the next few years.

**Initial Relationships and Successes**

Perhaps the most successful and important undertaking in the early years of the program was the decision to co-host a regional conference with the Orlando Central Florida chapter of the STC. In the spring of 1986, the UCF technical writing faculty and members of the chapter co-hosted the first regional technical communication conference, which attracted over 200 attendees from the region. The conference soon became known as the UCF-Orlando STC Trends Conference and was offered for another nine years, attracting more attention each year.

This regional conference helped UCF’s program gain national recognition—due in part to the well-known faculty and practitioners invited to serve as featured presenters in the early years. (Presenters included John Brockmann, Paul Anderson, Jo Ann Hackos, Tom Pearsall, Jack Selzer, and Ginny Redish.) The conference also proved invaluable for generating student interest in technical communication. Students attended numerous sessions at each year’s conference and were soon participating as presenters in their own right. Such events both further bolstered the visibility of the program and the students and helped garner support for the program.
As our undergraduate BA, minor, and certificate programs achieved more success, we received more administrative support. This support allowed the program to grow in new ways with an MA program approved in the spring of 1992, and the program’s first two graduate classes offered to ten students in the fall of 1992. The continued growth of our undergraduate and graduate programs increased in the 1990s allowed us to hire five additional tenure-track assistant professors and one associate professor during that time.

A Program Name Change
In the fall of 2007, the program faculty decided to change the titles of our BA and MA programs from “Technical Writing” to “Technical Communication” to reflect our emphasis not only on writing, but also on other areas including design, illustration, and interpersonal communication. The program name change also represented a response to increased competition from other programs in the state (for example, programs at the University of South Florida and Florida State University). The approval process for the program name change also brought challenges—such as the faculty of the Nicholson School of Communication expressing concern over use of the term “communication” in our degree. Fortunately, we were able to demonstrate the long established use of the term in our field, drawing upon the history of the Society for Technical Communication. Our arguments were successful, and beginning in the fall of 2008 our BA and MA officially became “Technical Communication” programs.

Our Programs Today
The Department of English currently has three technical communication program options that include a BA, an undergraduate minor, and an MA.

Our BA Program in English/Technical Communication
Our BA program (see Table 1) requires 36 credit hours, and currently has 88 undergraduates enrolled with about a dozen graduating every fall, spring, and summer.

The BA program provides a strong foundation in all of the skills and knowledge essential to the technical documentation process, from planning to production, while also emphasizing theory. The 15 credit hours of core courses give students experience in creating documents for actual clients, expand their knowledge of design principles, and challenge their understanding of the wide range of prose styles available for effective technical communication. The required electives give students back-
Table 1. BA Program in English/Technical Communication

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Requirements: Basic Level (6 Hours)</strong></td>
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<td></td>
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<td>ENC 3241</td>
<td>Writing for the Technical Professional</td>
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<td>Select one:</td>
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<td>CRW 3013</td>
<td>Creative Writing for English Majors</td>
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<tr>
<td>ENG 3014</td>
<td>Theories and Techniques of Literature Study</td>
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</tr>
<tr>
<td>CRW 3053</td>
<td>Theory and Practice of Creative Writing</td>
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<tr>
<td><strong>Core Requirements: Advanced Level (15 Hours)</strong></td>
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<td>ENC 4280</td>
<td>Technical Writing Style</td>
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<td>ENC 4293</td>
<td>Documentation and the Collaborative Process</td>
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<td>ENC 4294</td>
<td>Documentation and Client-Based Collaboration</td>
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</tr>
<tr>
<td>LIT 4433</td>
<td>Literature of Science and Technology</td>
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<td>Select one:</td>
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<tr>
<td>ENC 4215</td>
<td>Technical Publication and Project Management</td>
<td>3</td>
</tr>
<tr>
<td>ENC 4218</td>
<td>The Visual in Technical Communication</td>
<td>3</td>
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<td><strong>Literary History Requirements (9 Hours)</strong></td>
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<td>Select three:</td>
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<td>9</td>
</tr>
<tr>
<td>See list of courses</td>
<td>At least one from a list of post-1865 courses</td>
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<tr>
<td><strong>Restricted Electives (6 Hours)</strong></td>
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<td>ENC 4262</td>
<td>International Technical Communication</td>
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<td>ENC 4265</td>
<td>Writing for the Computer Industry</td>
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<td>ENC 4290</td>
<td>Usability Testing for Technical Communication</td>
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<td>ENC 4414</td>
<td>Writing and Hypertext</td>
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<tr>
<td>ENC 4298</td>
<td>Technical Communication for the Virtual Workplace</td>
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<tr>
<td>ENC 4415</td>
<td>Digital Rhetorics and the Modern Dialectic</td>
<td>3</td>
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<td><strong>Optional Course</strong></td>
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<tr>
<td>ENC 4941</td>
<td>Internship</td>
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</table>

ground in more specialized areas of technical communication, including website design, writing for the computer industry, and international technical communication. Because the program leads to a BA in English,
the students must take at least nine credit hours of literature courses. (Although many undergraduate programs in technical communication emphasize more courses in the field, we have found that requiring students to take literature courses has served them well over time.)

Several students have taken the program’s optional internship course and have worked for local companies (for example, Disney). The internship course involves a faculty member who supervises students as they submit progress reports and a portfolio. The students also have a company mentor who submits an end-of-semester evaluation of the student’s work. Other students have forgone the formal internship to pursue part-time work in technical communication at a local companies.

Undergraduates in our program come primarily from Florida, and many transfer to UCF after completing an AA or AS degree at one of Florida’s community colleges (some of which are now designated as state colleges). Students are typical of those who declare English as their major—they are individuals who, first and foremost, enjoy writing. Many choose our programs not only because of the strong emphasis on writing and editing but also because of the parallel emphasis on design, illustration, production skills, interpersonal skills, tool skills, opportunities for internships, and much more. And now that our programs have been established for several decades, we have a large community of alumni who help us promote our programs and help new graduates with job placement. As a 2009 graduate of our BA program explained:

Majoring in English taught me a variety of skills that I now use on a daily basis in the workplace. With such skills as technical writing and cross-cultural communication, my English degree has proved immensely useful in the workplace. The program also developed my ‘soft skills,’ building the habits of careful planning and attention to detail. Additionally, through the program, I formed a professional network that I expect will help me throughout my career, and friendships with classmates that I expect to last a lifetime.

**Our Undergraduate Minor in English/Technical Communication**

The 18 credit hours of coursework required for our minor provide a solid introduction to the field (see Table 2). Students see the minor as a way to diversify their studies and to gain additional opportunities for employment upon graduation. Many students with the minor have found good jobs working in a number of related areas.

**Our MA Program in English/Technical Communication**
Our MA program requires 30 credit hours of coursework and 3 credit hours for a thesis or project (see Table 3). The faculty recently approved providing a third option: allowing students to take one additional 6000-level technical communication course in lieu of a thesis or project. The program has grown steadily over the past two decades with approximately 120 students completing the program to date.

The MA program places more emphasis on theory than our undergraduate minor and BA programs, and the five core MA courses provide a strong foundation in rhetorical theory, communication theory, design theory, and other theories informing our discipline. The focus in these courses is to use practical projects that allow students to apply the theories they study in a variety of professional contexts. Additional required electives offer students a good choice of options for more specialized study in Writing and Designing Online Help Systems, Proposal Writing, and Project Management. The MA thesis and the MA final project provide students with the opportunity to do an in-depth study on a well-focused topic. Recent thesis titles include

- On Copyright: What Technical Communicators Need to Know
- Technical Illustration: The Changes and Challenges Presented by Advancements in Technology
- Narrative in Technical Communication

MA projects differ from theses because students create a final technical communication deliverable such as an interactive website or multimedia product. Students selecting the project option also submit a 20-page paper discussing the related research process that guided the develop-

Table 2. Undergraduate Minor in English/Technical Communication

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required Courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENC 3241</td>
<td>Writing for the Technical Professional</td>
<td>3</td>
</tr>
<tr>
<td>ENC 4215</td>
<td>Technical Publication and Project Management</td>
<td>3</td>
</tr>
<tr>
<td>ENC 4218</td>
<td>The Visual in Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENC 4293</td>
<td>Documentation and the Collaborative Process</td>
<td>3</td>
</tr>
<tr>
<td>ENC 4294</td>
<td>Documentation and Client-Based Collaboration</td>
<td>3</td>
</tr>
<tr>
<td>ENC 4280</td>
<td>Technical Writing Style</td>
<td>3</td>
</tr>
<tr>
<td>Optional Course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENC 4941</td>
<td>Internship</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 3. MA Program in English/Technical Communication

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 5009</td>
<td>Methods of Bibliography and Research</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6261</td>
<td>Technical Writing: Theory and Practice</td>
<td>3</td>
</tr>
<tr>
<td>ENC 5337</td>
<td>Modern Rhetorical Theory</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6217</td>
<td>Technical Editing</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6297</td>
<td>Production and Publication Methods</td>
<td>3</td>
</tr>
</tbody>
</table>

Required Courses (15 Hours)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 6257</td>
<td>Visual Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6306</td>
<td>Persuasive Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6247</td>
<td>Proposal Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6244</td>
<td>Teaching Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6294</td>
<td>Project Management for Technical Writers</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6296</td>
<td>Writing and Designing Online Help Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective Courses (15 Hours)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 6257</td>
<td>Visual Technical Communication</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6306</td>
<td>Persuasive Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6247</td>
<td>Proposal Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6244</td>
<td>Teaching Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6294</td>
<td>Project Management for Technical Writers</td>
<td>3</td>
</tr>
<tr>
<td>ENC 6296</td>
<td>Writing and Designing Online Help Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

Unrestricted Courses (6 Hours)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students in consultation with the graduate adviser, will</td>
<td>6 total</td>
</tr>
<tr>
<td></td>
<td>choose two graduate-level English courses or approved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>courses from outside the department.</td>
<td></td>
</tr>
</tbody>
</table>

Thesis, Non-Thesis, or Additional Course Options (Choose One)

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 6971</td>
<td>Thesis Option: Students complete a formal thesis selected</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>in consultation with an advisory committee and will meet both</td>
<td></td>
</tr>
<tr>
<td></td>
<td>departmental and university requirements for the thesis.</td>
<td></td>
</tr>
<tr>
<td>ENC 6918</td>
<td>Non-Thesis Option: Directed Research: Students will enroll</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>in directed research and complete a research project approved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>by an advisory committee. This project will be on a topic in technical com-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>munication and in a format other than that of a traditional thesis.</td>
<td></td>
</tr>
<tr>
<td>6000-Level Course</td>
<td>An additional 6000-level technical communication course in</td>
<td>3</td>
</tr>
<tr>
<td>Additional Course</td>
<td>lieu of a thesis or a project.</td>
<td></td>
</tr>
<tr>
<td>Option</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comprehensive Examination

The comprehensive examination is a written exam based on four of the core courses (excluding ENG 5009) and two concentration areas designed by the student.
ment of the deliverable. For example, From Concept to Market: Technical Communication Genres to Assist Small High-Tech Businesses in Bringing a New Product to the Market included an online resource with overviews, templates, and additional resources for small businesses.

To help bolster graduate student enrollment, the technical communication faculty designed a completely online MA program that began in the fall of 2008. As all tenure-earning and tenured technical communication faculty had taught online classes prior to 2008, the transition to a completely online program was a relatively easy one. We now typically receive an average of nine new applications for this online MA program every fall and another nine every spring.

Students enrolling in the MA program have a wide-range of backgrounds including sociology, Russian language, psychology, elementary education, social sciences, English literature, technical communication, political science, religion, and interpersonal/organizational communication. Additionally, several current students already have master’s degrees in other fields.

We have been fortunate to see many graduates of our MA program find jobs in the field with local companies such as Lockheed Martin, Harris Corporation, Walt Disney World Company, and Siemens as well as with companies in Atlanta, Raleigh-Durham, Seattle, and West Palm Beach. The work for these graduates includes providing communication and writing support for engineers, proposal writing, corporate training through e-learning, writing and designing online help systems, project management, and consulting.

The PhD Program in Texts and Technology

The technical communication faculty also play a key role in UCF’s doctoral program in Texts and Technology. Unlike our undergraduate minor and our BA and MA programs, this interdisciplinary program is not housed in one particular department. Instead, it is housed in the College of Arts and Humanities, and students receive a doctorate in Texts and Technology versus in English or in Technical Communication. The PhD program offers five specific areas of concentration:

- Digital Humanities
- Digital Media
- Public History
- Rhetoric and Composition
- Scientific and Technical Communication
To date, over 40 students have completed the doctoral program, and graduates have found rewarding jobs as educators or administrators in academia or as researchers in government and private industry. The PhD program currently enrolls over 50 students, and another dozen have applied for admission for the 2015-2016 academic year. Major reasons for the doctoral program’s success include the university-wide focus on research (UCF’s status as a university with “very high research activity”) and partnerships with numerous local companies and nationally and internationally recognized institutes.

Faculty

The technical communication faculty currently consists of nine persons including four tenured faculty, one assistant professor, two permanent instructors, and two adjunct or part-time faculty. The four tenured faculty and the assistant professor primarily teach the senior-level undergraduate courses and graduate courses. The research and teaching interests of the faculty complement each other and represent a wide array of topics (see Table 4).

Other Venues for the Professional Development of Students

In addition to our courses, we have numerous venues for promoting the professional development of students, and these venues represent a particular strength of our programs.

Ties to the Local STC Chapter

We have close ties to the Central Florida Orlando Chapter of STC, and we have historically emphasized student participation in this professional chapter instead of creating a separate or parallel student chapter. Many students attend the monthly STC chapter meetings, including a January meeting held on campus for the convenience of the students. Numerous UCF grads have also served as chapter officers (president, vice-president, treasurer, secretary) as well as served on a variety of chapter committees. The Central Florida Orlando Chapter is a nine-time winner of STC’s Chapter of Distinction award (the highest award given to a chapter by the Society) the most recent of which was awarded in June 2015 at the Society’s international meeting.

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1 Other faculty who contributed to our programs include David Gillette, Gail Lippincott, Karla Kitalong, Melody Bowdon, and Blake Scott. All have moved on to other opportunities.
Table 4. Current Technical Communication Faculty

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Research and Teaching Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Applen</td>
<td>Research and teaching interests include classical and contemporary rhetoric, hypertext and writing for the web, XML and digital archiving, and the discourse of science. Currently, he is working on network theory and technical communication. His publications include <em>The Rhetorical Nature of XML</em> (Routledge, 2009), co-authored with Rudy McDaniel, and, most recently, <em>Writing for the Web: Composing, Coding, and Constructing Web Sites</em> (Routledge, 2013).</td>
</tr>
<tr>
<td>Thomas Cavanagh</td>
<td>Serves as Associate Vice President of Distributed Learning at the University of Central Florida and teaches UCF courses in technical communication such as Technical Editing and Writing for Business Professionals. His research interests include e-learning and the societal influence of technology on education, training, culture, and commerce.</td>
</tr>
<tr>
<td>Paul Dombrowski</td>
<td>Areas of expertise include rhetorical theory, history, and practice, classical to contemporary; statistics and research design; technical communication, especially rhetorical and ethical aspects; and discourse about rhetoric studies. Publications include <em>Humanistic Aspects of Technical Communication</em> (Baywood, 1994) and <em>Ethics in Technical Communication</em> (Allyn &amp; Bacon, 1999). Currently, he is working on a book titled <em>Rocket Rhetoric: Language and Rhetoric in Getting the Space Program Off the Ground</em>.</td>
</tr>
<tr>
<td>Jane Moody</td>
<td>Teaching and research interests include e-portfolios as learning objects, usability testing, online learning and distance education, and technical communication pedagogy.</td>
</tr>
<tr>
<td>Name</td>
<td>Role/Title</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Bill Morton</td>
<td>Instructor</td>
</tr>
<tr>
<td>Sonia Stephens</td>
<td>Assistant Professor</td>
</tr>
<tr>
<td>Sherry Steward</td>
<td>Part-time Instructor</td>
</tr>
</tbody>
</table>

### Mentoring Program

One important STC activity is the mentoring program. Established in 2003, the program is a joint effort of the local STC chapter, UCF, and Future Technical Communicators (an on-campus student organization). Every year, roughly a dozen technical writers, editors, and project managers volunteer to mentor some of our students. All mentors must be STC members and must have at least three years of experience as practicing technical communicators. The companies represented by the mentors range from large multinationals (for example, Lockheed Martin and Walt Disney) to institutes located in Orlando's research park to small software start-up companies close to campus.

Mentees must be student members of STC and must be enrolled in one of the technical communication programs at UCF or have graduated from one of these programs within the past six months. Mentors typically meet with their mentees every month and provide advice on career planning issues and on aspects of professionalism related to success in industry. Both the mentors and mentees have found this experience invaluable.

### Scholarship Program

In 1997, the STC’s Orlando Central Florida Chapter established the Melissa Pellegrin Scholarship fund to recognize outstanding undergraduates and
graduate students in our program. The application process is publicized every January, and qualified students must apply by late February of that same year. Recipients are selected by a committee of four—our department chair, two UCF technical communication faculty, and a representative of the STC chapter. Recipients each receive a certificate and a check for $500.00.

The program has awarded scholarships to 38 students over the past 18 years, and it was recently transferred to the UCF Foundation. (The Pellegrin Scholarship is now one of the Foundations’ endowed scholarships.)

**Technical Communication Lab**

Over time, we have made many improvements to our technical communication lab. It currently houses 22 computers running Windows 7 Professional and with software that includes Microsoft Office, Adobe Creative Suite 2, Acrobat Pro, Flash, and Madcap Flare. (Technical support for the lab is provided by the College of Arts and Humanities.)

Several of our undergraduate courses meet in the lab, including two courses students must take early in the program (Documentation and the Collaborative Process and Documentation and Client-based Collaboration). While use of our lab is restricted to our majors, students can also use one of the numerous public labs located across the campus.

Our lab has also benefitted from collaborations including MadCap Software’s Scholar Program. The program provides free licenses for its MadCap Flare program and free training for faculty who want to learn how to use the program. Students regularly use MadClap Flare for a number of their projects.

**Local Professionals in the Classroom**

We—like many other programs—make every effort to involve area technical communicators in our classes. Every spring, selected STC members are invited to review the portfolios of students who are near graduation. This process allows the working professionals to learn about the students, their efforts, and our programs. It also allows the students to learn about quality standards and expectations in industry.

We also regularly invite professionals from industry to give talks in our on-site classes or give them the visitor access needed to participate in our online courses. In the fall of 2014, for example, Dan Voss of Lockheed Martin provided graduate students in our online Proposal Writing class with an overview of the proposal writing process in the defense industry.
Challenges

Administrative Challenges

Unlike many technical communication programs in the country, we do not have a technical communication faculty member who serves as the full-time administrator of our program. Instead, all of the undergraduate majors in the department—Literary, Cultural, and Textual Studies; Creative Writing; and Technical Communication—rely on track coordinators. The track coordinators are faculty typically chosen by their colleagues in the track, and they typically serve a two-year term consulting with colleagues as needed and working with the department chair. Normally, this kind of program oversight could lead to problems, but we have been able to use our approach successfully throughout the history of our programs.

At the graduate level, our Director of Graduate Studies oversees our MA tracks in Technical Communication and Literary, Cultural, and Textual Studies as well as our M.F.A. program in Creative Writing. The Director of Graduate Studies works with the department’s Graduate Committee concerning program policies, curriculum changes, and admissions for each fall and spring. Once the Director of Graduate Studies informs us that admission applications are ready for review, all of the tenured technical communication faculty review and comment on the application of each candidate. The Graduate Committee then reviews this information, makes the final decisions, determines which students will receive funding, and then the Director of Graduate Studies arranges for our Admissions Specialist to send final notifications to the applicants.

Our faculty also work closely with the Director of Graduate Studies concerning the entire thesis or project process—from forming the committees and obtaining committee approval for the thesis or project proposal to scheduling and holding the thesis or project defense. Through this structure, graduate students are kept well informed of important due dates (for example, obtaining approval for the thesis proposal or scheduling a thesis defense).

Within this context, the technical communication faculty typically must address a variety of program issues within our group first before sharing the details with our department chair or the Director of Graduate Studies. The faculty members generally discuss and resolve most program-related issues via e-mail; however, when necessary we schedule face-to-face meetings to discuss and vote on issues, vote and implement changes.
Challenges of Online Programs
Offering a completely online MA program creates challenges, such as fostering a sense of community for graduate students. While many undergraduates see each other in classes, the library, and elsewhere on campus, graduate students are all over the state and many are out of state. Even so, with good planning in our online courses, we can build a sense of community within each course through required postings of brief bios, collaborative or team assignments, online discussions, and other strategies.

The brief bios provide an opportunity for students to learn about the background of other students, the reasons they chose our program, their skills areas (previous writing and design projects, for example), and general information about their outside interests. The team assignments foster community in all of the usual ways, and the online discussions give students in the discussion groups the opportunity to observe the critical thinking skills of their peers. Many graduate students move through the program by taking the same courses together, and doing so helps them get to know each others and develop a support network so essential for a good graduate school experience.

Lessons Learned for Faculty and Students
Through these experiences over time, our faculty have found the following factors to be essential to the success of our programs.

Communication and Community
Keep everyone informed of important program issues. Just sharing information within the group of technical communication faculty can lead to problems when and if the Director of Graduate Studies or the department chair, and sometimes the department faculty as a whole, are not also informed. In our program, we make every effort to let others know if we propose new courses, propose revised course titles, or make any other official changes. Any major changes affecting both our undergraduate and graduate programs go through a long approval process from the department level to the college level to the university level. This process helps with quality control and helps promote our programs throughout our large university community.

Advanced Planning
Providing an entire MA program online or part of a BA program online (over half of our undergraduate program is now completely online) requires a great deal of advanced planning and support. Faculty who have
taught online know the best approach is to complete all or at least much of the course content, layout, and other features well before the semester begins, instead of while the course is in progress. Having a separate staff—in our case, the Center for Distributed Learning—provide course development and technical support is essential.

The right approach to adopting a new learning management system is also important. Before UCF switched completely to Canvas, the Center for Distributed Learning asked faculty experienced with teaching online to spend a number of semesters testing their courses in this new online environment. This approach allowed support staff to gain a better understanding of problems faculty might encounter before the mandatory transition for all faculty teaching online. The Center also provided numerous workshops for the faculty well in advance to help them learn the new features of Canvas.

**Support for Learning Online**

Students continue to need support for navigating their way through the demands of partially online or completely online courses and for helping them to succeed in learning in an online environment. In addition to providing support for the faculty, our Center for Distributed Learning also provides technical support and other resources for any students taking online or partially online courses. Many students benefit from this support, especially at the beginning of any new semester when technical problems are commonplace. Faculty teaching online courses can provide additional help by creating well-designed online courses, making them easy to navigate as well as challenging in content.

**Support for Students’ Professional Development**

Providing challenging courses is not enough for promoting professional development in students. Of course, providing students with internships, mentors, access to local STC chapter meetings, and guest presentations from the community are helpful; however, faculty need to do even more to help students become more professional and more proactive.

Millennials, the generation now ages 18 to 36 (depending on which studies are used), present unique challenges for today’s faculty. Faculty can address these challenges by requiring assignments that involve the participation of practicing professionals and their companies. Faculty can also provide online resources within their courses concerning professional development. We, for example, regularly remind students of the many excellent on-campus career services available to them as well as post es-
sential resources on improving numerous interpersonal communication skills and job skills.

**The Technical Communication Lab**

Resourcefulness helps to keep a lab open when classroom space is in demand; resourcefulness helps even more to keep the lab current with technology. Over the years, there have been efforts to move our lab to a smaller room in the same building or elsewhere on campus because the current room is adjacent to other departments or programs that need the space to expand. We have countered by scheduling more classes in our lab, tracking how much our lab is used for classes, and checking who uses the lab during available lab hours between scheduled classes. We are also fortunate that UCF provides ongoing grant opportunities for updating our hardware and software.

**Faculty Freedom and Shared Program Objectives**

Balance faculty freedom to teach courses as they prefer with clear course and program objectives. Our technical communication faculty have lots of freedom concerning what content is covered and what texts are used for our senior-level and graduate-level courses, but this freedom can create problems. Students moving through the program can find themselves less prepared for more advanced courses if essential content is not covered in the earlier courses. Fortunately, we agreed long ago on the essential learning objectives for all of our undergraduate and graduate-level courses. We reviewed all of our undergraduate and graduate courses to determine the major objectives for each and agreed we needed to continue to focus on achieving these objectives every time we offer our courses. As long as our faculty meet these objectives in their courses, they may use a variety of strategies (as well as content and readings) to do so. Some other programs do work more from a common syllabus for at least some courses, but our approach works well for us.

**Conclusion**

We have had our challenges over the decades, but considering the modest beginning of our program, we have also achieved a great deal. For example, we have a large group of alumni who are either beginning or are well into their careers. We often hear from students who completed our programs over three decades ago, and we regularly hear from many more who finished their studies more recently. These former students have
made themselves essential to their companies through their demonstrated expertise; they are valued employees, and many are well paid.

I recently surveyed (February 5, 2015) some of our graduates and discovered they are in an interesting range of locations, have a wide array of job titles and responsibilities, and earn impressive salaries.

The following are selected examples from graduates of our BA program:

- Senior Technical Writer for G.E. Transportation in Melbourne, Florida. Responsible for creating an online help system for the software component of a railway system.

- Senior Technical Writer for Atlassian in Sydney, Australia. Responsible for helping developers to use company tools, performing usage analysis for the company’s wiki, and providing feedback for design decisions in software tools.

- Senior Technical Writer for Siemens Industry, Building Technologies Division, in Atlanta, Georgia. Authors all internal and external documents, including installation guides, user guides, software interface guides, white papers, patent documentation, and hardware technical diagrams. Also serves as location Product Quality Manager and tracks and verifies Siemens software build process documentation.

- Technical Writer at Lockheed Martin. Writes operator and maintenance manuals that abide by military standards for Lockheed Martin equipment. Takes photos and creates graphics for the manuals.

Additionally, salaries for these graduates range from $45,000 to $115,000, not counting potential bonuses and generous benefits for some. Of course, the $115,000 salary is unusually high for one of the undergraduates, but building credentials for two decades in industry and finding the right opportunity at the right time can lead to large financial reward.

Graduates of our MA program have experienced similar successes, holding a variety of job titles including:

- Manager of Instructional Design for Citrix Systems, Inc., in West Palm Beach, Florida. Manages the team responsible for designing all of the technical courses produced by Citrix Education.

- Senior Technical Writer for Orlando Utilities Commission in Orlando, Florida. Writes training guides for Customer Information

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and Financial Systems and creates online learning for new hires and project managers.

- Technical Editor III for Amazon Web Services in Seattle, Washington. Responsible for quality assurance and editing for bid and proposal documentation, development and maintenance of process documentation, and mentoring of new technical writing employees.

Salaries for these graduates with an MA range from $100,000 to $120,000. This range is outside the norm for our MA graduates, but it shows how well some students have done.

Concerning the norm for salaries in Central Florida, one of my most experienced industry colleagues and I estimate entry-level salaries for recent BA graduates start in the $35,000 to $40,000 range while MA graduates start in the $40,000 to $45,000 range. Lockheed Martin, one of the largest employers in our area, starts new hires in the writing, editing, and communication positions at $40,000, associate writers/editors at $55,000, senior writers/editors at $70,000, task leaders at $85,000, managers at $110,000, and senior managers at $130,000. Those earning $70,000 or more typically have decades of experience.

New students consistently tell us they were drawn to our undergraduate or graduate programs because of the excellent opportunities they provide and the success of graduates. The quality of technical communication programs can be measured in many ways, but if the job-satisfaction of graduates from our program is any indication, then we are on the right track. Of course, rapid changes in technology and many other changes and challenges in our field (for example, topic-based writing or DITA, single-sourcing, multiple-authorship, and open-source software) require that we continue to adapt our programs. All of those teaching in technical communication programs throughout the country share these concerns.

**Author information**

Dan Jones, a Professor of English, teaches a variety of undergraduate and graduate technical communication courses in the Department of English at the University of Central Florida (UCF) in Orlando. This fall he begins his 33rd year at UCF after previously teaching technical communication courses for four years at Embry-Riddle Aeronautical University in Daytona Beach. He has also provided over 30 technical communication workshops on the essentials of technical communication to professionals from many
A New Major in the Shadow of the Past: The Professional Writing Track at Oakland University

Felicia Chong
Oakland University

Jim Nugent
Oakland University

Abstract. In this article, we offer a detailed profile of Oakland University, its writing and rhetoric department, and the professional writing track of its writing and rhetoric major. We overview how the context, culture, and history of the university influenced the development of our program. We also describe the strategies for and challenges of administering a professional/technical writing track within a predominantly composition-rhetoric influenced program.

Keywords. professional writing, writing and rhetoric, curriculum development, program design

Oakland University (OU) is a state school located in the suburban city of Rochester, Michigan, approximately 25 miles north of Detroit. It serves a population of just over 20,000 students, including some 16,500 undergraduates. The Carnegie Foundation for the Advancement of Teaching has ranked OU as a Doctoral Research University (DRU) with an undergraduate profile classification of “FT4/S/HTI: Medium full-time four-year, selective, higher transfer-in.” In the cryptic shorthand of Carnegie rankings, this means that most OU students attend full-time, they score in the middle percentiles in tests of academic preparation, and at least one in five has transferred from another institution. OU students generally commute to campus, are of traditional age, and work part-time jobs as they pursue their degrees. OU students also typically come from working class backgrounds and are somewhat racially diverse as a population.

The writing and rhetoric major and minor programs at OU are housed in the department of writing and rhetoric, currently in its eighth year as an independent academic unit. The major consists of three tracks: writ-
ing studies, writing for digital media, and professional writing. We will focus particularly on the professional writing track in the current profile. But before we do so, we would like to first overview some of the history of OU. The context, culture, and history of the institution deeply shape our major program, and we feel that no profile of the program would be complete without some insight into the unique ideological and material conditions from which it has emerged.

**Institutional History**

Oakland University (OU)\(^1\) was established in 1957 by Alfred G. Wilson, a lumber broker, and Matilda Dodge Wilson, inheritor of the Dodge car fortune and former lieutenant governor of the state of Michigan. In that year, the USSR had launched Sputnik 1 and concern was widely expressed about quality and efficiency of American higher education. To answer this geopolitical crisis, the university intended at its outset to provide a “meat and potatoes” educational experience that forewent nonessentials such as dorms, athletics, fraternities, sororities, physical education, and Reserve Officers Training Corps (ROTC) programs (Varner, 1996; Swanson, 1997; Hamilton & Varner, 1959). Contrary to prevailing institutional lore (e.g., Andersen, 2010; Ostergaard & Giberson, 2010), the university was not established as an honors college and never overtly aspired to be one. Rather, it originally aimed to be a “liberal arts college of the highest quality—but one to develop the abilities of the average good high school graduate rather than of a highly selected elite” (Michigan Maps).

Although its students had average high school grades, OU’s curriculum sought to be rigorous and austere; the university’s goal at the outset—although not articulated in such terms at the time—was to *do more with less*. The university’s charter faculty members were recruited from top-tier schools and many were lured to the area by the promise of developing a new and unusual institution of higher education (Tomboulian & Tomboulian). Among its earliest curricular innovations, the university aimed to never offer remedial coursework (Hoopes, 1997). For instance, no math courses would be offered below the level of calculus (McCay, 1997; O’Dowd, 1999). It was also hoped that “no freshman English course of a traditional nature would even be offered, no communications course, no composition” (Hoopes, 1997). Instead, as declared in one of the university’s founding documents, “The faculty will place strong emphasis on writing in

\(^1\) Oakland University was briefly affiliated with Michigan State University and was known during its earliest years as Michigan State University–Oakland.
all courses, and the quality of a student’s writing will be the concern of the entire faculty” (Hamilton & Varner, 1959, p. 9).

The university opened its doors to students in fall 1959, and a conflicting dynamic surfaced almost immediately between the aspirations of OU’s esteemed faculty and the academic abilities of its students. Failure rates were remarkably high during the first term: 17% of all grades given were Fs and some 36% of all students received a failing grade in at least one of their classes (Riesman, Gusfield, & Gamson, 1970). The chancellor was forced to make an emergency intervention to allow students to retake courses without penalty. Although the academic preparation of OU students slowly rose through the 1960s (Riesman et al., 1970), the early history of the institution is defined by a gradual reconciliation among the expectations of faculty, the abilities of students, and the imperatives of institutional administration.

As years went by, many of the university’s founding tenets were adapted or set aside in the face of institutional realities. For instance, as guidance counselors in area high schools caught word of the high failure rate during the first year, student recruitment became an immediate challenge for the new university. As a result, ground was quickly broken on new student dormitories, enabling OU to recruit students from areas beyond the reach of its harsh reputation (Riesman et al., 1970). By the 1970s, OU had dorms, some athletic programs, and an increasing number of “remedial” courses. Faculty also acknowledged by this time that adequate writing instruction was not occurring in general education courses and writing needed to have its own institutional and curricular space (Andersen, 2010). In 1972, a program was established at OU to deal with first-year writing—not within an academic department, but within an administrative unit called the Department of Learning Skills (Obear, 1972).

By 1981, OU had a sizable first-year writing program under the aegis of the Department of Learning Skills. Seeking “to correct the delusions of high school counselors, college registrars elsewhere in Michigan, and even our own students that Learning Skills offers only remedial work” among other “practical and aesthetic reasons” (Obear, 1981), a name change was sought that year to become the Department of Rhetoric. Rhetoric was soon combined into a new academic Department of Rhetoric, Communication, and Journalism (RCJ), and by 2008, there was sufficient political will to (amicably) separate rhetoric into its own department. Simultaneously, a group of rhetoric faculty were successful in proposing a new major in writing and rhetoric to be housed in the new department (see Ostergaard, Giberson, & Nugent, 2015), where the story of the current profile picks up.
It is worth remarking at this point how greatly the institutional history of OU—including its foundational ethos of austerity, its attitude toward remediation, and its early faculty’s perception of student quality—has influenced and enabled our contemporary department, major, minor, and first-year writing program. Perhaps the most significant historical development is that at no time in OU’s history were rhetoric and writing affiliated with the department of English. Although writing instruction shifted among curricular and institutional locations that were at first invisible, then remedial, and then independent, composition at OU has never had to contend with the epistemological and pedagogical debates that attend traditional English department configurations. We believe that these historical circumstances have been fortuitous and have paved the way for a unique and innovative department and major program.

**The Writing and Rhetoric Department and Major**

A proposal for a major in writing and rhetoric circulated for a number of years without gaining traction prior to 2008. But in that year, a number of factors aligned to enable a proposal to move forward. Much of the impetus behind the new program was from the dean of the college, Ronald Sudol. As a rhetoric scholar himself, he had long endeavored to break rhetoric off from RCJ, an increasingly unwieldy academic unit comprising three divergent scholarly fields, 20 tenure-line faculty, 11 job-secured special instructors, and over 80 lecturers. In late 2007, he tapped a small group of younger rhetoric faculty to revise and revitalize the extant major proposal. The revised proposal was received favorably by the university in 2008 and won approval in relatively short order.

As described in the major proposal (and as the department and major were marketed for many years on their website):

> The Department of Writing and Rhetoric (WRT) provides a broad range of instruction and service for the university and is grounded in contemporary theory and research related to the discipline of rhetoric and composition.

> Coursework in writing and rhetoric is designed to address the evolving nature of persuasion and written communication in the 21st Century. The department offers a Bachelor of Arts degree that prepares students for work as writers, editors, new media composers, and educators in a variety of public, private, and educational settings. The major and minor offer students tracks in professional writing, writing for new media and writing as a discipline. (Oakland
All three tracks of the major program are intellectually grounded in rhetorical theory; what differentiates each track is the specific domain of application that it focuses on. The writing studies track prepares students for further graduate study in rhetoric and composition. The writing for digital media track prepares students to engage with social media and video games. The professional writing track enables students to be critical, ethical, and capable practitioners of writing within a broad range of professional contexts.

The new writing and rhetoric department and new writing and rhetoric major began operations in fall 2008 with eight tenure-line faculty (six tenured and two untenured), five job-secured special instructors, and 40 part-time instructors. Only one faculty member (Jim Nugent) was hired to join the new department in fall 2008. As of 2015, the department comprised 11 tenure-line faculty (seven tenured, four untenured). In addition to teaching courses for the major, the full-time faculty also teach first-year composition and business writing.

Three tenure-line faculty are professional writing specialists. Jim Nugent earned his PhD at Michigan Technological University in rhetoric and technical communication and his research interests include technical communication academic programs, writing program administration, and sophistic rhetoric. Josie Walwema joined the program in 2011 and received her PhD in rhetorics, communication, and information design from Clemson University. Her research interests include information design, instructional design, visual rhetorics, technical writing and editing, classical rhetorical theory, and communication. Felicia Chong joined the faculty in 2013 and received her PhD in rhetoric and technical communication from Michigan Technological University. Her research focuses on usability instruction in technical communication.

The department of writing and rhetoric maintains connections with programs across the university through its first-year, service, and general education courses. The faculty are regularly asked to offer workshops in writing pedagogy across campus, such as for OU’s new medical school or Center for Excellence in Teaching and Learning. The faculty are also occasionally asked to provide expertise and support for other initiatives. For example, Nugent has worked with the school of medicine to develop new protocols for the evaluation of radiology reports, collaborated with the department of mathematics to establish WRT 381: Science Writing as a general education elective, conferred with representatives from the school of
business administration about the WRT 382: Business Writing curriculum, and designed a new technical writing course for the School of Engineering and Computer Science.

As a department, we have maintained strong community connections through various client-based projects, internships, and outreach. For example, the faculty are involved in the Meadow Brook Writing Project (MBWP), which is a partnership between OU and local schools including Detroit Public Schools, Macomb county schools, Oakland Community College, and the Office of Public School Academies at OU. It is also a site of the National Writing Project and is affiliated with the Urban Sites Network. One of the events hosted by MBWP is a summer youth writing camp, where young adults interact with award-winning, trained experts in the field of writing (Meadow Brook Writing Project, 2014).

Courses in the department of writing and rhetoric also serve to connect students to the broader community experience. For example, faculty member Dana Driscoll offers her peer tutoring class at the Baldwin Center, a community outreach center whose “mission is to feed, clothe, educate and empower the men, women and children” of Pontiac, Michigan (Baldwin Center, 2014). Her students learn firsthand how to administer literacy tutoring in the center’s after school program for underprivileged youth.

**The Major Curriculum and Professional Writing Track**

Students must complete 40 credits (10 courses) to earn a major in writing and rhetoric and 20 credits (5 courses) to earn a minor. There are three core courses common to all three tracks of the major:

- **WRT 340: Issues in Writing and Rhetoric Studies.** This course introduces majors to important past and present issues in the field of writing and rhetoric, providing a theoretical and historical foundation for understanding the discipline.

- **WRT 342: History of Rhetoric.** This course introduces students to the discipline of rhetorical studies, classical and modern. They are familiarized with theories and applications of rhetoric across varied historical and cultural contexts.

- **WRT 394: Literacy, Technology and Civic Engagement.** This course engages students in an exploration and application of technology in the discipline of writing and rhetoric. It examines the uneven shifts from oral to print to digital literacy, and how those shifts affect the production of knowledge, social relationships, and opportunities for civic engagement.
Each of the three major tracks also has a “gateway” course that should be completed before commencing the track’s elective curriculum. The gateway track for professional writing students is WRT 331: Introduction to Professional Writing, which examines the professional identity of professional and technical writers, and it prepares students to consider the social and ethical responsibilities of professional writing in practice. (Due to the logistics of course scheduling, however, we frequently allow students to take the gateway course later in the curriculum than we would like.)

After the gateway course, professional writing majors are expected to choose three electives from the professional writing track curriculum:

- **WRT 333: Editing.** This course provides an overview of the theory and practice of editing within professional contexts. This course is grounded in rhetorical theory and is designed to teach editing as a rhetorical practice.

- **WRT 335: Writing for Human Resource Professionals.** This course provides an overview of the theory and practice of workplace writing for human resource and management professionals. It emphasizes rhetorical analysis for internal workplace writing situations and focuses on document genres such as letters, memos, procedures, proposals, and email. This course was formerly required for majors in human resources development but has since been delisted from that curriculum.

- **WRT 350: Community Service Writing.** This course develops writing skills applicable in a community service context, including writing for a variety of genres and applying academic research skills to community issues and problems.

- **WRT 370: Special Topics.** This course focuses on special topics in composition and rhetoric. For instance, Josie Walwema offered a WRT 370 course on publishing, design, and the history of the book.

- **WRT 380: Persuasive Writing: Various Themes.** This course provides advanced writing instruction in specific genres. For instance, Walwema has taught a section of this course focusing on legal writing, while Chong has taught a section on usability studies. Possible future topics include medical writing.

- **WRT 381: Science Writing.** This course explores writing to diverse audiences about scientific and technological subjects within a variety of persuasive contexts. As it has been taught in recent
years, this course is broad in its approach and covers some of both traditional technical writing work (such as instructions and usability) and science journalism (such as feature writing).

- WRT 382: Business Writing. This course provides instruction in the theory and practice of written, visual, and digital rhetoric within business contexts. In recent years this course has moved away from a “forms-based” approach built around specific document formats toward an approach based in rhetoric. This course is a significant department offering and is discussed in greater depth, below.

- WRT 386: Workshop in Creative Nonfiction and WRT 486: Advanced Workshop is Creative Nonfiction. These creative writing workshops focus on writing stories of real life that balance artistry and accuracy such as personal essays, autobiography, and travel literature.

Professional writing students are also required to take two additional electives from the common WRT curriculum:

- WRT 231: Composing Audio Essays
- WRT 232: Writing for New Media
- WRT 233: Digital Storytelling
- WRT 305: Advanced Writing
- WRT 320: Peer Tutoring in Composition
- WRT 329: Composition Studies
- WRT 330: Digital Culture: Identity and Community
- WRT 332: Rhetoric of Web Design
- WRT 334: Rhetoric and Video Game Culture
- WRT 360: Global Rhetorics
- WRT 364: Writing about Culture: Ethnography
- WRT 370: Special Topics
- WRT 414: Teaching Writing
- WRT 497: Apprentice College Teaching.

After completing their core and elective coursework, students take part in either a senior thesis project or a semester-long internship as part of a capstone course that synthesizes and applies the knowledge they have gained.
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(WRT 491: Capstone). Professional writing students are strongly encouraged to pursue internships and, to date, all of them have.

Writing and rhetoric majors have accepted internships and jobs in a wide array of local industries and organizations, including:

- Newspapers and magazines (e.g., MY Metro You Magazine and Detroit Metro Times)
- New media firms (e.g., Mercury Studio of Royal Oak, MI)
- The Auburn Hills Chamber of Commerce
- The Chrysler Museum
- The Rochester Oral Historical Archive (Rochester, MI)
- Beaumont Hospital (Troy, MI)
- Technology startups (e.g., Mercury Studios of Royal Oak, MI)
- Legal organizations (e.g., district courts and law firms)
- Manufacturers (e.g., Magnachek of Madison Heights, MI)
- New media enterprises (e.g., benzinga.com and inspiyr.com)

Enrollment in the major has exceeded the department’s initial expectations; official institutional data for academic years 2009 through 2013 recorded 28, 51, 53, 41, and 36 students, respectively (Oakland University Office of Institutional Research and Assessment [OIRA], 2014b). However, these data are believed to undercount the actual number of writing and rhetoric majors. According to the chief advisor for the major, it actually has closer to 55 students spread evenly across all three tracks. Although the department is pleased with this growth, recruitment of new majors is seen as an increasingly urgent priority.

**WRT 382: Business Writing**

WRT 382: Business Writing was first offered under the aegis of the writing and rhetoric department in fall 2008. During that academic year (2008–09), WRT 382 delivered 3,040 credit hours to 760 students. In 2012–13, it delivered 3,936 credit hours to 984 students (an increase of 23% and 29%, respectively), and as of winter 2014, WRT 382 ranked as the tenth largest course at the university (OIRA, 2014b). One reason for the growth of this course is that it is required or recommended by a wide array of major programs university wide. For example, WRT 382 is a required course for majors in actuarial science, liberal arts, occupational safety and health, and economics. Additionally, every major program in OU’s school of business
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administration requires students to complete a common core of courses that includes WRT 382.

While WRT 382 has grown over the years and remains an important source of institutional strength, the department’s ability to provide administrative oversight for the course has been hampered by a number of factors. The department has only gradually been able to add professional writing specialists to its faculty, and other initiatives—including the work of formalizing the new department’s policies and procedures, developing committees for the major, assessment and first-year writing, and getting the new major up and running—have taken administrative priority. While professional writing faculty have participated in informal assessments of course syllabi, interviewed and hired part-time faculty, mentored new and established professional writing faculty, and have held professional development meetings, there was no department committee to oversee this important service course.

In winter 2014, the department formed a department standing committee of professional writing faculty to encourage innovation and establish consistency for WRT 382. The course is notable in part because of the history and disciplinary baggage described above, but also because it presents a challenge and an opportunity for the department. The challenge lies in bringing consistency of focus and instruction to a course that is simultaneously a service course and a central course in the professional writing track of the writing and rhetoric major. The opportunity lies in the fact that the course reaches close to 1,000 students from various majors and programs every year. While this is only a fraction of the undergraduate population and only around 40% of the students who can be reached by our university’s two largest courses (the first-year writing sequence), WRT 382 can provide a platform for the faculty to introduce the professional writing track to students who might not otherwise consider majoring in writing.

Technology and Facilities

Currently, writing and rhetoric has two computer classrooms for exclusive use by the department: a 15-seat Mac classroom and a 22-seat PC classroom. These facilities exist in their current incarnation thanks to an initiative undertaken by the past department chair, Marshall Kitchens, in 2010. That year, the department solicited a grant from the College of Arts and Sciences for funding to redesign our existing technology spaces. Crucial to the success of the grant was that it was pursued in collaboration with the Department of Modern Languages and Literature and the Department of...
Art and Art History and packaged as an innovative “new media corridor.” We believe that the cooperative spirit of this endeavor, along with meaningful arguments concerning student learning outcomes, are what made this grant speak most forcefully to the college’s values and win buy-in from administrators.

Our chief goal in the design of the computer classrooms was to build learning environments that were as conducive to small-group collaboration as they were to larger discussions, presentations, and collaborative work. For this reason, computers were placed at the periphery of the room with a central, versatile work area situated in the middle. The following 3D renderings of the spaces (Figures 1–2) were included in the grant request and largely reflect the final implementation.

More recently our department has undertaken a Chromebook Classroom Initiative, equipping two general-use university classrooms with a laptop cart and 25 Google Chromebooks. The vast majority of our department’s service courses are offered in university-controlled classrooms that

Figure 1. Rendering of Wilson Hall room 400 at Oakland University. The design of this room had to accommodate 22 student computers and account for sight lines around an unfortunately positioned support post. Illustration by Jim Nugent.
can frustrate student technology use and thwart our efforts to implement 21st Century, process-based pedagogies. Although all OU classrooms have instructor-based technologies such as projectors and document cameras, most of them lack student computers and their layout does not facilitate student technology use. For instance, some OU classrooms have long, regimented tables that defy rearranging while others have traditional, front-facing tablet arm desks that are more suited to spiral-bound notebooks than computer notebooks. To address these problems, Chong and Kitchens have worked with administrators from across the university—including representatives from university and classroom technology, the registrar’s office, and the dean’s office—to discuss the possibility of obtaining new furniture that would be more conducive to effective writing pedagogy. The department requested configurable, easily moved student chairs with large work surfaces—specifically, Learn2 classroom chairs from the KI company of Green Bay, Wisconsin.

In this seemingly simple process of incorporating laptop carts into a standard classroom, however, the department soon discovered that there are a number of complications that arise at multiple levels within the institution. First, in order to accommodate new furniture, the university would
have to reduce seating capacity in that classroom, affecting class size and enrollment numbers. Second, concerns arise over the maintenance, administration, sharing, and security of the laptop carts. Although the department of writing and rhetoric purchased and maintains the laptop carts, other technology in the classroom (such as the instructor’s station and projector) remain under the control of the university’s information technology services. Also, since the classroom is available for use by various departments across campus, the university is interested in the possibility of sharing technology resources for increased efficiency. But while the issues that have arisen from the Chromebook Classroom Initiative are surprisingly—sometimes even bafflingly—complex, our department looks forward to any opportunity to increase student access to necessary classroom technologies.

**Challenges, Opportunities, and Looking Forward**

Since rhetoric has stood as its own scholarly discipline on OU’s campus for more than 35 years, our department today enjoys certain advantages. For instance, faculty energies do not need to be expended on intradepartmental conflicts over the intellectual direction of the curriculum and we do not have to compromise with department colleagues about course requirements. With this curricular freedom has come the freedom to hire faculty according to the needs of our program, rather than, say, according to English literature’s coverage model. We feel fortunate to be in control of our program’s future and are very excited about its potential for further development and growth. As open and uncharted as our young department and major program are, we cannot help but think that it resembles OU during its earliest years.

There are some disadvantages to the relative youth and independence of our department and major program, however. The Department of Writing and Rhetoric is without long traditions, providing us with little historical guidance for practical matters ranging from day-to-day bureaucratic operations to big picture issues such as expectations for tenure and promotion. When pursuing new initiatives in our department, for instance, we lack a deep history of previous initiatives to follow as models and we are unable to gauge likely future outcomes against past successes or failures. As such, initiatives in our young department entail more legwork and more risk, and must often first address the questions, “How do we do that?” and “Will this work?” We are sure we can say without controversy that program development is hard work, and it is doubly so without established procedures.
Beyond our department, the history of the broader university plays a determining role in what we do. OU’s founding ethos of austerity remains deeply engrained in the institution. Next to Grand Valley State University, for instance, OU receives the smallest state appropriation per student of Michigan’s 15 state universities (Jen, 2013). Although standards have increased over the decades, OU continues to serve students of typical academic achievement. Students admitted in 2014 had an average high school GPA of 3.4 and an ACT composite score of 23.1 (OIRA, 2014a). OU’s campus culture as a whole reflects the institution’s historical lack of dormitories, athletics, and Greek life. These seemingly disparate historical factors shape the possibilities for our work in the Department of Writing and Rhetoric, from the availability of resources to the rigor of our curriculum to whether or not we can count on student participation in a majors club.

As we look forward as a department, we hope to accomplish several things in the years and decades to come. First, we would like to refine the professional writing track curriculum and strengthen professional writing identity of students and faculty. Much of the faculty’s efforts over the past years have been dedicated to establishing the new major and department and keeping them running; it is only more recently that we have been able to think about our curriculum with greater deliberation, reflection, and intentionality. Second, we would like to see more recruitment and a greater number of majors across all three tracks. There is increasing recognition that the size of our major program is limiting the possibilities for writing and rhetoric at OU, and we have recently undertaken initiatives to increase student enrollment. Finally, although we feel that community engagement is one of our program’s strengths, we would like to see even more development of our program’s relationships with the outside community. As we contend, education is most meaningful when it is explicitly connected to outside contexts that make the social, ethical, and rhetorical effects of our intellectual work apparent. We believe that forging such connections is particularly vital for the future success of the professional writing track and its students.

**Conclusion**

From the geopolitics of the Cold War to the practicalities of luring south-eastern Michigan high school students to an untested institution in 1960, the context, culture, and history of Oakland University play a remarkably persistent and influential role in defining our work. Seemingly distant factors such as the university’s original ethos of austerity, its initial curricular innovations, the earliest aspirations of its founding faculty, and its histori-
cal attitudes toward remedialism have set the stage intellectually for our contemporary department of writing and rhetoric and major program. In particular, the long history of independence for rhetoric at OU has enabled us to build a major program that we feel is well suited to current developments in the discipline of rhetoric and to the nature of writing in the 21st Century. We look forward to guiding the development of this program in the years to come.

References


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What We Are (Not) and What We Might Be: The Professional Writing Minor at the University of Wyoming

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Abstract. Like many programs in technical and professional communication, the University of Wyoming’s (UW) professional writing minor, established in fall 2001, grew out of a successful undergraduate service course in technical writing. Unlike many programs, however, our minor exists independently of either a graduate or undergraduate degree program in technical or professional communication. As the sole expression of technical and professional communication at UW, a land-grant university and the only public four-year university in Wyoming, rather than focusing on a niche area in technical and professional communication, UW’s minor has assumed a broad, generalist identity. Here, we examine UW’s minor in professional writing, from its inception to the present. In addition to outlining the program’s motivations, components, and curricula, we address past, current, and future challenges, including, for example, recruiting students to a generalist program and programmatic viability in an institutional context largely devoid of tangible manifestations of writing studies beyond our own. Some of these challenges are unique to our institutional and programmatic contexts; others are likely shared by programs both similar and dissimilar to ours.

Keywords. professional writing; minor; curriculum; resources; institutional forces; technical communication; staffing; recruiting

In fall 2001, the University of Wyoming (UW) English department established a minor in professional writing. In the absence of either a graduate or undergraduate program in technical or professional writing, the minor cobbled together an array of existing courses taught by a single tenure-track faculty member and a cohort of lecturers. Here we examine UW’s professional writing minor, from its inception to the present. We include
discussions of our institutional and departmental contexts, the history and composition of the minor, and the challenges we have encountered for more than a decade. We argue that the very strength of the professional writing minor—its generalist identity—is often its greatest weakness, particularly in the face of funding cuts and moves toward accountability to various internal and external entities.

Overview

Broadly construed as a minor in technical and professional communication, UW's professional writing minor represented a significant break from the department's traditional literary studies emphasis. From the program’s conception, some faculty hoped, and others feared, the minor might also presage a shift in department culture. Initially, the minor was identified by a negative definition—not literature and not creative writing, both of which were part of the established purview of the department; and not first-year writing, which was the department's only meaningful programmatic expression of composition studies. With few additions to existing resources, the minor in professional writing became a way to give shape and purpose to extant courses and untapped faculty experience and expertise while also responding to a larger national trend in English studies.

Rather than adhering to a tightly defined identity (e.g., technical, scientific, or business writing) we constructed a program out of a general sense of workplace writing practices. Our new program’s curriculum, we hoped, would complement the training students were getting in their major courses of study. We planned to train students to become not “professional writers” but “professionals who write” (Kynell and Tebeaux, 2009). Building on an existing (and highly enrolled) service course, Technical Writing in the Professions (English 4010), the initial curriculum included two required courses: Writing for Public Forums (English 2035) and 21st Century Issues in Professional Writing (English 4000). The latter course, the minor’s capstone, was built to examine practical and rhetorical issues writers may encounter in the workplace. A course in magazine writing, an editing course, and a professional writing internship augmented the required courses. However, more than a decade later, as we reflect on the program’s origins and evolution, including the impulses that created it, the students and faculty, and the program curriculum from launch to present, it seems clear that our minor’s identity emerged as much from what we are not as from what we are—a curious mixture of certainties and ambiguities.
Institutional Context

UW occupies a unique place in both the geography and imagination of the state’s citizenry. As a flagship university and the only public four-year university in Wyoming, UW elicits strong feelings of pride among many of the state’s roughly 600,000 residents. Both university and citizenry take seriously the state’s constitutional mandate to keep university instruction “as nearly free as possible” (Article 7 § 16, 2014) for its students. As a result, UW regularly ranks at or near the top of “affordable college” lists (see, for instance, Sheehy, 2014). Moreover, Wyoming’s small population and narrowly defined economy (energy and natural resources, education, health care, tourism), combined with UW’s singular status, create a close relationship between state government and the university. Over the past decade, the state legislature has supported a wide range of capital improvements benefiting students across the university. Recent legislative initiatives supporting a new School of Energy Resources, a new STEM building, and a commitment to achieving Tier I status for its engineering college, however, have colored campus conversations about institutional priorities and raised concerns about disproportionate influence by the energy industry.

From a curricular standpoint, UW is in the midst of a significant revision to its general education requirements. Designed to enable student choice and facilitate timely graduation, the new University Studies Program (USP), implemented in fall 2015, places greater emphasis on coursework within academic majors. Notably for the professional writing minor, the revised USP also shifts emphasis from writing as a discrete form of communication (courses currently designated as “W”) to integrated written, oral, and digital communication practices (i.e., “C”). Although many would-be “C” courses fall within English’s (and the professional writing minor’s) purview, the new USP aims to situate the majority of “C” courses within the major departments. The shift of “C” courses to the major departments could significantly impact enrollment in the professional writing minor courses.

Department Context

Like similar departments around the country, the UW English Department has historically identified closely with literary studies. Of the 36 credit hours required of undergraduate English majors, 24 focus on literary periods, figures, movements, and theory. The vast majority of the twelve remaining elective credits also come from courses in literature. The department also offers minors in literature and creative writing in addition to the professional writing minor. Outside of creative writing, however, writing has enjoyed little curricular purchase or status beyond the first-year writ-
ing program and the aforementioned senior-level technical writing service course (English 4010) which became the foundation for the professional writing minor.

Within the department, there are two primary categories of full-time faculty: tenure-track professors, most of whom carry a three-two teaching load, and extended-term lecturers, who teach a four-three load. A small number of full-time temporary lecturers (one to two each year) teaching a three-four load and adjunct instructors (three to four each term) teaching one or two courses per semester augment the permanent faculty’s teaching of onsite courses. Another three to five adjunct instructors teach one or two sections of online writing courses, most of which are English 4010, the technical writing service course.

Of the 22 tenure-track faculty members in the department, three research in rhetoric, composition, or professional and technical writing. These faculty typically teach one or two courses in the minor each semester. The tenure-track faculty’s remaining course assignments span first-year composition, the undergraduate major capstone course, and occasional undergraduate- and graduate-level electives in rhetoric and composition. Like the tenure-track faculty, the nine extended-term lecturers in the department also teach varied course loads, including many courses in professional writing. At least two of these extended-term lecturers do not teach in the professional writing program. For the others, in any given semester, a lecturer’s course assignments may range from one to three courses in the minor. While the technical writing service course makes up the majority of these courses, instructors with interest and expertise may teach any course in the minor. The lecturers’ remaining teaching assignments are typically drawn from a combination of first-year composition, literary studies, UW’s Honors Program, and creative writing.

The extended-term lecturers also fulfill a wide range of administrative responsibilities both in the department and throughout the university. For instance, as recently as AY 2014, extended-term lecturers were serving as assistant chair in the English department, coordinating the first-year writing program, directing the university writing center, and directing the Learning Resource Network (LeaRN), a center focused on the first- and second-year student experience. These administrative appointments have stretched the English department’s capacity to staff courses, particularly in the professional writing minor.

Over the past decade the departmental geography has also gradually shifted, albeit modestly. In spring 2015, the department voted to add a track in English Studies that will accommodate some coursework in writ-
What We Are (Not) and What We Might Be

ing and rhetoric. With 15 of its 36-credit hours in literature, the proposed English Studies track retains a heavy literary studies emphasis. The English Studies track also shares two required courses with the literary studies major track: an introductory course in English skills (three credits) and a research-based capstone course (three credits). Courses in rhetoric, composition, technical and professional writing, and linguistics comprise the remaining 15 credit hours in the track.

Concurrently, the department is re-envisioning graduate instruction. Historically, we have offered an MA in English, which in practice means an MA in literary studies. MA students can ostensibly emphasize rhetoric and composition. However, like the undergraduate course offerings, the vast majority of MA courses are in literature. Given the relative lack of visibility and opportunity, it is not surprising that over the past twelve years, fewer than 15 MA students have concentrated their studies in rhetoric and/or composition.

In 2006, the department launched a second graduate program, an MFA in creative writing that has quickly risen to national prominence. Currently, the department is exploring the feasibility and possible contours of a doctoral program. Neither the MFA nor the doctoral program, as it is currently imagined, emphasizes composition and rhetoric or professional writing. In the face of these larger, and to many department members, more compelling curricular initiatives, the professional writing minor fades into the background of most departmental conversations.

The Professional Writing Minor Program: History and Context

Despite its literary underpinnings, like other programs in technical and professional communication (see, for instance, Malone, Wright & Roberson, 2014), our minor’s origins can be traced to a successful service course. For years, Technical Writing in the Professions (English 4010) was delivered regularly and sufficiently to satisfy upper-division writing requirements for many students across campus. These students represented a wide range of majors, departments, and interests. Although few tenure-track faculty taught technical communication (or composition and rhetoric, for that matter), a strong cohort of extended-term lecturers coalesced under the leadership of a senior professor, who, in addition to her work with ESL and technical writing, also chaired the department in the mid-1990s. The cohort met regularly and shared materials and assessment practices, creating a sense of coherence in the technical writing course. The successes and
camaraderie the cohort enjoyed developed into a desire to do something more. At a 1996 department retreat, the department initiated conversations about adding a minor in professional writing.

In 1998, the English department hired an associate professor in composition and rhetoric to direct the first-year writing program and train graduate instructors teaching first-year composition. In addition, the director was charged with developing a minor in professional writing. The minor enrolled its first cohort of students in 2001.

Program Overview
Grounded in the Writing Across the Curriculum (WAC) tradition, the professional writing minor was designed to meet the needs of students from diverse disciplines outside of English, students—we thought at the time—most likely in scientific and technical fields. Key to our founding rationale was the conviction that the minor in professional writing could offer a curricular supplement for students seeking to augment their pre-professional preparation and develop their abilities as communicators.

Rather than narrowing the minor to fill a niche in technical, business, or scientific writing, we reasoned that students would learn the unique genres of their disciplines within their majors. Through the minor, students would gain experience in business, scientific, technical, and workplace writing. These experiences would complement other university-required writing ("W") courses, which focused primarily on academic writing. Our aim was to train students to evaluate and respond to rhetorical considerations, like audience, purpose, and form—considerations that would be key, particularly when writing to non-technical audiences in public and professional spheres.

As it does today, the original curriculum included 18 hours of coursework distributed among two required courses (six hours); two professional writing electives (six hours); and two additional writing intensive electives (six hours), either within students’ respective disciplines (i.e., cognate courses), from the below professional writing electives, or a combination of the two.

As noted in Table 1, of these courses, Writing for Public Forums (English 2035) and 21st Century Issues in Professional Writing (English 4000) were developed at the time of the minor’s launch. The remainder of the curriculum was comprised of existing courses, taught by existing faculty, and gathered and repurposed to serve the minor’s mission and student audience. In keeping with national standards at the time (“Statement,” 1989), we elected to limit the size of minor classes to 18-23 students.
Then and now, all students in the minor complete the two required courses (English 2035 and English 4000) in order to ground them in a shared discourse of workplace writing. The ability to “tailor their elective choices to match their career expectations or their interests” (Knievel et al., 2010, p. 31), however, enabled each student to shape the curriculum to meet his or her unique interests and objectives. This customization came, first, through professional writing electives. Students who were interested in pursuing a career in editing, for example, would often enroll in Editing for Publication (English 4020) and either Technical Writing in the Professions (English 4010) or Magazine Writing (English 4050), depending on the kind of editing they planned to do.

The second key site for customizing the minor came in the above-mentioned cognate courses. Here, students could take one or two writing-intensive courses in their majors. Microbiology students, for example, might take a course called Writing in Molecular Biology late in their major program. Similarly, history students might take a course in historical research methods that is both writing-intensive and consistent with their professional objectives. Courses like these enabled students to commit up to six credits—one-third of the minor—to writing practices that are specifically valued in their respective fields.

In addition to cognate courses, students could also tailor their experiences in disciplinary writing through the Professional Writing Internship.
(English 4970), a 4000-level elective. For example, several years ago, for her professional writing internship, a family and consumer sciences student designed marketing materials for a campus nutrition program. More recently, a theatre and dance student with an interest in disability studies situated her internship with the Wyoming Institute for Disabilities where she contributed to a monthly newsletter and drafted a training manual.

After the director of writing programs who founded the minor left UW in 2005, an extended-term lecturer assumed oversight of the first-year composition program. The professional writing minor, however, was left with no explicit direction until a second associate professor was hired in a similar Writing Programs Administration (WPA) capacity in 2007. Under the WPA’s leadership, we added two additional electives in 2010: Writing for the Web (English 4025) and Writing for Non-Profits (English 4075). These recent additions, especially the latter, have been attractive to students. We currently offer, on average, two sections of English 4075 every fall and one or two additional sections each spring. In addition, at present, we are considering formally incorporating a second, existing 2000-level course into the minor. Writing in the Sciences and Technology (English 2005) would parallel Writing for Public Forums (English 2035) and serve as an alternative gateway/introductory course for students entering the program.

In 2010, the previously consolidated WPA position was divided into three positions:

1. A WPA charged with overseeing university- and state-level writing initiatives, as well as articulation with secondary schools and community colleges

2. A first-year writing coordinator

3. A professional writing coordinator

While the WPA took a different position in 2012, this structure remains largely in place today. The authors have both served in the capacity of professional writing minor coordinator since the position’s inception in fall 2010—Meg until fall 2011, and Michael from fall 2011 to today. As coordinators, we have both received one course release per year to lead assessment efforts, oversee marketing of the minor, and advise the departmental chair about staffing and curricular issues. The coordinator also convenes regular meetings of faculty who teach in the minor and, where appropriate, has led initiatives to revise “W” courses to fulfill the new “C” requirements in the University Studies Program. Since her hire in 2004, Meg also served as the program’s internship coordinator from fall 2004 – spring 2015.
Faculty

In addition to the associate professor in Composition and Rhetoric hired in 1998, the initial professional writing minor faculty included five extended-term academic professional lecturers (APLs), each of whom brought a range of experience writing for non-profits, the private sector, or another professional arena. This mix of faculty provided considerable breadth and depth, combining, as it did, theoretical, applied, and real-world expertise in a variety of professional writing discourses. One APL, for example, brought experience writing for magazines and newspapers. Another had a background in medical writing. Yet another had extensive experience writing in the music industry. Such diverse backgrounds uniquely qualified these members of the program not only to teach the senior-level service course, Technical Writing in the Professions, but also to offer courses like Magazine Writing, Editing for Publication, and Writing for Public Forums that were flavored by the instructors' previous employment experiences. Thus, from the beginning, rather than embodying a single theme or disciplinary focus, the minor curriculum reflected the faculty's range of backgrounds, interests, and expertise. As a senior APL noted, “we weren’t trying really to narrow our program because first of all, we’re all kind of generalists” (Knievel et al., 2009, p. 28). These wide-ranging interests and backgrounds became the unifying characteristic among faculty that shaped the early curriculum.

We felt this distinction was particularly crucial for the academic professional lecturers, who rather than deriving their expertise from research, derived it from their hands-on professional experience. Admittedly, some of the English department’s literature faculty saw this pragmatic workplace emphasis troubling, seeing it as a step toward commodifying the English program. Nevertheless, we strongly believed that the minor’s grounding in workplace and professional writing would provide credibility for both the students pursuing the minor and the APLs teaching it. Thus the practicalities of workplace writing—with “workplace” broadly construed—became the initial framework within which all minor courses would be situated.

Today, the minor is staffed primarily by two tenure-track faculty members, six extended-term lecturers, a temporary lecturer, and four or five adjunct instructors, all of whom have considerable teaching responsibilities elsewhere (see Department Context, described previously). The current faculty features instructors with backgrounds in non-profit writing, literacy and activism, and rhetorical studies, as well as medical and technical writing. This range of experience enables us to expose students in the minor to a variety of writing “sites” through individual teachers’ projects, sample documents, and discussions. However, given turnover in the instructional
faculty, and the size and general scope of a minor program, it is difficult to formalize these potential contributions as course themes or topics.

**Students**

From the beginning, we imagined that the professional writing minor would offer an attractive curricular complement for students in the science, technology, engineering, and mathematics (STEM) fields for two reasons. First, UW features strong programs in engineering and the sciences. Second, professional organizations, such as ABET (formerly, the Accreditation Board for Engineering and Technology), were moving toward more substantial expectations for communicative competence. In fact, however, our student population has, in many ways, mirrored the “generalist” ethos of our curriculum and faculty and is comprised of students from around the university, with a substantial contingent of students from English. Such variety has been largely consistent throughout the program’s history. Our first graduating class in 2003 included an economics major, a business administration major, three English majors, and an education major. In recent years, our program has drawn students from disciplines such as anthropology, graphic art, psychology, geology, and dietetics, as well. Our most recent class included three English majors, an electrical engineering major, and a family and consumer sciences major. Overall enrollment in the minor has stabilized around 20-25 total students each year.

**Professional Writing’s Appeal to English Majors**

One reality we did not fully anticipate is how much the professional writing minor would appeal to English majors. In recent years, 40-50% of the students have been English majors. In many ways, this is not particularly surprising: English majors, in an unforgiving economy, have looked to the minor to augment their professional prospects. English students interested in working in the publishing world, for instance, report during exit interviews that they come to the minor for two reasons: 1) to develop tangible skills in editing, and 2) to gain broad exposure to a range of genres and writing contexts that approximate those they anticipate encountering as professionals. As noted, we added Writing for the Web (English 4025) and Writing for Non-Profits (English 4075) to the minor curriculum in 2010 with the needs of all students in mind. These courses, however, seem particularly useful for English majors seeking to flesh out their skill sets as they anticipate writing-related careers in a range of for-profit and non-profit contexts. We talk more about this particular student subpopulation in the “Challenges” section.
The Science and Technology “Gap” and Other Problems with Fit

We have also encountered an unanticipated science and technology “gap.” To date, we have had limited success attracting students in the hard sciences and technical fields to the minor. Although we continue exploring the basis of this enrollment trend, we have tentatively identified a few potential reasons for it. First, this gap seems to be related, in part, to particularly constraining curricula in many of these fields. Second, ingrained department cultures drive minor and double-major decisions for students. Finally, our minor, with its generalist emphasis, likely does not speak to these students as directly as it might.

A small number of students have come to the minor from fields like electrical engineering and microbiology, but these are exceptions. Some of these students have chosen the minor in response to our recruiting and information initiatives (discussed in the next section). Others have cited relationships with faculty members in their respective majors who advocated for writing and its disciplinary significance and encouraged them to consider enrolling in the minor.

Student Recruiting and the Path Forward

As the professional writing minor has evolved, so have our recruiting efforts. In addition to recruiting through writing-intensive English courses (as discussed later in this section), we have created a Facebook page and begun a targeted recruitment practice. At the same time, we are refining approaches to (we hope) attract some of the populations we believe the program would particularly benefit. We discuss each of these strategies below.

Our primary recruiting vehicle to date has been writing-intensive English courses that occur relatively early in students’ academic careers, including first-year composition. At times, we have provided information for first-year writing instructors to distribute to their students. At other times, professional writing minor instructors have gone into first-year writing classrooms and delivered short informative presentations about the minor. Perhaps most effective, though, have been recruiting efforts in Writing for Public Forums (English 2035), a course that functions both as the introduction to the minor and as a writing-intensive course in our general studies program. English 2035 is pitched at the sophomore level when students are often better prepared to engage the issue of an academic minor than they are in the first-year writing course. Additionally, the course is taught by professional writing minor faculty who can discuss the program over the course of the semester as they introduce students to elements of the
minor through the course curriculum. In short, English 2035 provides many students with their first taste of workplace and civic communication projects.

In an effort to reach students in the sciences and technology, we are also considering a modest curricular adjustment. Although not currently formally included in the professional writing minor curriculum, Writing in Technology and the Sciences (English 2005), is often taught by professional writing faculty. English 2005 is a popular communications (“C”) course for students in some engineering fields and other majors underrepresented in the minor. We plan to formally identify this course as an alternative introductory course—equivalent to English 2035—that might encourage students from these backgrounds to pursue the minor.

We also continue to offer information about the program in fairly typical sites, such as through academic advisers and at major fairs and related events on campus as well as through Facebook. In addition to pushing information to students and keeping alumni informed about our work, we hope our Facebook page will help spread the word about the program.

Another recruiting strategy we have recently undertaken is reaching out more deliberately to some of the departments and majors where we see potential fits with our program. For example, we have approached family and consumer sciences, a department graduating new professionals who, given the scope of possible career paths emerging from the major, may have a range of diverse communication needs. As noted, however, crowded curricula and cultural factors within major departments dictate minor choices for certain majors. Many business students, for example, are advised to minor in finance or marketing. These practices make the process of “targeting” majors on campus for promotion of our minor a challenge. We remain hopeful that our university’s newly streamlined general education program will create new opportunities for students to add additional minors to augment their academic preparation.

Finally, we hope to better identify faculty whom our graduates have recognized in their exit interviews as “writing advocates” who believe strongly in the importance of communication in their disciplines. Such faculty are embedded in different majors and unexpected places around the university. Since students often listen closely to their major faculty members’ voices, we need to ensure that faculty who might advocate for our program know enough about us to do so. However, graduating students tell us that face-to-face word of mouth is our most effective recruiting method. Thus, we rely, too, on our students’ generally positive reviews of the program to aid recruiting.
Facilities

As a reflection, perhaps, of our deliberate effort not to situate the minor squarely within the English department, the computer-based classroom facilities available to the professional writing minor have historically been dispersed around campus. At present, we do not have any classroom space specifically designated for courses in the minor. However, through our affiliation with English and first-year writing, our centralized campus scheduling office affords us partial claim to “priority access” to two computer-based classroom spaces. As a result, almost all classes meet in one of these two classrooms.

One classroom is located in a general use Classroom Building on one end of campus, while the other is found in the basement of Hoyt Hall, home of the English Department. The first classroom lacks windows but is an otherwise functional space. This classroom is equipped with an instructor computer connected to a projector, a whiteboard, a DVD player, and a document camera. Twenty-three student computers are stationed on tables. Two rows of computers face outward against two of the classroom walls, while four internal rows of computers are paired, creating two rows of tables with computers facing one another in the middle of the room. Though these tables are effectively fixed in place, students’ chairs have wheels to facilitate movement and relatively easy collaboration.

The second classroom emerged from a language lab redesign and downsize in Hoyt Hall. Design compromises necessary to fit the classroom’s resources within the available space resulted in a sub-optimal site for teaching. While the room includes technology and teaching resources comparable to the classroom described above, student computers are arrayed in rows (four per row) on fixed tables that span nearly the entire length and width of the classroom. With a seating capacity of 25, this arrangement accommodates narrow spaces between tables and at the front of the classroom by the whiteboard, which largely negates any advantage that wheeled chairs might offer. Poor lighting and sight lines, a noisy ventilation system, and the room’s arrangement and orientation make it extremely difficult for students to hear the instructor and impede student collaboration. Rather than teach in such conditions, instructors assigned to this space often request a different classroom.

Because computer-based classrooms at UW are centrally controlled by our Information Technology (IT) department, both of these classrooms have standard campus software. The software includes the full Microsoft Office Suite (2013), Adobe CS6, Adobe Acrobat Reader, Audacity, Real Player, Zotero, major web browsers, and other applications. A somewhat
baroque process for securing specialized software has occasionally proved to be an obstacle for teachers in our program looking for targeted technology solutions. But as campus IT has become more user-focused and web tools have become both more sophisticated and ubiquitous, the great majority of work in our generalist minor can be supported through our institution’s standard IT offerings.

**Challenges**

As we write, we recognize with more clarity how our generalist ethos empowers us to shift our shape in gainful ways and serve some students extremely well. We note, however, that this ethos also undercuts a more legible identity on our campus and in our department. In short, our generalist identity, while valuable to our students and practical given institutional constraints, may contribute to the challenges that lie ahead.

**Staffing**

Like many programs, we struggle with staffing our courses at an optimal level. Our instructors’ generalist versatility contributes to this ongoing challenge. As a minor, it is easy to find our programmatic interests pitted against those of the larger department. Most of our instructors teach both in the minor and within the larger department curriculum, creating tensions in scheduling faculty that are often detrimental to the minor. And, as noted previously, we have suffered a “leadership drain,” with many of our instructors taking on administrative roles—with significant course releases—in our department and around campus (Center for Teaching and Learning, LeaRN, faculty senate, and USP coordination, among others).

Over the past few years, these obligations have led to reassigning (or altogether dropping) approximately 15-20 sections of various courses in and around the minor, especially Technical Writing in the Professions (English 4010), which functions as both a minor course and a senior-level service course. Although we have been able to maintain the integrity of the core minor curriculum, we have lost some staffing flexibility and stability. For example, we can no longer staff two sections of our minor’s introductory course, English 2035, each semester. This limitation impacts access and enrollment in the minor as well as program recruiting. Other courses are occasionally—and capably—staffed by adjunct instructors who are given little notice or time to prepare and who frequently lack deeper connection and experience with minor courses as parts of a larger program. These fluctuations in staffing challenge larger efforts toward continuity and programmatic coherence. Despite these challenges, however, to date
we have been able to offer a reliable, consistent enough course rotation to keep the program viable.

In 2015, however, we absorbed three retirements. A fourth faculty member (Meg) has taken a position in a different department on campus (the Ellbogen Center for Teaching and Learning). These four positions, all extended-term lecturers, provided welcome consistency and valuable institutional knowledge in the minor for many years. However, like tenure-line positions, extended-term lecturer positions are sought through a competitive process pitting College of Arts and Sciences departments against one another for a steadily decreasing number of positions. Consequently, we will need to prepare hiring arguments that address the particular curricular needs of the minor, not just the general and ongoing coverage needs in composition and lower-level literature and creative writing that seem endemic to the English department condition. Furthermore, we will need to prepare for the possibility that these lines will be replaced by temporary and adjunct instructors, leading to continued loss of both stability and institutional memory.

Meeting Student Needs/Responding to Workplace Realities

Arguably, one of our largest challenges going forward as a minor—particularly a minor that skews toward “general” in its curriculum—is finding ways to meet the needs of our varied student population. We believe these needs should be addressed through both curriculum and culture. An alumni survey (Appendix A) distributed during summer 2013 indicates that our students graduate and move to a wide range of professional lives. Answers to two questions, in particular, suggest as much:

- In response to the question, “If you have been employed since graduating from UW, please check all forms of communication or writing that you have been asked to undertake in the workplace,” 16 of the 20 choices listed (e.g. “write short-form reports,” “compose using audio,” or “create or update websites”), were chosen by at least 20% of survey respondents.

- In response to the question, “Please select the option below that best describes the percentage of total work time that you devote to writing/communication tasks in your current or most recent job,” 72% of respondents indicated that they spend at least 40% of their total work time communicating.

The range of communication behaviors and the amount of communication work our alumni report support our conviction that our minor is preparing—or creating—generalists.
Moreover, 26% of those alumni responding identified either Technical Writing in the Professions (English 4010) or Editing for Publication (English 4020) as the minor course that was most “helpful in terms of preparing you for the writing and communication demands in [your] professional life to date.” However, all courses offered in the minor were chosen by at least one respondent. Given our small number of alumni and our modest response rate (N=23), representing roughly one-third of our graduates-to-date, we see this as meaningful data. Finally, we were pleased that 100% of those responding rated both courses and instructors in the minor either “good” or “excellent,” with 96% noting that the minor provided “good” or “excellent” preparation for their transition from the academic world to the workplace.

In recent years, however, it has become more common to encounter students who hunger for more preparation than we can offer. Oftentimes, it is English majors who have stumbled into the minor and, in doing so, find for the first time, that English encompasses more than literature. These are not typical English majors with a nascent interest in editing or publishing who decide to minor in professional writing. Instead, these students are interested in applied rhetoric and its pursuant questions. They see themselves as communicators, as creative problem solvers in workplace, organizational, and civic settings. They are students who would major in professional writing, if they could. Not surprisingly, the number of students who fit this profile at a given moment is small. Nevertheless, we need to continue finding curricular and extracurricular ways to enrich these students’ experiences without overpromising what an 18-credit minor can do.

Creating Community for Students and Faculty

Another consequence of our generalist identity and our minor status is the challenge of defining “community” among our students and faculty. Based on student feedback collected through exit interviews, we find that some students identify strongly with the minor—as much as or more so than their respective majors. However, most students do not; they identify with the minor in the manner we anticipated. For these students, the minor is subordinate to, and in support of, their own major programs. We are moved, though, to define and provide opportunities to the community of students who do feel a sense of connection to the minor.

Finding a Voice (and Resources) within Our Institutional Context

In many ways, our largest challenges, however, rest within the department. These challenges likely find their origins in ideology and politics, as well as structural realities that inhere in the relationship between majors and minors. As a minor, we struggle to muster the clout needed at times
to enact change and access resources. As a minority partner in English, as defined by our institutional context, we occupy a strange interspace, not tethered to or supported by a major in technical or professional communication. Indeed, it is worth making a quick, hopefully illuminating comparison to other minors offered in our department. The literary studies minor is small but buttressed by its relationship to the department’s emphasis in the major. Creative writing is buttressed by its relationship to our nationally recognized MFA program. Professional writing, on the other hand, is independent of either an undergraduate or graduate program in professional writing. As such, we are the sole curricular expression of our larger field within our department, the only “non-creative” writing program beyond our first-year composition program. Consequently, we feel our own internal pressures to act like a major even though we are not, nor are we resourced as such. Perhaps the best expression of this need comes from graduating students who tell us they completed every course we offered and still wanted more. We are currently unable to satisfy the needs of students interested in more breadth or depth in the minor.

### Building Enrollment Numbers and Maintaining Program Integrity/Viability

A final challenge, perhaps less explicitly tied to our generalist identity, lies in simply populating the minor at a sustainable level. As noted earlier, both our university and our state have been engaged in conversation about the appropriate role of the university as a land grant institution. Within the context of this conversation and a climate of economic restraint, programs of all kinds and at all levels at our institution find themselves needing to strengthen justifications for their existence, and we are no different.

One expression of this particular historical moment and the economic conservatism that characterizes it is found in the College of Arts and Sciences’ recent capacity analysis. In order to ensure the most efficient use of teaching resources, in 2013-2014 the College closely tracked enrollment in all of its courses. Most of the professional writing minor courses seem to be on solid enrollment ground, in part because of their appeal to students looking to satisfy university studies requirements.

However, the minor’s capstone course registration has been heretofore largely limited to graduating minors, along with a handful of other students who are admitted with instructor permission. These parameters were established to ensure a concentrated capstone experience for students completing the program. Given program size, this means that the course typically enrolls under ten students. Although this is a nice num-
ber for a concentrated capstone experience, in our current political and financial climate, courses that consistently enroll at a low number may be in jeopardy. The capstone’s limited enrollment may force us to reimagine its parameters and audience(s) in order to keep it viable in the eyes of the College. Even though the course is somewhat under-enrolled, it remains crucial to students in the minor and, thus, necessary. We may need, then, either to boost the number of students in the program or find other creative ways to expand the course’s appeal without sacrificing its identity.

**Conclusion**

As our university (and higher education in general) moves toward a more quantifiable model of assessing value, we need to consider ways to nurture students and faculty and to grow, whether that growth is as a minor or as a major (or part of one). We need to recruit actively and successfully in order to demonstrate value in the most pedestrian but perhaps most visible manner of all: participation numbers. To do so, we need to continue to think of ways to reinvent ourselves and reach new audiences around the university and beyond.

As the only four-year institution in a state that spans nearly 98,000 square miles (“Wyoming Facts and Symbols,” 2013), we may consider expanding our distance education offerings. Right now, we regularly offer only the service course, Technical Writing in the Professions (English 4010), and occasional sections of Writing for Non-Profits (English 4075) online. Both are wildly popular. Based on this success, we have reason to think that an online version of our minor—or perhaps an online certificate—would succeed in a similar vein, and create another avenue for access in our geographically vast state.

At the same time, while the entire university is grappling with the consequences of the general education changes mentioned previously, these changes profoundly affect the professional writing minor. Five of the minor’s eight core courses carry “W” (writing) designations within the outgoing University Studies Program (USP). Thus, as we engage in reimagining the bulk of our curriculum to fit the new “C” (communication) program requirements, we also recognize that, particularly given our generalist ethos, university-level efforts to push writing back into major departments may well impact our enrollments. Students who have grown accustomed to taking English courses for their advanced writing requirements may find new expectations and new, more tailored courses in their home departments. In short, the new USP guidelines may make the minor’s upper-division courses less appealing.
Finally, we need to monitor changes within our university’s institutional and regional space in order to actively discern between local opportunities and obstacles. Our minor’s identity has tilted more in the direction of the humanities, likely because of our departmental home and our student clientele. Yet, we know well that technical and professional communication oftentimes find strategic alliances with the STEM disciplines, disciplines that have been identified as sites of strength and strategic growth on our campus. Forging an alliance with new energy and engineering initiatives on our campus could be transformative and shift our identity in a radically new direction—one that could move us substantially toward achieving the above objectives. We need to constantly appraise both the opportunities for engagement that our generalist identity affords us and those from which that identity excludes us in order to maintain visibility and vitality within our institution.

References


Author information

Meg Van Baalen-Wood has taught professional writing at UW since fall 2002 and served as the first coordinator of UW’s professional communication minor. In fall 2014, Meg moved into a faculty development position in UW’s
Ellbogen Center for Teaching and Learning. She continues to teach regularly in the professional writing minor.

Michael Knievel teaches undergraduate and graduate courses in composition and technical and professional communication in the Department of English at the University of Wyoming. He currently coordinates UW’s professional writing minor. His research focuses on professional writing programs and on the rhetoric of police use-of-force policy.
Appendix: 2013 Professional Writing Minor Alumni Survey

1. In what year did you graduate from UW?
   a. 2013
   b. 2012
   c. 2011
   d. 2010
   e. 2009
   f. 2008
   g. 2007
   h. 2006
   i. 2005
   j. 2004
   k. 2003

2. If applicable, under the third option below, please list all position titles you have held since graduating from UW:
   a. I have not been employed since graduation because I have been enrolled in graduate/professional school
   b. I have not been employed since graduation due to other circumstances
   c. Please list positions here, separated by commas (e.g., accountant, data manager, night supervisor)

3. If you have been employed since graduating from UW, please check all forms of communication or writing that you have been asked to undertake in the workplace. If you have NOT been employed since graduation, please skip this question.
   a. Compose email messages
   b. Edit personal or organizational documents
   c. Write grant proposals
   d. Compose blog posts
   e. Develop visual representations of data
   f. Collaborate with co-workers to compose documents
g. Create or update websites
h. Use social media for company or organizational purposes
i. Write long-form reports
j. Write short-form reports
k. Manage projects involving other coworkers
l. Compose using video
m. Deliver oral presentations
n. Compose using audio
o. Use a wiki to collaborate
p. Use Google Docs
q. Use other Google services
r. Write goods or services proposals
s. Please list others here, separated by commas _____.

4. Please select the option below that best describes the percentage of total work time that you devote to writing/communication tasks in your current or most recent job. If you have NOT been employed since graduation, please skip this question.
   a. Under 20%
   b. 20%-40%
   c. 40%-60%
   d. 60%-80%
   e. 80%-100%

5. Of all the writing and communication demands I have faced in the workplace thus far, my study and work in the professional writing minor prepared me BEST for (please list between 1-3 communication tasks in the text box below).

6. Of all the writing and communication demands I have faced in the workplace thus far, my study and work in the professional writing minor prepared me LEAST for (please list between 1-3 communication tasks in the text box below).

7. Based on your recollection, which course in the minor has been MOST helpful in terms of preparing you for the writing and com-
munication demands in your professional life to date? (please choose only from those courses you took while at UW).

a. English 2035: Writing for Public Forums
b. English 4010: Technical Writing in the Professions
c. English 4020: Editing for Publication
d. English 4050: Magazine Writing
e. English 4000: 21st Century Issues in Professional Writing
f. English 4025: Writing for the Web
g. English 4075: Writing for Non-Profits
h. English 4970: Professional Writing Internship

8. Based on your recollection, which course in the minor has been LEAST helpful in terms of preparing you for the writing and communication demands in your professional life to date? (please choose only from those courses you took while at UW).

a. English 2035: Writing for Public Forums
b. English 4010: Technical Writing in the Professions
c. English 4020: Editing for Publication
d. English 4050: Magazine Writing
e. English 4000: 21st Century Issues in Professional Writing
f. English 4025: Writing for the Web
g. English 4075: Writing for Non-Profits
h. English 4970: Professional Writing Internship

9. Overall, my COURSES in the professional writing minor were:

a. Excellent
b. Good
c. Average
d. Below average
e. Poor

10. Overall, my TEACHERS in the professional writing minor were:

a. Excellent
b. Good
c. Average
d. Below average
e. Poor

11. Based on your memory and experiences since graduation, generally speaking, the greatest STRENGTH of the professional writing is (list) ____

12. Based on your memory and experiences since graduation, generally speaking, the greatest WEAKNESS of the professional writing is (list) ____

13. Overall, what kind of preparation did coursework in the professional writing minor offer in order to help you make the transition from academic to workplace writing?
   a. Excellent preparation
   b. Good preparation
   c. Basic preparation
   d. Poor preparation

14. As a credential or qualification, the professional writing minor:
   a. Played a significant role in securing employment, either in your current position or a previous position
   b. Played at least some role in securing employment, either in your current position or a previous position
   c. Played no role in securing employment, either in your current position or a previous position
   d. N/A-I have not been employed since I graduated because I have been in graduate or professional school
   e. N/A-I have not been employed since I graduated due to other circumstances

15. Please offer any additional feedback on the professional writing minor here:
Programming Perspectives in Texts and Technology: Teaching Computer Programming to Graduate Students in the Humanities

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Abstract. This article discusses how one doctoral program implemented a course designed to teach computer programming to graduate students in the humanities. The article first discusses recent literature that makes connections between programming and the humanities and argues that program administrators may wish to support the learning of programming for a number of reasons, not the least of which is additional scholarly and creative design opportunities for their students. The latter half of the article then discusses the interdisciplinary Texts and Technology PhD program at the University of Central Florida. It broadly describes the program’s history and governance structure and then details how a programming course was recently integrated into the core curriculum. Course goals, assignments, and programming tutorials are discussed and a few examples of major student projects, such as a Dada-inspired sound poem and an experimental web site that converts short stories into abstract art, are presented and made available through hyperlinks. The paper concludes by discussing implications for the field and providing a list of online tutorials and resources that are available for administrators, faculty members, and students who wish to learn more about programming using any number of popular computer languages.

Keywords. curriculum reform, computer programming, coding, project-based assessment, experimental pedagogy, digital literacy, praxis

Given the centrality of programmed tools and technologies in the everyday lives of students and faculty, a number of pertinent questions are raised within the domain of program administration. For example, we may contemplate how our programs position the role of software in relation to students’ research and creative activities. At
what point do students in academic programs become active producers, rather than just consumers, of software? How can software move beyond organizing one’s professional life and take a more central role in data collection, research, and writing? Further, what role might students play in designing and developing software tools to build more capable systems?

This paper discusses one course from a humanities doctoral program in Texts and Technology (T&T) at the University of Central Florida that considers these types of questions. The T&T program has developed a required programming course within its core curriculum. The course challenges students to learn enough about programming to develop their own scholarly projects using Internet scripting languages. This essay first discusses the idea of programming as a form of digital crafting, creating interesting possibilities for digital writing practices. It then provides an overview of the T&T program, focusing specifically on the design- and development-oriented course devoted to teaching computer programming as an aspect of digital literacy. The paper concludes with an annotated bibliography offering several online resources to students, faculty, and program administrators who may be interested in learning more about programming.

Programming as Digital Crafting

Under various descriptions such as “critical code studies,” (Marino, 2006), “procedural literacy” (Bogost, 2007), “digital literacy” (Spilka, 2010), “source literacy” (Stolley, 2012), and “computational literacy” (Vee, 2013), a number of scholars make thoughtful connections between computer programming and the intellectual territory of the humanities. These researchers urge students and faculty to become more familiar with the capabilities and limitations of programming. They note knowledge about programming provides opportunities for theory building as well as the construction of unique tools and digital projects. Tools and digital projects developed by humanities students can then be used for specialized research and creative activities within their fields.

These applied activities have theoretical implications. For example, Karl Stolley (2012) champions what he terms “source literacy” as a core philosophy for the field of computers and writing. Source literacy employs digital craftsmanship as a central idea. Source literacy, in Stolley’s view, means understanding the craft of digital writing in a more comprehensive fashion, through both technical knowledge of programming and a rhetorical understanding of the practices and products generated by programming. Source literacy encourages not only critiquing programmed texts, but also understanding their computational underpinnings in an informed way.
For those new to programming, we are at a moment of unprecedented opportunity for better informing ourselves about software design and development. An abundance of open-source and popular web-based scripting or programming languages—such as PHP, Python, and Ruby—are widely available. These languages are thoroughly documented with tutorials, videos, and wikis. Because major commercial sites run using these technologies, it is easy to find examples to show to students. Additionally, the distribution of students’ finished projects is easy to manage. Anyone with a web browser can easily publish materials to the Web and promote work through social media, blogs, or listserv posts. The number of tutorials and reference materials continue to increase and become more accessible for non-technical audiences.

**Why Graduate Program Administrators Should Care about Programming**

Despite the accessibility of training materials and the enthusiasm students often bring to the idea of learning new technical skills, a note of caution is in order. For example, as program administrators, we often need to temper excitement for new curricular reform initiatives with the realities of our resources and the political climate in which our programs reside. After all, it is unusual to be able to affect sweeping changes with the modest financial support and personnel resources provided to many graduate programs in the humanities. So, with these caveats in mind, why is integrating a programming course into a graduate curriculum something a humanities program administrator might want to consider?

First, technical knowledge is becoming more important for the large number of humanities students with advanced degrees who enter alt-academic careers. These careers are represented in job titles such as technical communicators, content specialists, editors, multimedia designers, educational content designers, web developers, or information architects. Students entering industry often interact and communicate with diverse professionals using project management methodologies derived from the world of software engineering or product design. Knowledge of coding and production strategies such as iterative design, agile development, extreme programming, scrum, and the software development life cycle (SDLC) (Dicks, 2010) are important for students to understand. Even students who do not enter alt-academic careers in industry or research find value in “speaking the language” of coding and understanding the ways in which problem solving can be approached from technical perspectives.
This intellectual common ground is handy when communicating with industry partners for collaborative purposes. For graduate students who will be working in research and development (R&D) environments or taking on positions of academic leadership, these problem-solving abilities in new textual and technological environments are even more critical.

Second, in the case of students’ publication and creative activities, there will always be a point in which a preexisting software application leaves something to be desired for a particular scholarly purpose. For example, a graduate student investigating whether or not a program such as Twitter can be used to broadcast emergency messages to employees within an organization might find it to be suitable at first, but would later be frustrated by the privacy settings, character limits, distribution model, or other aspects of the software. Similarly, a newly hired MA graduate working in industry might attempt to install and deploy a commercial content management system such as Drupal or WordPress only to discover certain features do not operate as anticipated. Or perhaps, even worse, the features are absent altogether. The problem in these examples is that the software being used for these purposes was designed by individuals who all exist outside the students’ spheres of influence.

Third, it is important to introduce new ideas about design and usability into the development of computer software. Bringing humanities students into design and development roles catalyzes new ways of thinking about user interface design. It creates opportunities to consider new possibilities for data architecture and organization and afford new opportunities for creative experimentation. Technical and professional communication students, in particular, have much value to add in creative experimentation. Technical communication is a profession in which technical communicators need to understand audiences, the tools they use, and the capabilities and limitations of those tools (Swarts, 2013). Further, many technical communicators already self-identify as designers (Pringle & Williams, 2005). In addition to documenting processes and procedures of existing software tools, technical communicators can also use their insights regarding audiences and their informational needs to play a more active role in design and development.

In sum, a humanistic programmer is a programmer who is also an expert in practices such as audience analysis, critical analysis, historical evaluation, communicating, editing, and writing. As program administrators, we create the environments in which this interdisciplinary scholarship becomes possible. Humanities students who know how to program can serve as user advocates throughout the design and development pro-
cess, not just at the end. And while user-centered design practices, hybrid teams, and participatory design techniques can all act as surrogates for the direct participation in the coding process by a graduate student in the humanities, it is the code that determines the interactions and affordances of the software technologies manipulated by end users. Although it is true that students can create new projects using existing tools rather than programming them from scratch, it is also true that these extant tools will shape the direction of the new projects and limit the possibilities of creative expression.

In the second half of this essay, I discuss efforts to integrate a programming course into the core curriculum of a doctoral program in the humanities. After a discussion of the program’s history, governance structure, and administration, I delve more deeply into the specific course curriculum and assignments and provide examples of student programming projects. The article concludes with a postscript containing ten online resources for program administrators, students, and faculty who might wish to pursue programming-related activities within their own academic programs.

The Texts and Technology (T&T) Program

The Texts and Technology (T&T) PhD program is an interdisciplinary humanities doctoral program located in Orlando, Florida. The program was proposed to the Board of Trustees as a new doctoral program for the UCF English Department in 2000 and pitched as a unique PhD program that melded the latest digital technologies with the field of textual studies. The program accepted its first cohort of graduate students in the fall semester of 2001. Students enter the program with master’s degrees obtained from a variety of different academic fields including technical communication, professional writing, rhetoric and composition, creative writing, literary studies, history, anthropology, criminal justice, and education.

In 2011, as a result of a program evaluation, the T&T program relocated from the English Department to the College of Arts and Humanities and broadened its core faculty to include academic expertise and participation from additional disciplines outside of English and the newly formed Department of Writing and Rhetoric. The years from 2011 to 2015 further broadened disciplinary representation by including new faculty members from departments such as Digital Media, Philosophy, and History. This diversifying of expertise is supported by recommendations in the literature for more broadly interdisciplinary communication programs (Ecker & Staples, 1997). To maintain curricular focus as areas of faculty expertise broadened, the curriculum subcommittee worked with the program
director in 2012 to develop areas of specialization within the program. In the short term, these areas of specialization guide students toward the selection of appropriate elective courses and suggest potential committee members, who are working in those fields, for their dissertation and exam work. On a long-term basis, the areas help students professionally identify with existing fields and target and market themselves to particular job descriptions when entering the academic or industrial job markets.

The T&T program is managed by a program director who reports directly to the dean of the College of Arts and Humanities. An assistant director reports to the director and handles a majority of the day-to-day student issues such as course registration, admissions processing, and routine correspondence with the Graduate College. The director is in charge of strategic initiatives for the program, handles the negotiation of teaching and assistantship placements with departmental chairs, and schedules monthly meetings of the T&T faculty. These faculty meetings occur three to four times each academic term.

In terms of program governance, T&T operates according to a set of program bylaws\(^1\) developed by a faculty subcommittee in cooperation with the program director. These bylaws specify the mechanisms for faculty membership and dictate the types and responsibilities of faculty subcommittees. For example, when proposing curricular revisions, the T&T curriculum subcommittee develops the necessary revisions or course materials and then brings a proposal to the full T&T faculty for a vote.

**Building a Programming Course into the Curriculum**

Design and Development of T&T\(^2\) is a course in the core curriculum of the T&T program. It is a hybrid, mixed-mode course, in which face-to-face lectures are accompanied by online content and exercises. Students take the course in their second year, following other core courses such as research methods, theory, and history. The idea behind the course is simple: provide doctoral students with enough programming familiarity to complete their own digital scholarly projects. Although the students can accomplish such a goal using existing tools, this further allows them to build projects without requiring them to rely solely on these existing tools and data sets. In regards to those students who do have project ideas best served by existing tools, the course provides them with a deeper level of procedural knowledge. This knowledge enables them to interact with existing tools through application programming interfaces (APIs), custom data queries,

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and other advanced mechanisms for interfacing with both commercial and open source software and databases.

The Design and Development course requires students to read six core texts as well as a small number of supplemental online readings from various sources to augment specific topics in the class. For example, roughly a third of the course is spent talking about scholarship in the digital humanities. Readings include Stephan Ramsay (2011), the *Switching Codes* edited collection (Bartsherer & Coover, 2011), an article from Wendy Chun and Lisa Rhody (2014) recounting a roundtable MLA discussion about the “Dark Side of the Digital Humanities,” *Alien Phenomenology* from Ian Bogost (2012), *How We Think* by N. Katherine Hayles (2012), and *The Design of Future Things* by Donald Norman (2007). These texts examine aspects of design and development in various theoretical and practical ways.

Each of the chosen texts relates to programming in a different way, and sometimes those relationships are not immediately obvious. For example, Bogost’s *Alien Phenomenology* was not included due to any particular excellence in explaining the process of object-oriented programming, but rather because it takes on the difficult task of considering objects outside the usual paradigm of human-centered analysis, the correlationalist model. Such an unusual, or alien, perspective is helpful in directing students toward a mode of carefully considering the forms and functions of everyday objects and, in turn, helps them to conceptualize their own object design and development during that portion of the course. This text serves as a bridge-building discussion opportunity for the students to discuss similarities and differences between object-oriented theories and object-oriented programming practices. It also allows them to consider objects in more precise detail than their everyday use might normally require. For example, one discussion posting exercise, “Objects 15 Ways,” required students to write fifteen different definitions for everyday objects. They accomplished this using various definitional approaches (e.g., instrumental, operational, socio-cultural, technical, physical, and functional). This followed a practice in the text in which Bogost defined everyday objects in a similar fashion. The course exercise helped students recognize the difference between communication practices in natural language, in which context and jargon can be loose and ambiguous, versus programming language, in which details must be exhaustively and precisely listed.

**Course Goals**

A primary course goal is for students to better develop their understandings of computational media. Students in the Design and Development
course are taught to understand the procedural affordances of digital software. They are taught how to solve problems using available functionality and resources. This problem solving might allow students to identify the appropriate data structures to hold different types of information or understand the appropriate methods for packaging similar units of code into functions or objects for re-use and efficiency. Or, it might mean using divide-and-conquer techniques to decompose a larger problem into smaller and more manageable units. Combined with their knowledge of rhetoric, history, writing, critical thinking, participatory design, user-centered design, and communication, this knowledge makes them versatile for a number of academic and industrial tasks. This type of functional digital literacy, which some scholars have termed *procedural literacy* (Bogost, 2007), involves students’ recognition of the unique capabilities of texts (broadly considered) as they exist in digital form. Students begin the course with a digital pre-test\(^3\) that gauges their current knowledge about programming.

Another course goal is to change the way in which students think about programming. For instance, despite the rigidity with which programming syntax is often crafted, programming is very much a creative activity. Even seemingly straightforward programming problems can usually be solved in a variety of ways. Selecting a particular approach is a creative act in and of itself. Creativity also requires developers to work around the limitations imposed by language and resources, a situation familiar to many students through their studies about writing for different audiences and different rhetorical contexts. Matthew G. Kirschenbaum (2009) describes programming as creative in the sense that it teaches us how to solve constrained problems. This process often requires us to change our perspectives of the world. He notes the importance of modeling creativity and reminds us models can be constructed in a variety of ways, so even building something as simple as a retail inventory can be pursued in a number of different ways. It is also true, though, that modeling becomes more useful when it combines with one’s knowledge of the world and how things happen inside that world. Building an accurate and functional model means one must understand not only the particular components to be modeled, but also the relationship of this model with the environment in which it is to be integrated.

**From Theory to Practice: Project Assignments**

As this course was conceptualized as a means of delivering technical skills while also situating the tools critically within relevant theoretical models,
the projects require students to synthesize theory and practice. The first
digital project assignment, for example, incorporates theoretical ideas
from Stephen Ramsey (2011), Marcel O’Gorman (2006), and other scholars
exploring the intersections between computation and the humanities.
Ramsey’s (2011) work tackles the complex task of exploring the differences
and similarities between humanistic scholarship and the quantitative
work done by computing machines. Central to his writing is an analysis of
computing from the perspective of literary studies and the humanities; he
notes the difficulty in relating humanities discourse with computer-based
processes, pointing out that humanistic methods and computational
methods are frustratingly different.

A significant challenge, then, in moving from theory to practice is
explaining to students how to temporarily suspend those important
intellectual strategies or behaviors that we have worked so hard to teach
them during their first year of study. This shift from theory to practice
complicates prior tactics such as challenging binary dichotomies, ques-
tioning the social and cultural constructions of language and identity, and
approaching the understanding of textuality from multiple perspectives.
When learning how to communicate with a computer, students must learn
to be binary communicators: direct, unequivocally precise, and straightfor-
ward. Semantically, they must remember to write down every single step
in a series of rules; omitting even an obvious step is an insurmountable
obstacle for most computer programs. In terms of syntax, even the omis-
sion of a single character, such as a semicolon, can lead to hours of frus-
trating troubleshooting. After working through only three grueling weeks
of learning how to program, however, student programmers are able to
produce an array of interesting projects including text adventure games,
love sonnet generators, interactive fiction experiments, and specialized
tools for research and information retrieval.

Learning to Program, One Week at a Time
The primary instructional mechanisms for teaching the students how to
program are found in a series of required Codecademy tutorials linked to
each week in the course. Lectures and face-to-face discussions focus on
the readings for each week and the students use their additional online
work time to complete Codecademy tutorials. Student questions are an-
swered using our course content management system’s (CMS’s) discussion

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4 See ‹http://rudymcdaniel.com/pubs/pp/files/ac_project1.pdf›.
boards. Additional instructional videos are also created and uploaded to the CMS by the instructor.

Codecademy was launched in 2011 and rose to prominence with its “Hour of Code” iPhone application. The application contained bite size lessons teaching users how to program in popular languages such as JavaScript, Python, and Ruby (Dredge, 2013). A key strategy employed by both the Hour of Code initiative and Codecademy is to release code in small chunks delivered using a gentle pace, so as not to overwhelm novice users. The accompanying web site\(^6\) uses an interactive prompt that shows the results of coding in real time. This strategy allows learners to immediately see feedback and receive coaching when they make a mistake. The Codecademy interface uses three primary panels. The leftmost pane is an instructional panel with background information about the topic. It provides instructions for appropriate syntax and usage for whatever coding feature or concept is being presented. The middle panel displays a code file that a student can edit. As the student edits the file, the results are displayed in a panel to the right. When errors appear, the system provides additional feedback to help learners figure out what went wrong.

By combining instructional information, editing capabilities, and output displays, the Codecademy interface makes the once highly distributed task of learning how to program a little bit easier. Without this type of system, a student would need to edit and save files on a local computer, upload these files to a remote server, then access the remote files using a browser. When something did not work as anticipated, the student would need to consult various help files to determine why the files were not working as imagined. Combining everything into a single instructional application makes this process less onerous for beginners.

In terms of choosing a specific programming technology to learn, beginning programmers are encouraged to choose PHP. This scripting language is heavily documented with tutorials, books, and enthusiast web sites. It has additionally been used to develop tutorials specifically for technical communication tasks, such as building single-sourcing systems for documentation (Applen & McDaniel, 2009). PHP is also fairly forgiving to new programmers. For example, rather than requiring a developer to specify an initial “type” for every variable used in the program, the language only requires “strong typing” for certain types of complex variables, such as objects and arrays. More advanced programmers can choose to use a language they have not yet learned, such as Python or Ruby.

\(^6\) See ‹www.Codecademy.com›.
Aside from its helpful chunking of programming lessons into digestible modules, Codecademy also excels in providing feedback and encouragement to students as they make incremental progress in the course. A bar chart shows progress in specific skills and topics as students progress through the course modules. In addition, course badges, similar to those used in modern console video games, are “unlocked” as students complete modules within the site. Students can also return to the web site at any time to view their progress, as represented through their skills interface and badge collection, on the Codecademy web site.

**Major Projects**

Procedural literacy encompasses knowledge of digital rules, models, and algorithms, elements that may eventually become more central to a modern humanities education (Kirschenbaum, 2009). Creating a fuller understanding of procedural information processing necessitates a type of digital writing that relies upon the programmatic affordances enabled by digital technologies. In other words, students need to create projects that do more than just display printed text on the screen. However, it is also important that familiar conceptual anchors are provided to topics with which the students are already comfortable. This makes the creation of projects focused on familiar material an important component of the course. As such, the following projects are assigned:

- A rough project\(^7\) based on the design and development of a “potential literature machine.”
- A polished and iteratively designed improvement of the first project.
- A final project\(^8\) to build a “T&T memex machine,” or a database combining information archiving and retrieval with theoretical ideas from course readings or outside sources.

Expecting students to build fully polished and perfectly functioning projects in this small amount of time, especially as beginners, is unreasonable. Students are instead encouraged to craft with a goal in mind. They are counseled to not become too discouraged if everything does not come together in the way they had initially hoped and imagined. By the end of the most recent semester, however, students learned the skills to build a rough yet functioning prototype of a database-driven web application using MySQL. They were able to design and develop their own preliminary


data sets using database tables and then perform basic database operations (e.g., INSERT, UPDATE, and SELECT) with those data using PHP scripts. Better yet, they created database-driven web applications that did not yet exist prior to their efforts, and that suggested new ways of conceptualizing relationships between audiences, ideas, and technologies.

For example, one student designed a final project that enables visitors to create, upload, and peruse Dada-inspired sound poems. Another developed a utility and algorithm for converting short stories into abstract expressionist artworks. The overarching purpose of teaching these students how to program was to provide them with the skills with which to complete these hybrid projects. They were advised to use these skills in a creative fashion to meet their own research goals. Such an effort required knowledge about their own research interests in the arts and humanities as well as knowledge about coding and database construction.

**Conclusion**

Experiences in designing and teaching this type of course suggest that learning programming is challenging for students, but also very rewarding. The act of programming catalyzes new forms of digital writing and affords diverse, interactive, and creative forms of scholarship. Even so, program administrators and faculty members who wish to integrate a focus in programming into their own classes and curriculum will need to be patient. It is not reasonable to expect that humanities students who have never had any exposure to programming will be proficient programmers after only a single course. It is recognized within the computer science literature, for example, that it takes ten years to transform a novice programmer into an expert (Winslow, 1996). This learning curve is likely even steeper in disciplines outside of computer science.

Even within a landscape constrained by these challenges, this course within the T&T program provides a study of how programs might tackle the issue of programming web-based digital crafting within a humanities curriculum. Educators in other programs who wish to follow suit might adopt other methods entirely, perhaps by focusing on programmable tools or teaching students how to program statistical analysis software. Whatever the method employed, program administrators and educators in the humanities should never adopt the position that programming is necessary to address some deficit within our students that needs to be remedied...

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by teaching them more applied technical knowledge. The idea is in fact the reverse: teaching humanities students how to program adds value to the existing body of interactive and electronic media by introducing more diverse ideas from the humanities into computer software.

Programs wishing to explore computer programming within their own curricula should first survey the landscape to determine if programming is an activity that students wish to pursue and faculty members find worthwhile. Next, educators should determine the resources necessary to integrate programming competencies into their courses. This decision raises questions about faculty training, resources, lab space, and a myriad of other procedural and technical issues. Having these conversations within and between program administration communities is a valuable step in training graduate students in the humanities and making them more versatile in both skill and knowledge. A promising side effect is that these experiments in programming are also adding significant value to existing sources of electronic software and scholarship.

These types of intellectually risky digital crafting exercises deserve further encouragement through curricular strategies in humanities programs. As program administrators, we can help create the academic climates in which such experimentation is rewarded and supported. Included in the Postscript are references and resources that may be useful to program administrators and educators interested in learning more about programming.

Postscript: Online Resources for Learning Programming

Following is an annotated list of ten online resources, helpful to students and faculty members for learning to program or for brushing up on the newer features of programming languages. Some resources are free and some require modest subscription fees.

1. Code.org (www.code.org)

Code.org is the online portal for a non-profit organization that was launched in 2013 to expand participation in computer programming and increase the availability of easy-to-use tools and tutorials. The organization specifically caters to women and underrepresented students of color. Each year, an “Hour of Code” event is held collaboratively at schools across the world and there are a number of tutorials and curricular ideas organized on the web site.
2. Codecademy (www.codecademy.com)

Codecademy is an interactive site that lets users work through a series of online lessons to learn the basics of programming. The site incorporates a wide range of programming languages including HTML, CSS, JavaScript, PHP, Python, and Ruby. All courses are free to use.

3. Code School (www.codeschool.com)

Code School is another site that allows users to work through online lessons in languages including Ruby, JavaScript, HTML/CSS, iOS, and Git. Visitors to the site can browse through specific courses in the paths and there is an “elective” series to allow users to venture off the beaten path. Many courses are free, but monthly subscription rates are also available.

4. Lynda.com (www.lynda.com)

In addition to video tutorials for popular graphical software such as Adobe Photoshop, this site offers video tutorials in a number of different areas that include programming. The videos are created by industry professionals and experts, and the videos range in difficulty from beginning to advanced-level content. A membership is required to access the videos.

5. Safari (www.safaribooksonline.com)

For those who prefer to learn from books, Safari’s online library contains both videos and technical texts in electronic book format from major publishers of technical tutorials and programming references. Individual and team subscriptions can be purchased on a monthly or yearly basis.

6. SQLZOO (sqlzoo.net)

This site offers free, interactive tutorials in SQL, or the structured query language, designed for communicating with databases. The site offers a comprehensive approach to learning the language and ranges from tutorials for the beginner to those who already have SQL coding experience.

7. Treehouse (www.teamtreehouse.com)

This site provides a combination of video tutorials and interactive workspaces to help novice programmers learn to code. The tutori-
als often result in projects, meaning the user learns the code along the way. The site has a free trial period and a “basic” and “pro” option for monthly subscription services.

8. Udacity (www.udacity.com)

This site provides video lectures and interactive activities to help students learn tech skills needed to stand out in the workplace. The site provides what they call “Nanodegrees”™ that provide industry credentials. Udacity is free to use.

9. Udemy (www.udemy.com)

This site offers a wide variety of video courses in development. While the majority of the courses cost money to use, some of the content is free. The coursework spans numerous coding languages and software. Both beginners and advanced learners find compatible content.

10. W3schools.com (www.w3schools.com)

This site offers tutorials and chapters for several programing languages including HTML, CSS, JavaScript, SQL, PHP, and JQuery. This site is not as fully interactive as some of the ones described previously, but the examples are clear and efficient. The site is free to use.

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Author information

Rudy McDaniel is an associate professor of digital media for the School of Visual Arts and Design at the University of Central Florida. He is a graduate of the Texts and Technology doctoral program and is currently its director. In addition, he serves as assistant dean of research and technology for the College of Arts and Humanities. Rudy’s research currently focuses on game-based design, narrative, and organizational knowledge manage-
ment. He is co-author of *The Rhetorical Nature of XML* (Routledge, 2009) and has published in journals including *Technical Communication, Communication Design Quarterly, the British Journal of Educational Technology, Presence, Educational Technology & Society, and Information Systems Management*. He is also technical editor and Co-PI for the Charles Brockden Brown Electronic Archive and Scholarly Edition, funded by the National Endowment for the Humanities. Although his primary academic field is in digital media, he considers technical communication a second home and regularly attends conferences within the technical and professional communication community.
Teaching Students to Learn Unfamiliar Technology

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Abstract. In today’s business culture, technology changes quickly, forcing organizations to keep up or work at a disadvantage. In academia, instructors seek to prepare students for this type of technology environment in spite of the challenges they face in doing so. Among other challenges, instructors have long struggled with how to prepare students to learn new technology while in the workplace and how to emphasize to students that technology is a means to producing effective communication documents. This article describes how we, the professional writing faculty at Cedarville University, have sought to address these issues through research, reflection, and the creation of a new course.

Keywords. technology, software, technological literacy, teaching technology, pedagogy, curriculum

Technical and professional communicators use technology to effectively shape messages for a variety of audiences. They also use technology to “organize people and encourage relationships between them (Swarts, 2011, p. 275). Because the use of technology is so important, technical and professional communication programs and instructors have tried to keep up with evolving software trends in industry. Many research articles have explored the technology skills students need as they enter the workforce and offered approaches to help students become technologically literate. These skills include knowledge of current software and computer languages and the ability to assess and learn new technology (Rainey, Turner, and Dayton, 2005, p. 329). The ability to assess and learn new technology seems especially important as technology continues to evolve rapidly. While this ability is important, there is little scholarship recommending ways to cultivate this particular skill in the classroom.

At Cedarville University, we have recently undergone a significant change in the way we teach technology. We have created a curricular
structure based on two important ideas: 1) Students need to learn to teach themselves new software and 2) technology instruction should not be divorced from writing, editing, and design principles. The purpose of our new curricular structure is to provide students with the necessary skills they need in order to succeed in the workplace as they change jobs and technology evolves. The structure also seeks to help students contextualize technology within the workplace as an efficient means to help them create effective information products. Although this curricular structure has not been tested formally, the anecdotal data from students is extremely positive. This curriculum showcase explains why the Cedarville University faculty decided to create this curricular structure and discusses the structure in detail. The purpose of this showcase is not only to display how the professional writing faculty at Cedarville University teach technology, but also to continue some recent conversations from the literature about how we can best prepare students to succeed in the workplace.

The rest of this curricular showcase examines the literature that shaped faculty decisions at Cedarville University, a small study I conducted to get important information from professionals on technology use, a review of literature on teaching technology, and the resulting curricular structure.

**Literature Review**

The process to creating a more effective curricular approach with technology began by analyzing the literature to better understand what skills, technical and otherwise, students need as they enter the workplace. Kenneth T. Rainey, Roy K. Turner, and David Dayton (2005) surveyed a number of managers on competencies they want in their employees. In their list of 63 competencies, two technical skills tied for fifth on the list and were the only technical skills in the top ten: the ability to learn and assess new technology and the ability to operate word-processing and document-design programs (p. 324). The top five skills were as follows:

1. The ability to collaborate with subject matter experts.
2. Ability to collaborate with co-workers.
3. Ability to provide clear writing for a specific audience directed by clearly defined purposes.
4. Ability to analyze user’s needs.
5a. The ability to assess and learn new technology.
5b. The ability to critique one’s own work.
5c. The ability to operate word-processing and document-design programs.

Managers prioritize collaboration, writing, and user analysis skills over technical skills. While two technical skills made the top five on this list, it is important to note that the next technical skill ranked 17th (the ability to use desktop publishing software). Recent graduates tend to place a greater emphasis on technical skills than managers do because recent graduates often feel overwhelmed by the need to learn new technology on the job (Whiteside, 2003, p. 314). Technical skills are vital to success in technical communication, but other skills are even more essential (Lanier, 2009, p. 59). Nonetheless, the ability to assess and learn new technology is arguably the most important technical skill for technical communicators to possess.

Employers appear to value the ability to quickly learn and effectively use new software more than they do the knowledge of specific software applications. Employees who can quickly learn new technology have an advantage when their job description changes or technology evolves into something new. We (professional writing faculty at Cedarville University) have often thought about all the technology professionals use in our field and felt overwhelmed at trying to keep up with the changes. Rainey, Turner, and Dayton’s research put a focus on more long-term skills, which is a relief to us.

Still, we noticed students maintained a devotion to specific tools. When they see job ads that contain a long list of technology, they often feel they need to focus on specific software programs during their collegiate studies at the expense of more valuable skills. Kathy M. Northcut and Eva R. Brumberger (2010) state

When students develop facility with design software, they immediately recognize that they have acquired a tangible and marketable skill. Unfortunately, students do not necessarily recognize that the theory and concepts we strive to teach are also marketable and inherently more valuable; since they must drive the technology if its use is to be effective and since they can be applied to a broader range of communication problems and contexts. (p. 462)

Students confuse technology as an end in itself as opposed to a means to creating effective communication documents. As we evaluated our program, we feared that we might perpetuate students’ misunderstandings because we had often taught a tools class divorced from visual communi-
cation skills. As Northcut and Brumberger suggest, tool knowledge without writing and design skills leads to poor information products.

Researchers have made strong arguments that technical and professional communication instructors should put more emphasis on communication principles than knowing specific software programs while also maintaining technological literacy is vital (Northcut and Brumberger 2010; Breuch 2002). Professional communicators frequently use visual communication skills in the workplace, and visual communication is an important concept to teach in technical and professional communication programs (Brumberger, 2007, p. 385-386). Students should see technology as an asset to help them learn and apply visual communication principles (Cargile Cook, 2002). After reading the literature, we, the faculty at Cedarville University felt a need to combine visual communication instruction with technology instruction. We also saw the necessity to help students learn how to teach themselves technology. Even after reading the literature, I wanted to get a sense of what professionals found valuable in regards to learning and assessing technology.

**Professional Software Use**

To get a clearer picture of how technology should be taught in a program, I surveyed professionals with varying technical and professional communication careers to better understand how they use and approach technology (Appendix A). Experience varied among respondents from a couple of months on the job to over 20 years. Besides demographic information, the participants were asked the following questions that sought to accomplish the goals listed in parentheses:

- What technology/software do you currently use most often? What do you use these programs to accomplish (What technology is used in the field and why)?

- When you entered your current position, did you have a mastery of all the software needed to succeed in your position (if/when/how often professionals needed to learn new software in the field)?

- In the last year, how much time have you spent learning new software for your current position (how much time professionals spend on learning new software)?

- Rank the following skills in order of importance to your current position (1 = most important, 5 = least important)(how important technology was in the daily lives of professionals).
Teaching Students to Learn Unfamiliar Technology

- Knowledge of modern technology
- Document and visual design theory and practice
- Collaboration
- Writing and editing
- The ability to quickly learn new technology

• How has the technology/software you use changed since you began your technical communication career (if/when/how often they needed to learn new technology)?

The purpose of this survey was to evaluate the effectiveness of our own technology curriculum at Cedarville University and make adjustments or changes if necessary. I sent out 46 surveys and received 15 in return. All 15 respondents had a different job title but used technical communication skills daily in their jobs. Some of the industries that respondents worked in included the military, financial industry, higher education, and software industry. The job titles were as follows:

• Communication Consultant
• Senior Intel Analyst
• F-16 Program Manager
• User Experience Strategist and Designer
• Copy Editor
• Training Specialist
• Technical Documentation Manager
• Language Editor
• Technical Publications Consultant
• SR Learning and Performance Manager
• Marketing Communications Manager
• IT Technical Support
• Production Specialist
• Instructional Designer
• Technical Writer

Kinds of Technology and Software Used
The results show that technical and professional communicators use a wide variety of technology to accomplish their tasks. The fifteen respondents named 41 specific software programs they use regularly. Some of the most common software programs included:

- Microsoft Word
- Adobe InDesign
- Adobe Photoshop
- Adobe Acrobat
- Microsoft Excel
- Microsoft PowerPoint
- Microsoft Access
- Adobe Premiere
- Adobe After Effects
- Microsoft Visio

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SnagIt (4), Adobe Acrobat (4), Microsoft PowerPoint (4), and Microsoft Word (10). Other types of software included online presentation software (Webex and Brainshark), web writing and editing software (Adobe Dreamweaver), image manipulation software (Adobe Photoshop), database and project management software (Microsoft Excel), design and layout software (Adobe InDesign, Adobe Illustrator), and others. A full list of the software and the number of respondents who listed each specific piece of software can be found in Appendix B.

The pure volume of software suggests that students would not know all of the software they need when they enter the workforce. Respondents cited many different specific software applications and numerous families of software applications (image manipulation software, page layout software, presentation software, etc.). The large variety of software families used by survey respondents also testifies to the vast array of tasks technical communicators complete.

Graduates of technical and professional communication programs truly have a diverse range of professional options using their writing, editing, and design skills. Software varies from workplace to workplace even in the same field (Breuch, 2002, p. 268). Thus, if professionals switch jobs within the technical communication field, they likely need to learn new technology to succeed in new positions. Sometimes, new software has a similar function to previous software the professional has used, such as the move from GIMP to Photoshop. Other times, professionals may have to learn an entirely new category of software. In these latter cases, professionals have a much more difficult learning curve. Students may benefit from learning different families of software (image manipulation, page layout, etc.) to orient themselves to various kinds and shorten the learning curve on similar software. As educators, we determined that we could not possibly expose students to all of the software they would eventually need, but we could expose them to various kinds of technology throughout our program.

**Technology and Job Success**

The survey had professionals rank five common competencies for technical communicators in order from most important (1) to least important (5) for their respective position (See Appendix A for the exact survey text). Table 1 displays the results of this survey. Two of these skills were technical skills:

- The ability to quickly learn new software/technology
- Knowledge of modern technology/software associated with the field.
Ten of the fifteen respondents ranked the ability to quickly learn new software as either the first or second most important job skill they needed, and only one person ranked it as the least important. Twelve of the fifteen respondents stated that they did not have mastery of all the necessary software when they first entered their positions. They had to learn new software or upgrade their skills in software used briefly in the past. The participants did not specify whether their employers provided training or finances to aid in learning these new software programs.

Twelve of the fifteen respondents said technology had changed either somewhat or significantly over their careers. Even professionals who stay in one position for several years may need to learn new software as technology changes in that industry. One respondent stated, “Software changes. If you are adept, you adapt.” The ability to quickly learn new technology rated highly in the survey because software frequently changes and professionals often do not know the software when they enter a position.

Through this research, we concluded the most important technical skill we could cultivate in students is the ability to learn new technology quickly. Both managers and technical communication professionals view quickly learning new technology as an essential skill in technical communication. Along with writing and editing skills, professionals in my survey suggested the ability to quickly learn new technology was the most important skill for success in their positions. Managers rate this technology skill as the most important technical skill for employees to have (Rainey, Turner, and Dayton (2005). Armed with this knowledge, we turned our attention to the important questions: How do we cultivate this skill in students and how could we incorporate visual communication principles into this curricular structure as well?

<table>
<thead>
<tr>
<th>Skill</th>
<th>1 (most important)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 (least important)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of modern technology/software</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Document and visual design theory and practice</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Collaboration skills</td>
<td>3</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Writing and editing skills</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>The ability to quickly learn new technology/software</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Teaching Students to Teach Themselves

Currently, most software education focuses on three approaches: software tutorials, workshops, and dedicated classes (Brumberger, Lauer, and Northcut, 2013). Each of these approaches possesses advantages and disadvantages. The following is a short overview of those strengths and weaknesses.

Approaches to Software Education

Software Tutorials

The software tutorial method requires students to use video tutorials to guide them as they discover new technologies (Brumberger, Lauer, and Northcut, 2013). This method would allow the focus to remain on good writing, editing, and design principles in the classroom while facilitating exploration among several software packages out of the classroom. Unfortunately, students may not gain strategies for learning new software, and this method divorces technology instruction from rhetorical principles of audiences, purpose, and context. Students do not assess and discuss technology as a means to a communication end.

Software Workshops

The workshop method for teaching technology revolves around workshops in visual design classrooms (Brumberger, Lauer, and Northcut, 2013). Most course content focuses on visual communication, but instructors use small workshops to present basic features of relevant technology. Students still learn technology from online tutorials rather than from guided instruction from the instructor, but through the workshops, the instructor can connect technological ideas to important communication concepts associated with the course. The major downside to workshops is they take up class time that could be devoted to writing, editing, and design topics, and they require the instructor to implement such workshops into the course material (Brumberger, Lauer, and Northcut, 2013). Technology changes quickly and so does course content. Instructors would need to keep up with such changes, which is often difficult.

Dedicated Courses

The dedicated course focuses almost entirely on developing proficiency with multiple software programs. Students have more time to learn advanced features of programs that may make their work more efficient in the future. They also have more time to devote to hands-on practice of software, meaning they can work with the tools in the classroom, learn the
tools strengths and weaknesses, and focus on learning the intricacies of a tool (Brumberger, Lauer, and Northcut, 2013, p. 189). While the dedicated course has several advantages, it also has potential drawbacks. A potential drawback of a dedicated course approach is students may struggle with contextualizing technology with writing, editing, and design principles (Brumberger, Lauer, and Northcut, 2013, p. 189).

An important challenge with any of these approaches is balancing technology instruction with visual communication principles. In the workplace, technology and design decisions are not made separately, so why would we want our students to consider them separately? We decided to try and integrate software and visual communication instruction into one class. The class is called Production Tools and Document Design.

**Course Information**

Production Tools and Document Design is a sophomore level hybrid course that combines software and document design instruction. The class meets for one hour every week and has an online component comprised of readings, exercises, and assignments. The hybrid structure allows me to focus the online component of the course on learning software and the face-to-face component on visual communication principles. I use class time to cover principles of document design and give exercises to assess students’ understanding of those principles. In class, I also address production issues, such as output types and online versus print concerns. The course’s textbook is a design textbook that students read and use as a guide during projects. I use very little class time to instruct students on how to use features of a program, though I do introduce software and guide them toward the right questions.

Outside of class, students learn how to learn new technology on their own. They work with Adobe INDESIGN, ILLUSTRATOR, and PHOTOSHOP throughout the semester. We chose design software so students could implement design principles more effectively than they could with other types of software (CMS, presentation software, spreadsheets, etc.). Also, the students use these three software programs frequently to complete projects in the rest of our program.

**Technology Instruction**

The course’s technology goal is not for students to learn these three programs (even though they do) but for them to learn how to quickly learn and use new software. Students must complete projects with each piece of software within relatively short deadlines. We prepare students to learn
new technology by teaching them a process for doing so. The process has
the following six steps:

1. Understand strengths and weaknesses of the program
2. Orient yourself to the program’s interface
3. Build skills from basic to advanced
4. Address problems
5. Explore and build efficiency
6. Produce quality work

This process is meant to help students understand the function of software
and teach themselves to use it. We want students to first know what a
program can effectively accomplish and what it does not do well. Students
then orient themselves to the interface so they understand the location of
important features and can troubleshoot problems. Students learn basic
skills that build into more advanced skills and address problems along the
way. As they learn skills, students also find ways to use technology more
efficiently, an important skill to have in the workplace. Finally, students
should have the ability to produce quality information products with the
software they have learned. Figure 1 displays a typical week for Production
Tools and Document Design class.

**Understand Strengths and Weaknesses of the Program**

The class seeks to mimic how a professional might learn new software on
the job. Many professionals do not take a training course in new software
but learn it by using it. As one professional from the survey said “I taught
myself by using it. I know that I’m learning it, but to an outside observer
it looks like I install it and go.” To help them understand when they would
want to use a particular program, we encourage students to explore the
strengths and weaknesses of a program as well as its intended uses. For
example, a technical communicator would not want to create a text-heavy
document in **PHOTOSHOP** when **INDESIGN** is an option.

At the beginning of the **INDESIGN** unit, I provide students with examples
of end products created in **INDESIGN** and students use these examples to
discuss the apparent strengths and weaknesses of the program as a class.
They also debate situational uses for **INDESIGN**. As students studying tech-
nical communication, they easily relate workplace tasks with the strengths of
the program. By understanding the strengths and weaknesses of **INDESIGN**, 
students begin to contextualize the program in relation to their profes-
sional responsibilities.
To help accomplish the next step of orienting oneself to the interface, I give students a brief overview of the interface. The students immediately begin making value judgments about features of the program. They understand InDesign as a page layout program and put more emphasis on the text control tools than they would in Photoshop or Illustrator. In the field, professionals often need to orient themselves to a new piece of technology as evidenced by the survey in which 80% of technical communicators did not have mastery over the software they needed to succeed in their positions. I try to mimic this process by providing ways for students to explore the interface and discuss the strengths and weaknesses of the program.

After the class discusses InDesign as a whole, students are given the pieces to recreate a poster. This activity reinforces InDesign’s strong elements and helps students grasp the macro purposes of the software before they dive into individual skills on their own. This activity also forces students to explore the program and its interface in order to build a foundation for learning the program. After completing this activity, students have usually generated a measure of confidence in using InDesign’s interface.

Figure 1. Example Weekly Schedule
Build Skills from Basic to Advanced

Each week I provide students with a list of skills they must learn with one of the programs, beginning with the most basic skills and progressing to more advanced ones. Figure 1 displays a list of the first week of INDESIGN skills that students learn. The skills build on each other and get more advanced each week. If a student does not learn all the skills from week one in INDESIGN, they will be hard pressed to effectively learn the skills in week two.

Students learn these skills outside the class. Professionals who learn on the job seek out information to help understand different features of a program and how they relate to each other. In Production Tools and Document Design, I try to emulate this process by supplying students with a list of resources in various mediums (video, text-based, graphical, etc.). We want students to understand the resources available to them when they enter the workforce. While they will not likely have a list of resources to learn new technology on the job, they will have some idea of where to go to seek out helpful information. We find that students often find their own resources during the process of learning these programs and will likely use those resources again in the future.

To practice these skills, I provide three to five practice exercises. The exercises often require students to recreate elements of documents or entire documents using the skills they are assigned for that week. They can easily transfer this method to the workplace by finding documents to recreate for practice while learning the program. Not only do students practice the skills for the week, but also the exercises supply some context for how the skills for the week work together to help create a product. Through classroom conversations and professional examples, students make connections between their knowledge of the program's purposes and capabilities as a whole and the individual features that allow them to design for these purposes. Learning the program itself is never the end. Students need to connect the features of a program with workplace tasks. These exercises are also completed outside of class. Students have the resources and base knowledge to teach themselves the skills for each week, so the instructor can use class time for other purposes.

Address Problems

In addition to the list of resources, students also post software questions in a forum for responses from their peers or me. These posts are not required, but students have found they can get questions answered from a variety of sources this way. These posts allow me to keep tabs on the problems that
arise during skill building. I can respond to an individual's specific problem through email, in an individual meeting, or by using a small amount of class to address a common problem experienced by a majority of the students. Most of the problems are specific to a person (e.g., Failing to understand and find effective resources about a specific program feature), and I can easily respond virtually to the issue. Students who take advantage of the class resources, exercises, and the knowledge of their peers rarely need further guidance on how to use the features of the program.

**Explore and Build Efficiency**

Because students learn the skills outside the classroom, class time is devoted to making connections between the tool and rhetorical situations and to visual communication principles. Students complete readings each week regarding visual communication principles, and they complete exercises in class to test their design knowledge and skillset. To cover software efficiency, I post professor notes each week in place of lectures. The professor notes fill in important gaps in student knowledge about the skills they learn during the week. For example, the notes for the InDesign week shown in Figure 2 discuss units of measure for print design, the function of bleeds in InDesign, and how text formatting in a page layout program (InDesign) differs from those in a word processing program (Microsoft Word). Students also learn strategies for efficiency in the software they use. Students connect their knowledge of the features of a program with the end goal of creating a variety of communication products. These connections are an important part of becoming technologically literate.

**Produce Quality Work**

Students build skills for three or four weeks until they must prove proficiency with the program. Students then complete a proficiency project to show their ability to use the tool to create a communication product. In InDesign, each student creates a 12- to 15-page recipe book. The recipe book has multiple sections where students provide their favorite recipes in an organized manner. For instance, some students have three book sections divided by culture, and they supply recipes from each of those cultures. In Production Tools and Document Design, the recipe book is graded on the efficient and correct use of tools as well as the document’s visual design. The instructor expects students to take advantage of the strength of InDesign and to display an understanding of tool practices that will minimize mistakes.
Teaching Students to Learn Unfamiliar Technology

Through this process, students get comprehensive feedback on both their ability to use a tool effectively (out of class skills) and their ability to produce a well-written and well-designed communication product (largely in class skills). They have essentially taught themselves how to use a previously unfamiliar piece of technology with minimal guidance and created a complex document with it. They could very well know how to use InDesign effectively but produce a poorly-written and poorly-designed end product. This method allows students to see how knowledge of particular tools does not always make for successful communication products.

**The Real Test**

Students go through this process for Adobe Illustrator, InDesign, and Photoshop. They learn new technology without much class instruction and prove their proficiency to produce a complex document with those programs. The final project for the class takes the training wheels off. Each student chooses an unfamiliar software program to learn in a three- to four-week period and creates a tutorial for that program. Students create the tutorial using a combination of the three Adobe programs they learned during the class. They are truly on their own to learn a new program of interest. We encourage students to look at job ads for positions that students are interested in and see what kinds of technology the position requires. The tutorial gives students the opportunity to explore new technology that may benefit them long-term.

The tutorials follow the same method outlined in class. Students provide an overview of the program and take readers through the basics of the interface. They must then direct readers through a series of related tasks that users would commonly perform in that program. With their tutorial, students must prove they have acquired workable knowledge of the program on their own and can articulate it to an audience of novice users. The instructor can make some general assessments as to how well students decipher new technology in a short amount of time by examining the quality of the tutorial in terms of accuracy and ease of use. Students who produce accurate tutorials that clearly explain how to use features of a program have proven the ability to learn new technology quickly and effectively.

**Visual Communication Instruction**

As previously stated, I devote the one-hour of class time each week to visual communication principles. The three main components of the visual communication instruction are class discussions, visual communication
exercises, and journal entry responses. These elements require students to read prior to class each week and engage with each other on Moodle, our learning management system.

**Journal Entries**

Each week students must post in an online journal. These posts are guided, and students either must complete an activity in their posts (analyze a document’s design properties) or post about lessons learned from the reading. These posts are typically 250-300 words. Students must then respond to two classmates’ posts and further the conversation. These posts are 100-150 words, and students are required to add some insight to the initial post or respectfully and thoughtfully disagree.

As the instructor, I also respond to posts throughout the semester. These posts allow me to see what students understand and what they find difficult. I can then spend more time in class on visual communication principles that cause students problems. Students learn from each other by posting in their journals, and I have the assurance that students come to class prepared for discussion and activities.

**Class Discussion and Activities**

Students have already engaged with the weekly course content by the time they come to class each week. In class, we can devote much of our time to applying visual communication skills and discussing the connections between those skills and software competencies. We analyze the effectiveness of documents in class. Sometimes, students use their software skills acquired in the online component of the course to create a small document that displays design principles we have discussed that week. Students connect the design principles with features of programs they have worked with during the semester. For instance, when we talk about how consistency and similarity among document elements shows relationships and hierarchy, students see how the styles feature in InDesign helps them create consistent structures and achieve design goals.

**Reinforcement in Other Courses**

After students have taken Production Tools and Document Design, they should have the ability to apply a process to learning new technology on their own. We put this theory to the test throughout the rest of our curriculum. Multiple times during students’ junior and senior years, we require them to learn software that we do not formally teach in the classroom. For example, in a recent instructional design class, students learned Adobe
Captivate on their own in order to write training guides for first- and second-year students. The instructor did not spend any formal time training students on this software, but students were able to use their skills to learn the program.

We require students to learn software throughout the program for various purposes, but we spend little time formally teaching them specific features of programs. The faculty feel that class time is better spent teaching students rhetorical concepts and helping them draw connections between software and workplace tasks. In a small sample size, our approach seems successful.

**Conclusion**

The ability to assess and learn new technology is a vital skill for professionals in technical communication. Students benefit from practicing this skill in their studies before they enter the workplace. The research on this specific topic has yielded minimal ideas on how to cultivate this ability. The method at Cedarville has produced strong initial results and can serve as a starting point for further discussions. Further research will more concretely analyze methods of teaching technology with this particular skill in mind. While no technological skill is as valuable as writing, editing, and design skills, instructors must address important technological skills to fully prepare students to succeed in the workplace. Learning new technology quickly is one of those skills.

**References**


**Author information**

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Appendix A

Technical Communication Technology Survey

1. Please provide some quick demographic information.
   a. Name:
   b. Company:
   c. City/Town:
   d. State:
   e. Country:

2. What is your current title?

3. What technology/software do you use most often?

4. When you entered your current position, did you have a mastery of all the software needed to succeed in the position?
   a. Yes
   b. No

Comments:

5. In the last year, how much time have you spent learning new software for your current position?
   a. No time at all
   b. Several days
   c. Several weeks
   d. Several months
   e. More than several months

Comments:
Teaching Students to Learn Unfamiliar Technology

6. Rank the following skills in order of importance to your current position (1 = most important, 5 = least important).
   a. Knowledge of modern technology/software associated with the field
   b. The ability to quickly learn new software/technology
   c. Document and visual design theory and practice
   d. Writing and editing skills
   e. Collaboration skills

7. How has the technology/software you use changed since you began your technical communication career?
   a. Not at all
   b. Changed somewhat
   c. Changed significantly

Comments:
Appendix B: List of Software

The numbers in parentheses indicate the number of respondents who specifically listed the software on the survey.

1. **InDesign** (3)
2. **Microsoft Word** (10)
3. **Adobe Acrobat Pro** (4)
4. **Dreamweaver** (2)
5. **Documentum**
6. **Microsoft Office Suite** (2)
7. **Adobe Omniture**
8. **Lyris**
9. **Visio** (2)
10. **Firefox**
11. **Excel** (2)
12. **PowerPoint** (4)
13. **ArcGIS**
14. **Microsoft Office Project**
15. **Firework**
16. **Omnigraffle**
17. **Mockflow**
18. **Balsamiq**
19. **Axure**
20. **Silverback**
21. **Basecamp**
22. **Lectora**
23. **Captivate** (2)
24. **Photoshop** (3)
25. **Snagit** (4)
26. **MadCap Flare** (2)
27. **Confluence Wiki** (2)
28. Boson NetSim
29. Boson Exam Environment
30. Webex
31. Brainshark
32. LearnShare
33. Microsoft Publisher
34. Microsoft Outlook
35. Adobe Illustrator
36. FileZilla
37. Adobe FrameMaker
38. Adobe RoboHelp (2)
39. Python
40. Articulate
41. Jira
Apparent Feminist Pedagogies: Embodying Feminist Pedagogical Practices at East Carolina University

Erin A. Frost
East Carolina University

Abstract. This curriculum showcase reports on the adaptation of apparent feminist pedagogies (which have been previously featured in a curriculum showcase) to a distance education course. I seek an answer to the question of how apparent feminist pedagogies work differently when the embodiedment of the instructor is not apparent by default. After drawing on cyberfeminist theories to adapt apparent feminist pedagogies to a digital learning environment, I describe and reflect on the work done by students in this course across several platforms, including a public website. This article can help readers to better understand the effects of the instructor’s embodied presence on students and the ways that those effects might change in and across educational contexts. It explains how apparent feminism works in digital contexts; how this pedagogical approach might look in an online graduate seminar; how it affected specific student learning in this specific case; and how these results differed from those I found in face-to-face contexts.

Keywords. technical communication; apparent feminism; digital education; distance education; online pedagogy; cyberfeminism; course design; social justice; efficiency; objectivity; women; culture

Apparent feminism is a methodological response to discourses that allege we live in a postfeminist world. The theory offers a means of resistance and response to the confluence of current political trends that render misogyny unapparent and uncritically negative responses to the term feminism. Emerging from technical communication scholarship and informed by several related disciplines, apparent feminism calls for its practitioners to 1) make their feminism explicit or apparent, 2) engage in conversation with non-feminist-identified allies, and 3) question rhetorics of efficiency. Because the aforementioned political trends and negative responses to feminisms occur often in the educational sphere, this article continues prior work toward applying apparent feminism in
classroom settings. In particular, it focuses on ways of translating this methodology to pedagogical practice in digital contexts.

This curriculum showcase builds upon another curriculum showcase published in the Spring 2014 issue of Programmatic Perspectives. That showcase reported on the use of apparent feminist pedagogy in a face-to-face undergraduate classroom; this article reports on the adaptation of this pedagogy to a distance-education graduate course. This work offers a juxtaposition that can help readers to better understand the effects of the embodied presence of a (female and feminist) teacher on students and the ways that those effects might change in and across educational contexts. It also offers another perspective on what apparent feminist pedagogies—something that I argue are increasingly important—might look like in a variety of classes across differences in content, demographics, institutional levels of learners, institutions, and delivery models.

The aforementioned Spring 2014 curriculum showcase argued:

[A]pparent feminist pedagogies seek to recognize and make apparent the urgent and sometimes hidden exigencies for feminist critique of contemporary politics. Functioning at the nexus of social, ethical, political, and practical technical communication domains (Hart-Davidson, 2001; Johnson, 1998; Miller, 1989), apparent feminism is a theoretical approach that emphasizes responses to social justice exigencies, invites participation from allies who do not explicitly identify as feminist but do work that complements feminist goals, and seeks to make apparent the ways in which efficient work actually depends upon the existence and input of diverse audiences. (Frost, 2014, p. 110-111)

I reiterate now that apparent feminist pedagogies—centered on the practice of instructors making their own identifications and biases apparent—are an increasingly necessary part of technical communication and rhetoric discourses and that they stand to enhance the efficiency with which technical communicators reach diverse audiences.

Thus, this article seeks to describe the effects of this pedagogical approach on a more diverse set of students in distance learning situations in order to better respond to the growing “diversity and innovation of our curricular goals, content, structures, or approaches” (Ilyasova, 2012, p. 138).

I have written more extensively elsewhere about the theoretical framework used in this course and its implications for the field (Frost, forthcoming). Here, I focus specifically on how apparent feminism works in digital con-
texts, when embodiment is not apparent; how this pedagogical approach might look in an online graduate seminar; how it affected specific student learning, and how these results differed from those I found in face-to-face contexts. I also reflect on the learning that students were able to do and on the consequences of making this pedagogy digital and public. I conclude the article by discussing the affordances and limitations of apparent feminist pedagogies in face-to-face and digital spaces and reviewing how those affordances and limitations may change across contexts.

**Exigency**

From Wendy Davis' filibuster and the prevalence of laws limiting female reproductive freedom (Frost, 2013, 2014; Tumulty & Smith, 2013) to increasing backlash against feminists, especially those who identify as such publicly (Auerbach, 2014; Women Against Feminism, 2014), exigency for apparent feminism is everywhere. Further, this pervasive exigency in combination with a decline in technical communication scholars’ interest in feminisms and women's studies (Frost, 2014; Thompson & Overman Smith, 2006) means that attention to feminist and social justice issues in technical communication classes is increasingly important. Students too often arrive in technical communication classrooms convinced of the objectivity and neutrality of technical documents.

This cultural belief in the objectivity and efficiency of technical documentation is recognizable when we encounter two characteristics in combination: 1) a document (or set of documents) that supports a hegemony and 2) popular resistance to any and all critique of said document(s). In other words, it is precisely a resistance to critique—often manifesting as apathy—of particular materials that makes those materials so important to study. (Frost, 2014, p. 113)

Technical communication instructors’ obligation to teach critical engagement with just these types of technical and supposedly “objective” documents only increases with the prevalence of exigencies like those mentioned above.

However, this obligation is not currently reflected at the programmatic level. Further, it is not reflected in graduate-level curricula, which are perhaps one of the sites where such critical engagement could make the most difference to the field. For example, Meloncon’s (2009) survey of 84 technical communication master’s programs found so little men-
tion of specific cultural theories involving gender and race that neither of these words even showed up as a key term in her results. While there were several categories under which courses focused on gender and race might fall—“Ethics,” “Specialized Other,” “Specialized Technical,” “Other,” or, the most likely, “Intercultural/Global”—Meloncon wrote “Although intercultural/global communication can be covered as a unit in the introductory course, design, or rhetoric/theory course, or as a topics course, it was surprising not to see more courses specifically named intercultural or global” or, I submit, invoking specific cultural theories (p. 144). In fact, according to Meloncon, only 5% of schools require “Intercultural/Global” courses for a master’s degree in technical communication. Similarly, just 5% require “Ethics” courses, 1% require “Specialized Other” courses, none require “Specialized Technical” courses, and only 13% require coursework falling under the broad “Other” category. This survey demonstrates a serious dearth of required cultural work in graduate technical communication programs.

A number of scholars and organizations have already begun to respond to this problem. For example, the Council for Programs in Technical and Scientific Communication (CPTSC) has made its commitment to cultural issues explicit by articulating a goal to “increase diversity in its membership and in the field of technical communication” as the foundation of a co-sponsored diversity scholarship, and by having a standing Diversity Committee (Council, 2011). Godwin Y. Agboka (2012) recently argued that “the concept of culture has not been satisfactorily interrogated to support effective intercultural technical communication approaches” (p. 161) and as a result, he advocated for a discursive (and thus contextual) understanding of culture. Scholars including Natasha Jones (2014), Kristin Moore (2013), Flourice Richardson (2014), Barbi Smyser-Fauble (2012), and Rebecca Walton, Ryan Price, and Maggie Zraly (2013) have taken up this call for culturally informed critique of technical rhetorical patterns. Meanwhile, Gerald Savage, Kyle Mattson, and Natalia Matveeva all have recently published work on racial and ethnic diversity in Programmatic Perspectives (Savage & Mattson, 2010; Savage & Matveeva, 2010). In fact, Savage and Mattson argue that “[c]ommitment to diversity is now vital to sustained relevance for our field” (p. 5). I myself have responded to this established need by theorizing and practicing apparent feminism both in my research and in my pedagogy—work that I continue to do in context through this curriculum showcase.
Course Descriptions, Goals, and Contexts

This curriculum showcase focuses on my use of an apparent feminist pedagogical approach in a distance-education graduate course on risk communication that I taught through East Carolina University (ECU) in Spring 2014. ECU is a public doctoral/research university that serves an ethnically diverse student population. This university was an early adopter of online curricula. Although the popularity of ECU’s online programs has plateaued as more universities develop digital platforms, ECU’s Department of English retains robust online course offerings. Students can earn a graduate certificate in technical and professional communication or a Master of Arts in English (with a variety of concentrations, including technical and professional communication) entirely online.\footnote{The Department of English is also home to a face-to-face PhD program in Rhetoric, Writing, and Professional Communication. Meaning, face-to-face courses are available, and students enrolled in online programs do sometimes take advantage of such courses if it is geographically feasible for them to do so.} English 7765: Risk Communication, the focal course for this article, included eleven students: five students enrolled in the technical and professional communication graduate certificate, five students pursuing a Master of Arts in English, and one undeclared graduate student-at-large. In addition to these, three students dropped the course in the first half of the semester. English 7765 is a topics course in ECU’s curriculum. However, it has been taught as Risk Communication previously by associate professor Donna Kain (2015), and it will likely be developed into a permanent course based on its popularity and success.

This department’s history in online teaching, dedication to accessible education, and diverse student population make for a productive milieu for researchers interested in online teaching and embodiment. I’ve often heard other ECU instructors note that graduation—when many distance education (DE) students physically travel to campus for the ceremony—is the time when they are most aware of the ethnic diversity of ECU graduate students, because this is often the place when those students’ bodies are first visible to instructors (and vice versa). Because of my research agenda, teaching practices, and the prevalence of these sorts of anecdotes, I have been especially aware of the effects of bodies and embodiment—mine and students’—as I have grown more accustomed to teaching DE graduate courses over the past several semesters.

I designed this course to bring together an array of current perceptions of what constitutes risk communication and to involve students in each of
those approaches’ theories, methodologies, and ideologies. Layered over this inquiry was an understanding that we would be interrogating the gendered realities that both support and contradict particular understandings of risk. I wrote in the syllabus (see Appendix):

Beginning with popular risk communication staples such as Readings in Risk and The Peter M. Sandman Risk Communication Website, this course will then move into interrogating constructions of risk that are situated historiographically and culturally, including Beverly A. Sauer’s The Rhetoric of Risk, J. Blake Scott’s Risky Rhetoric, and articles that highlight the processes of risk construction (Bowdon; Grabill and Simmons). Further, participants in this course will work to understand how constructions of risk that hegemonic forces frame as neutral are anything but for indigenous populations (LaDuke; Smith; Wildcat) and other marginalized peoples (Woods). Finally, students will theorize ways to intervene in constructions of risk that do not take into account the ethical effects on those who speak from the margins.

After this introductory section of the syllabus, students were presented with a set of goals. The third goal of the course—after those directly related to surveying the scope and content of our intended studies—states that students who complete the course will have “[r]esearched the importance of cultural studies to work in risk and TPC.” This goal appears where it does because I conceive of cultural awareness as inarguably necessary for any would-be technical communicator.

**Theoretical Rationale and Methods**

When I set out to design English 7765: Risk Communication as a DE course with an apparent feminist approach, I began by reflecting on the online graduate teaching experience I already had. One of the first courses I taught as a new assistant professor at ECU was a graduate-level DE course on research methods in technical and professional communication. I used videos to communicate much of the early course content to students. One of the students later told me that she'd been shocked by my appearance; specifically, my apparent relative youth disconcerted her for some time. Thus, I was forced to confront a point of discomfort. My embodiedment—my physical appearance—and its effects on students is something I have spent considerable scholarly energy thinking about and which I had purposefully made apparent. However, in this case, it had detracted
from my professional ethos (as perceived by this particular population) in a substantial enough way that it took some time for a student to overcome—without my ever knowing it. I had grown used to navigating my embodiedment in a face-to-face classroom. In a space where I can move around, show things on a screen, invoke the physical presence of others in the room in relationship to myself as a means of example, and so forth, it’s easier to help students through the preconceptions that my embodiedment often places upon me. That is, it’s easier for me to move students from a focus on my embodiedment to a focus on my embodiment in face-to-face contexts. Embodiment is a more complex characteristic than embodiedment in that it encompasses a person’s physical appearance as well as the ways they use and occupy their physical body—and the ways they occupy that body are always already informed by past reactions and experiences as well as in-the-moment responses. Although many technologies seek to bridge the gap between embodiedment and embodiment, some element of face-to-face interaction remains lacking in (at least my own) DE teaching. Without immediate feedback (both verbal and non-verbal) from students, I’m left unable to adjust my embodied pedagogical practices effectively. This leads me to wonder: How do apparent feminist pedagogies work differently in distance learning environments, when embodiedment is not apparent by default?

The theoretical bases of apparent feminist pedagogies cross the fields of anthropology, queer theory, social justice, and feminist studies (Bray, 1996; Halberstam, 2005; LaDuke, 1999; Mohanty, 1988, 2003) as well as rhetoric and composition (Ahmed, 2012; Bitzer, 1968; DePew, Fishman, Romberger, & Ruetenik, 2006; Eubanks, 2011; Flynn, Sotirin, & Brady, 2012; Grabill, 2007; Grabill & Simmons, 1998; Glenn, 1994; Grewal & Kaplan, 1994; Haas, Tulley, & Blair, 2002; Johnson, 1998; McRuer, 2006; Munster, 2006; Ratcliffe, 2005; Rothschild, 1981, 1988; Schell & Rawson, 2010; Vatz, 1968; Yoon, 2005) and technical communication (Allen, 1994; Bosley, 1992; Durack, 1997; Flynn, Sotirin, & Brady, 2012; Flynn, 1997; Flynn, Savage, Penti, Brown, & Watke, 1991; Haas, 2012; Katz, 1992; Koerber, 2000; LaDuc & Goldrick-Jones, 1994; Lay, 1993; Ornatowski, 1992, 1997; Rauch, 2012; Ross, 1994; Royal, 2005; Sauer, 1994; Simmons & Zoetewey, 2012; Tebeaux, 1998; Thompson & Overman Smith, 2006). In this class, as well as in others where I utilize this approach, I identified myself as a feminist early on. I asked students to take note of any “technical system that produces ideas about women, and therefore about a gender system and about hierarchical relations” (Bray, 1999, p. 4). I asked them to resist homogenizing women as a category (Mohanty, 1988, 2003), to consider the validity
of a diversity of sexual identities (Halberstam, 2005), and to advocate for social justice (LaDuke, 1999). More specifically, in this case, I planned for students to complete this course with a more complex understanding of the social processes that result in particular iterations of supposedly objective formulations of risk. In particular, I wanted students to be aware that “risk estimates are made by people and groups with strong beliefs, vested interests, and policies to advocate” (Stone, 2012, p. 141); thus, I was asking students to understand that greater amounts of risk become attached to particular kinds of bodies—those of women, indigenous peoples, and the poor—and to think about why this happens and what sorts of processes support the status quo.

In moving an apparent feminist pedagogical approach to a digital space, I looked to cyberfeminist pedagogy. Cyberfeminist pedagogy (like apparent feminist pedagogy) draws on traditional characteristics of feminist pedagogy—collaborative work, critique of hegemony, distributed power, and acknowledgement of embodied/experiential knowledges—to leverage new ways of learning in digital environments. Cyberfeminism, Lisa Nakamura (2008) claimed, has been called a “restart button’ for gendered ideologies” because it tries to reclaim machines and “machine-enabled vision for women” (p. 160). According to Maria Fernandez and Faith Wilding (2002), cyberfeminism arose in response to the popularity of new technologies—“historically, waves of feminism have often accompanied technological expansion” (p. 17)—and they establish that cyberfeminism is, by nature, undefinable.2 In an effort to provide the movement some shape, though, some scholars conceive of cyberfeminism in waves: one that concentrates on the relationships of women and machines and a second wave that deals with politics and embodiment.

It is through that second wave—the one dealing with embodiment—that I drew the theoretical frame for this course. More specifically, I sought to make apparent to students Paasonen’s (Fernandez & Wilding, 2002) argument that Internet users often incorrectly see the Internet as gender-neutral, and by extension, unencumbered by embodiedment and embodiment (p. 94). Further, I wanted students to know that a combination of visual cues and hidden power structures in academia (Berkovitch, Waldman, and Yanay, 2012), online, and elsewhere—including in constructions of risk—may participate in the both the subordination of female instructors and the covering up of that condition. Although students in English

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2 For more on cyberfeminism in some of its many iterations, see Anne Balsamo (1993), Donna Haraway (1991), N. Katherine Hayles (1999), Chela Sandoval (2000), and Sherry Turkle (1995).
were not provided constant visual reminders of my embodiedment, they were made aware of my embodiment (and my modeling of experiential learning) through our conversations throughout the course and were asked to think about what this meant for their own learning. The following quotation from Celeste Del Russo (Szabady, Fodrey, & Del Russo, 2014), which includes her own first-person reflections on an Advanced Composition course, proved instructive:

Embodying education means being fully present and aware of our educational experiences as both teachers and students, affording us the potential to identify ourselves as members of a learning community. An engaged and embodied classroom can be a space that initiates and sustains dialectic, a space that fosters intellectual growth. For students, it is important to realize that how they engage in this conversation around them once they leave the classroom is crucial to whether or not their views will be heard, acknowledged, understood, and valued. My approach to teaching is an embodied one that has developed over time, place, and the classroom spaces that I occupy alongside my students. I acknowledge in my pedagogy that I am positioned, as are my students, in multiple locations of understanding. We all bring with us to the classroom a range of background knowledge that spans disciplines, majors, and personal experiences—knowledge that affects our views on the value of writing and composing texts.

Although the above quotation was drawn from an article published after this course was completed, I recognize my own motivations and beliefs in these words. My use of cyberfeminist pedagogical theories to create a digital learning environment resulted in a pedagogy that is more focused on embodiment than on bodies. Thus, I hope this curriculum showcase can help respond to Richards’ (2014) contention that “cyberfeminist pedagogy has been under-theorized,” leading to embodied hierarchies from “real life (RL)” being uncritically mapped onto the digital realm. To explain, I enacted a pedagogy that explicitly recognized the presence of embodied injustices in digital spaces as well as RL, and I provided students with and modeled a theory—apparent feminism—that is equipped to respond to those injustices and the ways they circulate through embodied practice even when bodies themselves are absent.

In translating apparent feminist pedagogies to a digital context, I also gave thought to everyday practices and contexts of teaching and learning.
Drawing on apparent feminism’s dedication to explicit feminist identity and to acceptance of non-feminist allies as a means of generating productive discussion and activism, I elected to create a public space in which the class would do a significant portion of the coursework. As Gina Szabady (Szabady, Fodrey, and Del Russo, 2014) recently wrote, writing “framed as a form of participation in public discourse” can be an especially useful experience for students because this kind of work creates “a sense of accountability in students that is based not just on my expectations for their work, but on their expectations of me and of one another” as well as of (real and imagined) third parties. It’s true that this kind of public work also requires students to take risks—and that is precisely the sort of challenge I wanted students to get practice at navigating.

My data collection from this course comes mostly from the public website. However, ECU uses Blackboard as its default DE delivery option, and the course did utilize that space as well. Thus, some de-identified data comes from conversations that occurred in the private Blackboard space. I also call on one-on-one conversations with students and individual students’ work to help describe the learning that went on in this DE class. Further, because of educational privacy laws as well as students’ own careful navigation of their public profiles, a significant portion of the work in this class—especially preparatory work for student projects—was done via small group and one-on-one email conversations.

Critical Reflections

My name is relatively ungendered. Although the spelling often hints that I am female, not everyone has been trained to this distinction. It’s common for me to receive several emails at the beginning of a semester in which I teach a DE course addressed to “Mr.” or that somehow otherwise indicate the sender assumes I am male. When this happens, it reminds me that my sex matters to students, and it certainly affects students’ perceptions of my mastery of the material and my abilities as a teacher. This perception leads me to wonder how a constant reminder of my sex—my body, unavoidably apparent in a face-to-face classroom—might affect student

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3 See ‹http://riskcomm7765.wordpress.com›.
4 Likewise, it’s extremely common for students who’ve met me in person to send correspondence addressed to “Ms.” or “Mrs.” rather than “Dr.,” a complaint I’ve heard often from female colleagues, though I’ve rarely heard its equivalent from male colleagues. This anecdotal evidence contributes to the exigence for apparent feminism in general and apparent feminist pedagogies specifically.
Apparent Feminist Pedagogies at East Carolina University

learning. Conversely, how might the absence of my female body in a DE class affect student learning? And, finally, what effect might an apparent feminist pedagogy have on either situation? The experience of teaching English 7765 with an apparent feminist pedagogical approach has led me to believe that apparentness is a valuable teaching concept, though embodied apparentness—at least for someone embodied as I am in the contexts where I teach—is not necessarily an advantage in taking on such work. In other words, the concepts that apparent feminist pedagogies ask students to struggle with are difficult; for students to struggle through them practically (as when a student recognizes that preconceived notions associated with an instructor’s embodiedment are affecting that student’s understanding of those concepts) as well as theoretically is exponentially more difficult.

Based on the theoretical framework outlined above, I proactively made my personal ideological approach to teaching, which includes my identification as a feminist, apparent to students in English 7765 from the first email I sent. However, I did not offer a representation of my own embodiedment. Always in the past, I’ve offered some sort of representation of myself in the hopes that students would feel more connected to the class that way. In this course, though, I did not contribute a photo to the “Instructor Information” page on Blackboard, and I did not utilize videos or even audio files as a means of transmitting information. We did not do synchronous class video chats. The only time in the course when students would ever have encountered a visual representation of me was when I responded to their conversations with each other on the discussion boards; my responses included a thumbnail, head-and-shoulders image of me in professional attire.

I often find instances of resistance or breakdown to be the most instructive pieces of an experimental course. Being reflective about such instances helps me to do my work better in the future, and I think it also can be very productive for other instructors who may be thinking about employing similar approaches. Unlike in my study of an apparent feminist pedagogical approach to a face-to-face course, I encountered very little resistance to my apparent feminist approach in this DE course. In fact, the only significant student resistance to the pedagogical approach or setup of this class was a reluctance to engage on the public website. Although students seemed to agree on the importance of public intellectualism, not every class member was able or willing to translate this to the sort of immediate action I was encouraging. While I continued to urge public engagement, I also understood that in the context of a public space, stu-
dents might be less likely or able to engage in the sort of reflective work that requires vulnerability; this was a pedagogical trade-off I was willing to accept in order to emphasize the importance—and the risks—of public intellectualism as a bridge to activism.

I believe the lack of resistance in this course was due to a number of factors. I had already taught four of these students in other courses, so they came into the class aware of my theoretical tendencies. One of these students had even expressed some disagreement with me during our previous class, although this situation ended productively as a theoretical disagreement over the efficacy of feminisms rather than as actual resistance to engagement in the course. It’s also likely that graduate students are better prepared to deal with the theoretical and applied complexities of culture and practice. In addition, I suspect that DE courses are less likely to force students to a point of frustration when they are struggling with a concept that asks them to see the world differently. In other words, a face-to-face student might express resistance in the context of the classroom, whereas a DE student can separate self from the screen for a while in order to process new information.

However, with all these factors taken into consideration, I am still very aware that student resistance to my teaching in this course was less frequent and less forceful than in other DE courses where I have represented my embodiedness in an effort to connect to students. It was certainly less frequent and less forceful than resistance and critiques encountered in face-to-face courses (Frost, 2014). In fact, the only pushback I received during this course came from a student who was fearful of revealing his or her identity in a public online forum. We discussed alternatives including using pseudonyms, and I also agreed to accept work done in conversation with other students within the private space of Blackboard (that is, this student could follow the public conversations and respond to just the class). Meanwhile, critiques lodged in my teaching evaluations focused mostly on the heavy reading load. I received five suggestions for changes to the course organization (e.g. altered due dates, order of readings, order of assignments), one note about the difficulties of public intellectual work, and one request for me to engage more in discussion board conversations in the future. In short, students offered engaged and useful feedback—and little to no hostile resistance to the apparent feminist approach to the course.

I also found that students’ positive assessments of my teaching included many of the affirmations I usually see (e.g. the instructor was “kind,” “enthusiastic,” “helpful,” “nice”) as well as some that have not been so com-
mon in my past evaluations. These largely focused on my knowledge of the content area, my ability to make theory relevant, and my engagement in the course:

- Dr. Frost holds high expectations but provides clear instructions.
- The instructor takes a difficult topic and makes it accessible! I learned a lot despite my initial disinterest in the subject matter.
- The professor, she was very insightful.
- Dr. Frost is an excellent professor, and ECU is very lucky to have her. She is so smart and caring. She has both a superior theoretical command of the technical and professional communication field, but she also has relevant “real world” experience under her belt as well.
- Dr. Frost was a very committed and dedicated instructor.
- Dr. Frost exposed us to relevant theoretical models, and more specifically to “real world” examples of failures and success in risk communication. I honestly feel that I could assist an organization or governmental entity in preparing and analyzing risk communication products for almost any given event or problem.
- Dr. Frost was highly engaged and enthusiastic about the subject matter.
- Dr. Frost is really a great teacher. She’s collaborative, and encourages connections between students and with herself.
- The professor’s responsiveness and dedication.

It seems that my approach to this course (perhaps especially including my efforts toward significant one-on-one engagement) made students feel as if I were present in the online space—but for the first time since I began teaching online, I did not use my body to do the work of presence. In other words, I conveyed my presence in an online space through engagement with students on Blackboard, on a public website, and via email to the exclusion of media that would have made my body visible or apparent to them. This difference is, of course, one of the major distinctions in teaching in a face-to-face versus an online environment.

Apparent feminism works in digital contexts. I cannot say that it is more or less effective in digital environments than in face-to-face classrooms, but I can surmise that the apparency of a female instructor’s literal body affects the way students receive this theoretical approach to teaching. In other words, apparent feminism works differently without an
unavoidably apparent female body delivering it. This is because embodiment (specifically, instructor embodiment) can and should work differently in online spaces than it does in face-to-face environments. I found, at least in this case, that while some media do allow for me to “put a face on feminism” for students, electing not to take steps to make my body apparent in digital spaces appeared to mean that students were more likely to focus on other things—such as the efficacy of ideas (including feminist ideas), the content of the class, my mastery of the content area, and my ability to teach.

Although I am in many ways disappointed with this finding—how else might one feel to discover that her physical presence can be a detriment to student learning?—I also think it’s worthy of continued study. This article is the beginning of additional work, which will include reflection on face-to-face graduate and DE undergraduate courses, I plan on the subject, rather than the end of a simple comparison. A major limitation of my comparative analysis here is that the face-to-face course featured in the Spring 2014 Curriculum Showcase was comprised of undergraduate students while the class I examine in this article was entirely graduate students. Thus, some differences might have to do with students’ differing perceptions based on their own academic backgrounds and levels of preparation. Graduate students—particularly those who’ve already had critical coursework in technical and professional communication—might be more likely to arrive in class already thinking of the terms feminism, technical, efficient, and objective as similarly situated and mutually contextual, whereas this may be a new idea for undergraduate students. Having taken more classes, graduate students might also have encountered a greater diversity of instructors and recognized that embodiedment is not an indicator of skill. Thus, a question for future examination is this: How might perceptions of instructor embodiment and related evaluations of teaching efficacy differ between graduate and undergraduate students?

I continue to use apparent feminist pedagogies both despite and because of some of its obvious limitations. This means:

- I identify as a feminist to students and discuss what that means and why it’s relevant near the beginning of each class I teach
- I infuse my teaching with specific concerns about the status of women, feminist identification, and rhetorics of efficiency
- I encourage students to recognize social injustice without asking them to take on any particular labels as identifiers
I help students to produce work that disrupts the hegemonic rhetorics and systems that matter to them individually.

I use apparent feminism because of the many benefits such approaches offer technical communication as a field, including attention to the fallacy of pedagogical/curricular/personal objectivity in technical realms and the shifting embodied risks run by both instructors and students. The great strength of such apparent feminisms as a pedagogical approach lies in encouraging students to think about their own subjectivities and the subjectivities of technical documents, textual production, and embodiment. I have found that supporting such awareness often helps students to reach a productive level of confidence in their own abilities to critique work that they might previously have felt was out of their reach. The results of this reflection remind me how important students’ perceptions of instructor embodiment are to their learning in both face-to-face and digital contexts, and I offer apparent feminist pedagogies as one way to mitigate and call attention to these perceptions.

References


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Appendix: Syllabus for English 7765: Risk Communication

Note that some of these questions were open ended and some were multiple choice. For the sake of space, I have not included all the possible multiple-choice responses. In general, though, we agree on the following division of responsibilities.

Required Materials

Texts

Other Materials

- Internet access, including access to our course site at <http://risk-comm7765.wordpress.com>
- Ability to read additional readings provided as PDF and Word documents
- Word-processing capability
- Digital storage capability

Introduction and the Goals of the Course

This course will bring together current understandings of risk communication—its theories, methodologies, and ideologies—with the gendered realities that both support and contradict particular understandings of risk. Beginning with popular risk communication staples such as Readings in Risk and The Peter M. Sandman Risk Communication Website, this course
will then move into interrogating constructions of risk that are situated historiographically and culturally, including Beverly A. Sauer’s The Rhetoric of Risk, J. Blake Scott’s Risky Rhetoric, and articles that highlight the processes of risk construction (Bowdon; Grabill and Simmons). Further, participants in this study will work to understand how constructions of risk that hegemonic forces frame as neutral are anything but for indigenous populations (LaDuke; Smith; Wildcat) and other marginalized peoples (Woods). Finally, participants will theorize ways to intervene in constructions of risk that do not take into account the ethical effects on those who speak from the margins.

In order to accomplish this work, you will be expected to do a substantial amount of reading, produce several different kinds of work, analyze the products you create, and be an active participant in our learning community. This means working in a variety of individual and group activities. Further, you are expected to come (digitally) to class having thoroughly prepared the readings. Notice this does not say you must have read every word on every page. Rather, I hope you will read for content and themes, taking main ideas and significant occurrences from the texts we cover and critically examining them. You should always be prepared to offer notes, questions, and ideas about the readings. Active reading and thorough preparation will be critical to your success in the course.

Objectives
At the conclusion of this course, students will have:

- Defined the field of professional communication and its intersections with risk communication
- Researched the connections between methods and methodologies in risk communication
- Researched the importance of cultural studies to work in risk and technical and professional communication
- Learned about publications (such as proceedings, peer reviewed journals, and books) especially relevant to the risk communication
- Gained an understanding of what disciplines aside from technical and professional communication are concerned with risk communication
- Reviewed strategies for evaluating both print and digital publications/presentations in risk communication
• Increased your ability to use electronic resources provided, as well as Library Services offered by ECU’s Joyner Library

• Acquired an understanding of research strategies you can use to find secondary research about risk communication

• Prepared an annotated bibliography for a relevant topic of your choice related to risk communication

• Reflected upon research needed and possible methods of gathering data for that research

Class Communication

I communicate class updates and announcements through email, in our Blackboard space, and on our website at ‹http://riskcomm7765.wordpress.com›.

Assignments

Please note that this class weights weekly conversations heavily. I designed the course this way because the major project is a research paper and the vast majority of the work to prepare the research paper actually comes from participation activities. Further, this course is intended to prepare you for participation in scholarly communities, where discussion and collaboration are among the most important activities you will engage in. The following components of the class will contribute to student grades:

• Weekly Conversations - 30 points: Weekly reflections and conversations will happen mostly on our class blog/discussion board at ‹http://riskcomm7765.wordpress.com/discussions›, which means that you must utilize that site in a way that allows me to know your identity. This is a public space, meaning you will be required to constantly think about your audience(s) and the risks associated with online identity. Responding in this forum means that you should thoroughly prepare all readings, thoughtfully engage with others’ writings, offer well-researched insights and questions, contribute resources from time to time, and in general do smart and careful work. During each week with a discussion board prompt (Weeks 1-8, 11, and 13), you should post an original reflection on the readings of about 400 words by 5 p.m. Wednesday. You should also post a minimum of two substantial responses (probably in the 300-word range) to others’ ideas by 5 p.m. Saturday. Note that you are welcome to subvert the traditional text-based discussion thread; if you would rather post
video or audio responses, for example, I am supportive of that and can help you with the technology if necessary.

• Discussion Leader Assignment – 10 points: You will be responsible for setting up our discussion of one week’s material to the class. This means you should compose a short prompt that puts the readings in conversation with each other. This prompt should include citation information for at least three scholarly articles related to the week’s reading as well as some information about why you think those articles are important for someone interested in the topic. You also should provide a list of discussion questions as part of your prompt. Your prompt is due to me via email by 5 p.m. Monday of the week you are to present. (This gives me time to post it to the Wordpress site.) You should send me a list of your preferred presentation weeks as soon as possible. Available weeks are Weeks 3, 4, 5, 6, 7, 8, 11, and 13. I will assign Discussion Leader Weeks early in the second week of class. (Note that there may be weeks when we have multiple discussion leaders; this is fine as it simply invites multiple perspectives. I will let you know, however, if you are sharing a week so that you can collaborate with your partner/group should you so desire.)

• Research Proposal – 10 points: In about one page, propose a research project of narrow enough scope that you can complete it by the end of the semester. This means you should 1) describe a research area you would like to pursue and explicitly articulate a succinct research question; 2) cite at least three relevant sources; 3) outline your approach and describe your research plans; and 4) identify a potential conference and journal venue for this project. (You are not required to actually submit/present in these venues.) We will discuss potential venues at greater length as needed. You should turn in your research proposal as soon as you possibly can, and no later than the end of Week 8. I would recommend completing the proposal between Weeks 5 and 6 for best results. Turn in the proposal via email.

• Annotated Bibliography – 15 points: Compose an annotated bibliography with at least five detailed entries. A useful annotated bibliography will summarize each source, analyze its credibility, and reflect on its usefulness to your specific project. You should provide some means of contextualizing the discourses you in-
clude in the bibliography. (That is, write a very short introduction to the bibliography reminding me of or updating me on your research proposal topic.) I am happy to look at drafts of annotated bibliographies if they are provided to me well in advance of the due date. Turn in the annotated bibliography by posting it to the discussion board in Blackboard provided for that purpose. (This allows your peers to see and learn from your work without requiring you to expose it to the whole world.) The Annotated Bibliography can be turned in anytime after Spring Break and before the end of Week 11.

- **Final Project Presentation – 15 points:** Develop a presentation (following the conventions for a presentation at an academic conference) that can be delivered in a digital format. (This may mean that you simply video yourself giving the paper, but you should also consider the possibility of incorporating other digital technologies to facilitate your presentation.) This presentation should be between 15 and 20 minutes in length and should synthesize the work you are doing in your Final Paper. You may turn in the presentation either by posting it to the discussion board in Blackboard provided for that purpose OR by emailing it to me to post to the Wordpress page. Consider, before you choose, the relative advantages and risks of either option.

- **Final Paper – 20 points:** Write an article-length research project that is appropriate for an academic journal. You also will conduct a peer response to a peer’s Final Project Presentation that will be worth 5 of these 20 points, and you may (and perhaps should) cite peers’ presentations in your paper. Although I am happy to read sections of and answer questions about final papers in advance of the due date, I cannot read entire drafts unless you turn one in very early. Turn in the Final Paper in by posting it to the discussion board in Blackboard provided for that purpose. (You may also email it directly to me if you prefer, though I hope that you might be willing to share with your classmates.)

**Tentative Course Calender**

A tentative but up-to-date course calendar will always be available to you via Blackboard.
Table 1. Weekly Schedule for English 7765: Risk Communication

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities and Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Read the syllabus, procure the textbooks, and familiarize yourself with the course. Read all main pages and at least a dozen blog posts on the Peter Sandman Risk Communication Website at <a href="http://www.psandman.com">http://www.psandman.com</a>. Discussion Board: Introduce yourself, including especially the kind of research you're interested in within technical and professional communication and why a course on risk communication is attractive to you. Drawing on the reading, suggest some possible reasons why this course will be useful to you given your interests and career trajectory.</td>
</tr>
</tbody>
</table>
| Week 2 | Read Grabill & Simmons and Frost. Discussion Board: Reflect on how Grabill & Simmons may have changed your perception or risk and offer also any reflections you have on how they might have changed the field with this article. Based on what you know now about my work in risk communication, what conclusions might you draw about the framing of this course? What might this mean you need to do on your own to get the maximum benefit?  
| Week 3 | Read Bowdon, Scott, Hynds & Martin.  
| Week 4 | Read Glickman & Gough (Readings in Risk) |
| Week 5 | Read Sauer (*The Rhetoric of Risk: Technical Documentation in Hazardous Environments*) |
| Week 6 | Read Woods (*In the Wake of Hurricane Katrina: New Paradigms and Social Visions*) |
| Week 7 | Read LaDuke (*All Our Relations: Native Struggles for Land and Life*) |
| Week 8 | Read Scott (*Risky Rhetoric: AIDS and the Cultural Practices of HIV Testing*)  
Research Proposal due by 5 p.m. Saturday. |
| Week 9 | Happy Spring Break! |
| Week 10 | Read Smith (*Conquest: Sexual Violence and American Indian Genocide*)  
Annotated Bibliography due by 5 p.m. Saturday. |
| Week 11 | Resource exchange: Find an article from a technical and professional communication journal (for example, perhaps *Technical Communication Quarterly, Journal of Business and Technical Communication*) that relates to your research. Discussion Board: Persuade your fellow students that they should read the article you read from one of the above journals. Provide a detailed outline of the article including a summary of main ideas, reflect on the credibility of the piece (citing at least three other sources), and explain why this article should be important to classmates. |
| Week 12 | Read selections from Lundgren & McMakin (*Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks*) |
| Week 13 | Read selections from Lundgren & McMakin (*Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks*) |
| Week 14 | Take a break from reading and work on preparing your Final Project and Presentation. |
| Week 15 | Final project presentations AND Final Project rough drafts due by 5 p.m. Wednesday. Peer responses to rough drafts due by 5 p.m. Saturday. |
| Week 16 (Finals) | Final project due by 5 p.m. Friday. |
Mentoring Women Faculty in Technical Communication: Identifying Needs and the Emergence of Women in Technical Communication

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*Texas Tech University*

Patricia Sullivan  
*Purdue University*

**Abstract.** This editorial provides an overview of the Women in Technical Communication initiative and organization. We trace the history and origins of this now-burgeoning mentoring network, describing both the existing models for mentoring and the ways the Women in Technical Communication mentoring emerged during the organization’s first two years. We articulate the ways Women in Technical Communication responded to the call for mentoring, the strategies the organization employs for building participant-driven mentoring, and the organization’s objectives moving forward.

**Keywords.** mentoring, Women in Technical Communication, organizational history

The care and advancing of a field requires professors who mentor younger faculty, build national policy, review innovative programs at other institutions, and sustain local programs—to name some key activities that comprise senior leadership. We currently do not have those widespread mentoring practices that ensure an influential top-level professoriate, nor does the field sponsor extensive formal programs that soon will yield mentoring practices. At a time when some apply pressure to deprofessionalize some job titles, reduce tenure’s footprint in American universities, and shrink the humanities, we need more tenured professors...
Mentoring Women Faculty in Technical Communication

to stabilize the field. To effectively mentor upcoming members, leaders, teachers, and caretakers in technical communication is to position the field for sustainability going forward (see McMurtrie 2014). Work is needed in mentoring practices, and this editorial addresses one important area of need—mentoring women faculty in technical communication. In this editorial, we highlight these areas of need, report on some current initiatives that aim to address the mentoring needs of women faculty in technical communication and strategize about what further should be done in order to mentor current and emerging women scholars in the field.

Although many like to use the word “mentoring” within the field of technical communication, relatively little work has been done to examine and understand the problems faced by faculty in the field, and even less about women faculty’s particular problems. The low numbers of women who are tenured professors across the academy demonstrate that women faculty struggle to publish and move up the ranks (June, 2009). While 58% of faculty in technical communication are women, the broader percentage of women as full professors, as associate professors, and as published scholars is lower than the percentage of male colleagues in the field. Further, because 59% of programs in the field are run by women, the need for mentoring women and scholarship on this mentoring is even more pressing (Meloncon, 2014). So, without existing mentoring programs or initiatives to build these mentoring programs for women in the field, we run the risk of 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.

Women in Technical Communication

As a step toward addressing this need, seven faculty members in technical communication, at seven institutions, who share an interest in feminist methodology, mentoring, and the state of the field, came together over the course of the past two years to consider how we study what professional resources women in the field want and need, how we create a space for discussing those resources, and how we work toward developing and sharing those resources. This editorial, written by three of the steering committee members, addresses the history, purpose, and work of Women in Technical Communication in its first two years, as well as our plans looking forward and how others can become involved.

In this editorial, we discuss the initial luncheons held at the Association of Teachers of Technical Writing (ATTW) Conference in 2013 and 2014
where members of the Women in Technical Communication group and volunteer table leaders asked participants what they wanted and needed in terms of mentoring and support. We also present initial findings and subsequent research those luncheons prompted, as well as summarize the group’s involvement across the sister organizations of the Council for Programs in Technical and Scientific Communication (CTPSC) and the Special Interest Group on Design of Communication (SIGDOC) in 2014. The first luncheon was organized and led by the authors and a less formalized small group of women faculty and graduate students. Over the past two years, however, Women in Technical Communication has evolved into a dedicated steering committee supporting the work of women in technical communication through mentoring, resources, and regularly scheduled events that promote networking and relationship building.

**A Stated Need for Mentoring Women in the Field**

The steering committee believes, as a field, we have not done an adequate job addressing specific training and mentoring needs of women. For example, at the 2013 Women in Technical Communication luncheon (held at the ATTW Conference), over 50 attendees indicated their most pressing need was mentoring. Specifically, attendees sought discipline-specific mentoring, indicating the mentoring they experienced was often genealogical (i.e., mentoring between advisers and students extended past graduation at some universities) and more informal channels were needed to supplement and extend this established tradition. Genealogical approaches to mentoring, however, often depend upon traditions of mentoring and networks. Perhaps for this reason, during the 2013 luncheon, women attendees, particularly from smaller programs or programs whose institutions do not have systems in place for mentoring women, indicated informal mentoring was needed. In other words, women in the field of technical communication expressed a need for informal mentoring outside of their home institutions and/or genealogy.

In response to these calls, the 2014 Women in Technical Communication luncheon that took place at the ATTW Annual Conference in Indianapolis focused specifically on mentoring and included building a corpus of both concerns and ground-up advice from participants. The next few sections of this editorial discuss the initiative and its results within the context of existing research. We then look forward to additional small steps needed to build a mentoring network for women in technical communication.
Scholarship on Mentoring

While mentoring could be viewed as orientation, or a temporary or pragmatic need for all faculty (and graduate students), or a topic often requested, our long range interest is in a healthy professoriate, and we see improved mentoring of women in technical communication as vital to that health. Yet little scholarship addresses the mentoring needs of women graduate students and faculty.

Published discussions of mentoring dwell on orientation programs and mentor-protégé relations. Often articles about mentoring seek to

- Explain relationships (Mullen, 2008; Rymer, 2002),
- Make typologies (Mullen, 2009; Eby & Allen, 2008; Higgins & Kram, 2001),
- Identify problems (Eby & Allen, 2002), or
- Bolster the credibility of particular programs (Allen, Finkelstein, & Poteet, 2009).

Additionally, both business and academic programs focus on orientation or enculturation, but only a few studies also seek (or make room) for mentoring to foster cultural change (Mullen & Hutinger, 2008). Formal mentoring programs in academics often focus on college undergraduates (in STEM fields) and feature collaboration, networking, and peer group mentoring (see, for example, “Building a Better Academic Atmosphere for Women STEM Faculty”). In many cases, graduate students or pre-tenure faculty are mentored more informally, despite regular published (both in print and online) commentaries indicating faculty need formal advice and mentoring (see, for example, the Advice column on InsideHigherEd or regularly posted blogs from The Chronicle of Higher Education).

Technical Communication’s discussions of mentoring have been relatively sparse, and most have focused on undergraduates (Zimmerman & Paul, 2007; Stowers & Barker, 2010; Sullivan & Moore, 2013), internships (Tovey, 2001; St. Amant, 2003), and using workplace experiences to deepen teaching (Blakeslee, 2001). For example, Stowers and Barker (2010) highlight coaching as mentoring, and their advice resonates with the intermittent discussions in Business Communication Quarterly (recently renamed Business and Professional Communication Quarterly in 2014). Within the context of these discussions, gender, as it relates to mentoring, has not been a major topic (Thompson, 1999; Thompson & Smith, 2006).

When technical communication has discussed mentoring and women, it has usually done so with an attention to places of encounter. Indeed,
studies addressing gender as related to technical communication typically focus on workplaces (Bird, 2007; Egan, 1996; Brown, 1993) or undergraduate classrooms (Sullivan & Moore, 2013) rather than on gender in the mentoring of graduate students or faculty. In one of the few reports on faculty mentoring in technical communication, Karla Saari Kitalong (2009) examines mutual mentoring (a synonym, she says, for co-mentoring) that she and two other editors of Programmatic Perspectives have deployed. Kitalong’s informal approach and subsequent report admits a need for the mentoring of authors. So, though anecdotes of activities that address mentoring (e.g., Career Workshop sessions at the annual ATTW Conference) display an awareness of the need for mentoring faculty, precious little research or theory directly addresses the development of faculty in technical communication.

**Women in Technical Communication Addresses Mentoring Networks**

Prompted by requests for mentoring and networking assistance from the 2013 ATTW Women in Technical Communication luncheon, the steering committee set out to

1. Create a space to explore the mentoring needs of women in technical communication,

2. Bring attention to the kinds of networks needed to support women and foster sustainable programs, and

3. Build a mentoring network existing outside of attendees’ home institutions. Drawing on these goals, the 2014 Women in Technical Communication luncheon (at the ATTW Conference held in Indianapolis) focused on creating mentoring networks through a series of interactive, participatory discussions.

Before the luncheon, the steering committee asked luncheon participants to use a Google spreadsheet to share information about their research and teaching interests, their current service and long-term goals, and their affiliations that would serve as a directory and starting point for finding others in the field with similar interests and concerns who might exchange experiences on those interests. This information served in part as a directory of and in part as a resource for those interested in a mentoring network. We hoped this directory and resource would encourage attendees to contact women they met at the luncheon and find others with inter-
ests similar to their own. We also hoped this resource would help us begin to identify patterns of interest in mentoring.

The Women in Technical Communication steering committee organized the luncheon discussions around three topics—research, service, and teaching—to align with the categories most often used for annual reviews, promotion, and tenure; job searches; and other aspects of professional advancement (e.g., fellowships, awards). The luncheon lasted 90 minutes, and during that time, participants rotated to three different tables where they participated in a series of 20-minute discussions on research, service, and teaching.

The rotation enabled participants to meet new people and to create more organic networks. Each table discussed a series of prompts (see Appendix) the steering committee hoped would encourage productive conversations and bring to light professional advice, questions, and concerns of the attendees. At each table, participants also traded contact information with other participants whose interests and concerns aligned, promising to follow up with at least one person or fellow table participant within two weeks as a further nudge to build networks.

During the 2014 luncheon, table leaders (who included the mentoring steering committee along with an advanced graduate student) took notes on large flip boards. At the end of the time allotted for discussing each topic, table participants circled what they considered to be their best suggestion and shared those suggestions with the entire room. This final activity resulted in a collaboratively generated set of best practices and list of shared concerns for women in technical communication.

The questions and concerns documented at the 2014 luncheon prompted the steering committee to consider how to build and sustain mentoring programs for women in technical communication. We (the authors) see this work as lacking in the field, but necessary for sustainable program building because tenurable faculty are a component of program health and stability—especially with programs and national organizations in our field increasingly led by women faculty members.

**Data Collection and Analysis Inform Our Mentoring Model**

Preliminary findings from the luncheon suggest new assistant professors often are unsure how to build mentorships, which here we see as creating a network of mentors rather than relying on one-to-one relationships. Building mentorships is especially challenging because traditional one-on-
one relationships so often depend on institutional genealogy (often out of the new professor’s control) and on selecting informants to trust (often a tricky sea to navigate in a new academic environment). Findings also confirmed our steering committee’s assumptions that mentors themselves need training to be effective.

The Women in Technical Communication steering committee collected data at two levels prior to and during the 2014 luncheon:

1. Demographics of participants including contact information, research, teaching, and service interests, rank, and interests in becoming involved in the field. As noted above, this information was collected and shared with participants through a Google spreadsheet.

2. Concerns and advice related to service, learning, and teaching, in response to question prompts collected on a flip board at each luncheon table. Question prompts are included in the Appendix at the end of this editorial.

Members of the Women in Technical Communication steering committee used multiple coding schemes to analyze the data. For example, we first sorted responses by service, teaching, and research, noting some overlap. We also looked at:

• whether an issue was local (most often to an institution) or general (to the field);
• whether a comment was advice or a concern;
• the rank of the participant who shared the comment;
• whether or not the comment was a call for collaboration, assistance, or mentoring in some way; and
• whether the comment was related to institutional processes and practices (that sometimes spanned local concerns, like how to approach additional funding or course releases in their institution).

These were procedural because they were tied to how the institution worked, but they required both local and global knowledge about how universities work as well as an overall understanding of politics, risks, and red tape.

As we coded data and further discussed the luncheon, we saw a need for more research to build networked, relational mentorships that we might assemble through an infrastructure serving as a clearinghouse and
resource, especially for women who are new assistant professors in the field.

The 2014 ATTW Luncheon Highlighted Needs in Technical Communication

The 64 participants (all of whom self-identified as women interested in technical communication) at the 2014 luncheon were mostly assistant professors and graduate students. Close to 70% of the attendees described themselves as fitting in one of these two groups (groups that should be in the pocket of mentoring—that is, groups who may be most unsure of how to build mentorships yet who are most in need of mentoring if they are to navigate the waters of entering the academic profession). The steering committee and table leaders did not ask attendees to address what mentoring research says about mentoring; instead, we sought attendees’ input and concerns about service, learning, and teaching, and ways to handle those concerns. The attendees shared some concerns that literature might predict, but participants also had concerns that may be particular to women in technical communication—concerns such as avoiding gendered expectations that women will perform more service for the department (see Table 1 for a comparison of main points).

While mentoring casts a long shadow on orientation and acculturation to institutional and disciplinary expectations, content including disciplinary knowledge and work processes (the strategies for articulation work) were vitally important to participants even though it is hardly mentioned in mentoring literature. Also, mentoring literature rarely addresses the potential power relationship between mentor and mentees, while luncheon attendees noted they were often more cautious about power relations when engaging in mentoring activities.

The luncheon’s round table structure prompted participants to share concerns and advice (which was written on a flip board), and then to choose one of these comments to share with the whole group near the end of the luncheon. In this context, the table leaders (the steering committee and volunteers including a graduate student studying mentoring in technical communication) were positioned more as recorders than as experts. During the table discussions, some topics brought to light a lack of common language for discussing institutional perspectives on categories—especially service.

1 The Women in Technical Communication luncheon continues to grow. Over 80 participants attended the 2015 luncheon at the ATTW Conference in Tampa.
In a number of instances, participants at all levels, from graduate students to full professors, tried to discuss the processes accompanying how their institutions counted work in teaching, research, and service, but did not have shared language in each of the three areas. For example, language for discussing research seemed to be shared across most institutions. Participants understood issues such as venue, collaboration contribution, peer review, number of citations an article receives, and acceptance rate factor into how a scholarly work is weighed toward professional advancement.

Participants knew the purpose of research and the issues that contribute to how it is evaluated (although concerns were still raised about how to strategize research agendas and produce alongside other responsibilities). Likewise, participants talked about how their teaching was evaluated on issues such as course evaluations, course load, new course preparation, and curricular planning in ways that again illustrated a shared language.
across institutions. Similar to research, participants were able to talk about what they did, why they did it, and how it was quantified.

In the category of service, however, it became clear from the discussions neither all participants nor their institutions used similar language for talking about what counted as service, how it was evaluated, or why participants needed to include it. In several instances, participants were unclear on not only how much service their institutions expected but whether department and college service was counted in the same way as community-based or professional-based (beyond the university) service. 

For many participants, service was a nebulous term where examples from participants were not always understood or recognized, but drew questions and prompted conversations. Further, because service disproportionately falls on women members of the academy (Misra, 2011), this language disparity was particularly telling as we considered the need to develop mentoring networks for women. Such discussions informed the steering committee's belief that mentoring is needed beyond the efforts of individual institutions, beyond the more traditional one-on-one approach, and beyond issues often seen as traditional mentoring topics.

Concerns, Initial Conclusions, and Next Steps

The 2014 Women in Technical Communication luncheon was not focused on finding conclusions related to issues of mentoring. Rather, it focused on sponsoring and hearing conversations that brought to light issues and concerns affecting women faculty and graduate students technical communication. While not necessarily representative of the situation of all women in the technical communication field, the issues raised by attendees suggest a need for mentoring resources beyond those available at the institutional level. The ideas raised during the luncheon discussion also highlight the complexities of preparing women faculty members for vastly different workplace contexts and expectations—or else run the risk of limiting portability. If mentoring is not portable (i.e., it cannot be applied outside of the context of a particular program, department, or institution), how do we—as members of the field—effectively mentor our colleagues?

What follows are observations, concerns, and initial findings suggesting we have much work to do in supporting the professional lives of women in technical communication. We believe, by identifying and opening these issues for discussion, we can begin assembling resources, supporting a networked approach to mentoring that will position the field for forward sustainability.
The Attendees Represented Part, but Not All Levels, of Faculty

Because there were more new faculty and senior graduate students in attendance than advanced faculty (i.e., associate and full professors), the 2014 luncheon proved to be particularly insightful in relation to early career mentoring needs. An important point, only marginally addressed, was the change in standards when faculty move from seeking tenure to seeking full professor status. From discussions at the luncheon and scholarship in the field, we see some women at the associate professor rank remain stuck while serving in administrative roles, sometimes limiting their ability to publish enough for further promotion (see June, 2009). Additionally, although only a few attendees identified as contingent faculty, adjunct, or non-tenure track faculty, we remain concerned about the mentoring needs of our colleagues with contingent positions in the university, particularly because women disproportionately hold these positions (Curtis, 2011).

Participants Expressed a Need for Mentoring, though not Everyone in Technical Communication Agrees that Mentoring Specifically for Women Faculty Is Needed

While the luncheon was planned as a safe and supportive space for women in the field to discuss issues that affect them professionally, we (the authors) were surprised to find some women who claimed such a discussion wasn't necessary because “there are more women than men teaching tech comm.” One attendee at the luncheon even questioned another participant’s assertions that women of color often receive lower teaching evaluations and those evaluations need to be addressed in a discussion about promotion and tenure documents. In this case, the other women at the table pointed to existing research supporting the assertion about race and evaluations and opened a discussion to how Women in Technical Communication might address such issues.

These initial exchanges bring to light an important issue about mentoring networks. Women in our field may encounter other women who have not experienced the same obstacles and might not recognize their existence. Our perspective on these differing experiences is, as long as some women and women of color express a need for mentoring, it is needed to maintain the health of the field—even if not every woman in the field has experienced similar obstacles. So while we in Women in Technical Communication are genuinely pleased for every technical communication faculty member who is confident without mentoring, we continue in our quest to improve and extend mentoring for at least two reasons:
Mentoring Women Faculty in Technical Communication

1. New faculty and senior graduate students continue to ask for mentoring, and
2. The small size of our field puts it perennially at risk of absorption into larger departments, or worse, the dissolution of programs.

We therefore believe that these requests—voiced by participants at the luncheons, during conversations members of the steering committee have had with faculty and graduate students over the past few years, and stated in the scholarship—mitigate claims of non-need. Our work on mentoring aims to improve the health of the field by providing women faculty with resources that can facilitate their professional success.

Conclusions

Drawing from luncheon discussions and existing research, we identify a few emerging needs and initial conclusions about mentoring resources needed in the field:

Mentoring Typically Focuses on the Local, and that Makes National Solutions Difficult to Achieve

Most published research on mentoring has not focused on disciplinary knowledge, but on local practices, technology, and interpersonal relations (Allen & Eby). Yet new faculty in interdisciplinary fields such as Technical Communication need to learn the ropes of a field that is not well grooved and learn the local practices of their work (Mullen, 2009). If mentoring focuses too closely, too locally, it loses portability and also its ability to assist in learning the disciplinary ropes of the broader field. Such focus can also lull new faculty into a false sense of security if they presume that learning the local protects them from poor performance in a disciplinary arena. For example, when new faculty are mentored exclusively by local mentors, the mentoring they receive may consider the needs of the program more than the needs of the individual. So, when a program requires planning of additional new courses or filling a director for undergraduate studies position, local mentors’ priorities are split between the good of the program and the good of their faculty mentee.

Service Seems to Need Some Field-Level Language to Help Define What It Entails even though Standardizing this Language has Inherent Risks

“Service” proved to be difficult to discuss, both in person and on paper. All luncheon participants agreed service was part of their work, albeit some-
times an invisible part. Some pre-tenure faculty and advanced graduate students had been warned by academic mentors to avoid service; other participants—who were post-tenure—reported surprise service assignments accompanied tenure (i.e., they were assigned to multiple time-consuming service projects, committees, or both). But participants did not use a consistent language in discussing service work, and this factor made it difficult to sort out in a time-challenged event and easy to let slide into further invisibility. At one table, for example, participants struggled to articulate administrative work as service or scholarship; at another, participants struggled to understand their curricular committee work as part of the “service” category. In both cases, participants indicated the lack of clarity in how service was weighted—does serving on a search committee count for more or less than facilitating job market meetings for graduate students on the market?

Discussions at the luncheon suggested service was further complicated because women are often asked to fulfill service roles in the department—an issue that has been addressed in the scholarship and prompts different conversations than mentoring about service more broadly (see, for example, Misra et al. 2011). A more coordinated language for service may help us address its inequities and increase transparency surrounding the weight of service for tenure and promotion.

Based on the discussions at the 2014 luncheon, we feel confident in saying participants were more thoroughly equipped to discuss teaching and research than they were to discuss service. While this factor might be influenced by the large proportion of participants who are assistant professors or advanced graduate students, these groups have less experience to draw on in the area of service (and their grad school mentors probably coached them to respect the local and not try to prefigure it). It also reveals uncertain footing about the status of service woven into a language replete with hedges. Working toward more robust and widely accepted language for service is a worthy longer-range goal, and one we did not anticipate before the luncheon (although the steering committee did expect lively and needed discussion about faculty service).

**Mentors Need Support and Guidance, Too**

Discussion among participants at the 2014 luncheon also revealed a need to support and guide advanced faculty who choose to become (or fall into the role of) *mentors*. Participants revealed a need for deeply personalized mentoring about service, research, and teaching: What courses should I plan? What kinds of research should I undertake? Should I take
on an administrative role? Mentors face the challenge of juggling a mentee’s personal needs against programmatic and disciplinary expectations. This situation can arise innocuously and grow to a realization that what a particular person needs is (or could be) at odds with what is better for the program’s health (e.g., the timing of research leaves). Further, mentoring requires particular skillsets, including listening, empathy, and valuing the experiences of the mentee.

Developing and implementing these skills is not easy. Mentoring is emotionally and intellectually taxing, and determining how best to mentor an individual takes time and practice. In other words, mentors need guidance, support and mentoring of their own if we hope for mentors to provide good mentoring advice. We in Women in Technical Communication work to provide resources for good mentoring.

At the time of this writing, four of the field’s organizations, the Association of Teachers of Technical Writing (ATTW), the Council of Programs of Technical and Scientific Communication (CPTSC), the Special Interest Group on Design of Communication (SIGDOC), and the Society for Technical Communication (STC) are led by women. As women continue to move into leadership roles in the field, they will increasingly be called on to mentor other women and will need mentoring of their own, and Women in Technical Communication hopes to build a network of mentorship that supports current and emergent leaders. The increasing role of women in leadership strikes the committee as the right time to build these resources.

Next Steps, or Continuing the Effort After the Luncheon
The Women in Technical Communication steering committee saw the 2014 luncheon as the first step in a long-term project of discipline-wide mentoring of women. Since the luncheon, the committee has worked to maintain the momentum of this luncheon, focusing specifically on conducting additional research to help craft a sustainable and useful plan for mentoring women in technical communication.

The Women in Technical Communication steering committee has also focused on using social media to keep enthusiasm going after the luncheons and to provide support between in-person events. Both during the luncheon and on the directory resource, participants indicated they used Twitter and Facebook with some regularity, so both platforms were used to continue efforts from the luncheon. After the 2013 luncheon, for example, a Facebook page was created by an attendee. While traffic on that page has been fairly limited, it serves as a resource for calls for papers, conferences, or a connection to the Mentoring Monday Twitter conversation.
The Twitter handle, @womeninTC and corresponding #womeninTC hashtag, has been relatively more popular, with 277 followers of @womeninTC (as of June 2015) and hundreds of tweets with the #womeninTC hashtag. Additionally, Mentoring Mondays, a Twitter-based discussion of mentoring and strategies for research, service, teaching, and navigating academia, has been facilitated primarily by Kristen Moore with support from the steering committee members and has developed a solid following and active participation.

The GoogleDoc spreadsheet that collected attendee information is still an open spreadsheet that attendees can use as a directory and resource to find potential collaborators, mentors, or both. Participants were encouraged to contact potential mentor network contacts within two weeks of the session, and although some members of the steering committee have had regular contact with participants, we haven’t yet collected follow up data to determine the success of this effort.

In 2015, we launched the website WomeninTechComm.org to serve as a hub for communicating about events and participation opportunities, for requesting topics for discussion for both Mentor Monday and conference events, and for sharing resources, such as a blog that aims to summarize Mentor Monday discussions and podcasts for mentors and mentees that address professional issues and concerns to women in the field of technical communication.

Additionally, the committee hosted gatherings for Women in Technical Communication at the 2014 annual conferences of both CPTSC and SIGDOC. At the 2014 CPTSC conference, four of the steering committee members facilitated roundtable discussions about mentoring needs and potential approaches to meeting these needs. The 2014 SIGDOC conference program included a Women in Technical Communication breakfast featuring an invited lecture by Annette Vie and providing an opportunity for women to meet one another and discuss key research, teaching, and service concerns. Attendance at these events suggest, indeed, across the discipline—not just among ATTW participants—a focus on mentoring women and developing mentor networks can assist women towards institutional and professional success.

Drawing on the ATTW luncheon feedback and the CPTSC roundtable data, our mentoring steering committee is now working to produce digital resources for women in technical communication that address professional concerns related to teaching, research, and service. These resources serve dual purposes:
Mentoring Women Faculty in Technical Communication

- To support members of Women in Technical Communication who need mentoring and
- To assist those who are or are hoping to become mentors.

For example, we are creating podcasts advocating for a new model of mentoring that sees mentoring as networked not hierarchical. Some of these podcasts will work to catalog reasonable advice about typical problems new faculty encounter as they transition from roles as students to roles as faculty. Other podcasts will address strategies for developing these networked mentoring skills such as being an engaged listener, creating a safe space for the mentee by understanding what is at stake in the mentee and mentor relationship, and being empathetic with the mentee.

These podcasts are just one approach to addressing mentoring concerns, and based upon our research, we think more work than this is needed. The contributors to the luncheon, breakfast, and roundtable, indicated they hoped for a robust and flexible infrastructure of mentoring support that could be used in a variety of situations. From encountering the institutional red tape in their localized situations to understanding accepted research and publication practices, women in technical communication believe mentoring networks can assist in navigating traditionally harrowing situations. We, the authors, do, too. Beyond a one-on-one relationship, mentoring (re-seen as a network of support) can provide aid for women in a field where many women struggle to reach full professorship, to feel confident in their professional identity (particularly when put against their personal lives), and to identify their allies in complex and political institutions. The role of mentoring needs to be highlighted, and we in Women in Technical Communication advocate for paying attention to how we mentor. More than just service, we believe mentoring—networked mentoring—is vital to the sustenance of our field.

Want to Know More about Women in Technical Communication or Get Involved?

Follow us on Twitter to participate in Mentor Monday: @WomaninTC or #WomeninTC

Like us on Facebook: Women in Technical Communication

Join us at WomeninTechComm.org

The website includes a form for contacting the steering committee with questions, ideas, or for joining the mentoring network.
References


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Author information

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Appendix

Question prompts related to service, research, and teaching from the 2014 Women in Technical Communication luncheon. Table leaders and participants at each table selected questions from the list that were of most interest to that particular group.

**Research**

Possible topics of discussion include:

- How do I decide which journals are most appropriate for my research?
- How much collaboration is appropriate at various levels?
- How do I make room for my research with a heavy teaching load?
- How do I interpret my rpt documents?
- How do I find readers for my research before submission (i.e. expanding existing networks)?
- What strategies can I use for not losing momentum on research?
- What tactics can I use to work on more than one project at one time, including how do I think about multiple projects so that they might be more coherent (to myself and others)?
- What strategies can I use to figure out how to fund my research?

**Service**

Possible topics of discussion include:

- What exactly is service? Or what does service mean at my school and how do I talk about what I consider service in ways that will be accepted?
- How much service is appropriate?
- How do I say no? How do I judge the opportunity to say no?
- How do I figure out how to balance local, university and national service?
- What are suggestions for figuring out ambiguous language in reappointment/promotion/tenure documents?
- How to be a “good citizen” without having to do all the work on a committee?
Mentoring Women Faculty in Technical Communication

• How do I find ways to get involved in national-level service and how do I make sure that my department supports my research at the national-level?

• How do I avoid getting stuck at the associate professor level because of the administrative work I’m asked to do?

Teaching
Possible topics of discussion include:

• How do I ask to teach a new course?

• How do I approach the program director to make a change in the curriculum?

• What suggestions do people have for reducing the amount of prep or grading?

• How do I combine parts of research into teaching?

• What are suggestions on negotiating experiential learning (such as service learning or client projects) into courses when we know it is more work.

• Women (especially minority women) often receive lower marks on student evaluations than white, male counterparts. How do I address this concern during my annual reviews?

• How do I argue for teaching more graduate level courses?
Solving Problems in Technical Communication

Editors
Johndan Johnson-Eilola and Stuart Selber

The University of Chicago Press

Reviewed by Timothy D. Giles
Georgia Southern University

Johndan Johnson-Eilola and Stuart Selber present an interesting collection of essays from an array of authors whose names will certainly be recognized by the informed reader. Unlike many introductory texts in most academic disciplines, Solving Problems in Technical Communication lacks the visual pyrotechnics and redundant ancillary support materials such as course management systems already supplied by university instructional fees. This plainer approach costs students much less than the typical introductory service course text and provides a richer theoretical approach to technical communication.

Such a collection is long overdue. In an academic field overcrowded with texts created for the service course, technical communication texts that focus on introducing the technical communicator to the field are somewhat limited to two of the major texts: Central Works in Technical Communication (2004)—another Johnson-Eilola and Selber collection—or Tim Peeples’ Professional Writing and Rhetoric: Readings from the Field (2003). A great deal has happened to technical communication over the past 10
years. For example, social media management emerged so suddenly that people currently working in the field could not have received a specific theoretical background; social media management did not exist when they were in their academic programs. Publishers are certainly to blame since they are all too ready to crank out another version of a best-selling service course text, but allow those for niche courses in technical communication to languish; the Allyn & Bacon series in technical communication has not released a new title since 2011. Lack of support for niche classes has caused some authors who wanted to revise to account for such a rapidly changing field, to seek other publishers. Because *Central Works in Technical Communication* is largely composed of work originally published elsewhere, it lends itself better to the graduate class. Though *Professional Writing and Rhetoric: Readings from the Field* works better, in my opinion, for undergraduates, some might not be comfortable with its grounding in Aristotelian rhetoric. A new text is certainly called for.

First, it is worthwhile to consider the level for which the text might be appropriate. Johnson-Eilola and Selber (2013) are not specific, recommending only that it is appropriate for “newcomers and people with some experience” (p. 1). The essays composing *Solving Problems in Technical Communication* were solicited, and each follows a parallel structure. Each chapter develops its topic with a seven-part plan (summary, introduction, literature review, heuristic, extended example, conclusion, and discussion questions), suggesting the text would work better for undergraduates who might benefit from a straightforward structure. Such organization may be better than the diversity of approaches found in texts such as *Central Works in Technical Communication* (2004) with its essays drawn largely from articles published in journals and essay collections.

In terms of who would be most comfortable teaching from *Solving Problems in Technical Communication*, graduate student instructors might have more trouble with the text than professors. There is not a teacher’s edition or other support materials, and organizationally, the book is broken broadly into these sections: “Mapping the Field,” “Situating the Field,” “Understanding Field Approaches,” and “Developing Field Knowledge.” Certainly a reader well versed in technical communication could develop among these essays other, more specific themes. A coordinator for graduate teaching, for example, could provide some direction for Teaching Assistants to develop an ethnographic theme that might include Richard Selfe and Cynthia Selfe’s “What Are the Boundaries, Artifacts, and Identities of Technical Communication?”; Jim Henry’s “How Can Technical Communicators Fit into Contemporary Organizations?”; Bernadette Longo and T. Kenny
Fountain’s “What Can History Teach Us about Technical Communication?”; and Clay Spinuzzi’s “How Can Technical Communicators Study Work Contexts?” These essays fall in three of *Solving Problems in Technical Communication*’s four sections, however. Graduate students could certainly be left to make decisions about supplemental materials for themselves, but graduate students are, more often than not, new teachers who are somewhat overwhelmed with the courses they are taking as well as with internships and other responsibilities.

*Solving Problems in Technical Communication* could be especially informative for department chairs whose background is in literature, or even rhetoric and composition, but who find themselves chairing a more contemporary Department of English Language Studies. When such a chair must evaluate a portfolio from a tenure-track faculty member in technical communication, this collection can provide background to better understand the issues currently important to the discipline.

In that regard, *Solving Problems in Technical Communication* can provide a technical communication program director with evidence for best practice in technical communication pedagogy as well as something to point to when a professor from another area in the typical English department has questions about the appropriateness of assignments, for example. It would allow a program director to assure a literature professor that assigning students to create a form is an appropriate assignment. Not only does *Solving Problems in Technical Communication* support creating a form as a frequent task for the technical communicator, but also that doing so is fraught with other implications worth discussing in a university classroom, such as how race or ethnicity might be indicated on a form. Indeed, in the “Introduction,” Johnson-Eilola and Selber tell us, “designing forms is a common workplace task for technical communicators” (p. 4). Brent Henze’s essay on genre provides theory to further support the form as a relevant workplace activity for the technical communicator. In this instance, hard work that should culminate in tenure or promotion might be awarded, rather than ruined; objections to such an assignment could indeed even emanate from the rhetoric and composition field.

For future editions, I suggest that the authors create an alternative index or table of contents, as they did for *Central Works in Technical Communication*, to provide more organization according to theory. In addition to ethnography, for example, usability is another theme evident in this collection. Kirk St. Amant provides an excellent introduction to international communication, but where does it fit with the themes? Would it work better with usability or with ethnography? Conceivably, it could work with both,
and such could be indicated. Doing so would make this collection a more readily useful text for students and graduate student instructors.

Because *Solving Problems in Technical Communication* is an introductory text, I was hoping for some readings that would explore the history of technical communication. Including a reading that contextualizes how to understand technical communication and its role in the liberal arts would be a useful tool for novices. I recall being mesmerized by such readings when I took a research methods course for my master's program. The title of Bernadette Longo and T. Kenny Fountain's essay seems to promise historical context of technical communication, but instead, the essay deals with the history of a company in an ethnographic context, a theoretical concept certainly worthy of exploration, but not exactly what I was hoping for. Indeed, in their introduction, Johnson-Eilola and Selber specify this collection will allow readers to “recognize ways in which the past can be leveraged to improve practices (the field does not operate in a temporal vacuum)” (p. 10), yet none of the essays address the history of technical communication as a discipline. Johnson-Eilola and Selber seem to think the section on “Situating the Field” and the literature reviews in each essay suffice for historical context, but how is the student to contextualize technical communication, as it has been practiced since the Ancient Romans? Richard Selfe and Cynthia Selfe approach the history of the field in their essay, but their concern is more with the definition of technical communication. The historical context is certainly valuable for various topics relevant to technical communication such as the past failure of Francis Bacon or, more recently, I.A. Richards, to create an International English. Why might more recent efforts to develop an International English be likely to succeed? How have failures of past attempts been accounted for? Chauvinistically depending on the Internet is not necessarily the path to success with such a project.

Overall, *Solving Problems in Technical Communication* is a worthwhile and much appreciated addition to the texts that introduce students to technical communication. Each essay generously provides direction for activities and discussion. It realistically portrays technical communication as a discipline for those interested in solving problems and in being engaged in lifelong learning in this rapidly evolving field.

**References**


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In *Rhetoric in the Flesh*, T. Kenny Fountain closely observes and reports on anatomy classes in a gross cadaver laboratory at one medical school. As part of the process of acquiring expertise in a field, medical students perform guided dissections and examinations on human cadavers, towards understanding human anatomy. The lab experience is multimodal; teaching assistants (TAs) draw and write elaborate guides to visual anatomy on white boards for students, and students themselves draw anatomical features and structures. More formal two-dimensional visual representations are displayed in the lab, and there is the obvious visual presence of the cadavers.

The lab experience is also tactile. Cadavers are opened with tools, and students handle the cadavers’ anatomical components to acquire information about bodies in general. A particularly electrifying illustration of tactile engagement occurs when the author reaches deep inside a cadaver to seize a particular nerve with his gloved hand. Another version of that nerve, in the author’s body, transmits information about both bodies—the...
author’s and the cadaver’s—to the author’s brain. In that moment, a mostly assumed difference is blurred: the separation between a living body and a cadaver.

Central to Fountain’s consideration of the anatomy lab as a site of learning is the tension created by living bodies studying dead bodies for knowledge of a shared anatomy. The blurring of the boundary between subject and object in the lab fuels Fountain’s consideration of a collection of connected dualities, and his theorizing about the notions of difference and embodied rhetoric.

The dualities are not strong binary terms in opposition, but rather aspects of things that are at once in transition and combination: student and expert, cadaver and surrogate patient, reader and text, visual and multimodal information, exterior and interior. For example, as part of gaining expertise in human anatomy, students in the lab acquire a way of talking and thinking about the cadavers as something other than human remains. The dead bodies become, for students, sources of information, and what Fountain describes as “a conceptual body formed by anatomical discourse and human flesh” (p. 19). In the process of transitioning students to experts, the cadavers are transitioned from dead bodies to bodies of knowledge.

This is not to say that students come to devalue the cadavers. Indeed, Fountain regards the change in students’ perceptions of cadavers as part of the “trained vision,” a kind of multimodal, cognitive skill, associated with expertise (pg. 96). Fountain contends that the medical school’s institutional, epideictic rhetoric, in which dissection is praised as a learning practice, and those who donate their remains to medical teaching are exalted, reinforces the apodeictic, evidentiary rhetoric of dissecting bodies to make and share knowledge of anatomy.

*Rhetoric in the Flesh* has significant relevance for technical communication programs. The problems of measuring and legitimizing expertise are real concerns for technical communication, and Fountain’s exploration of a particular rhetorical site of learning has practical knowledge for the field. At the conclusion of each chapter in the book, Fountain offers thoughts on how this work relates to technical and professional communication.

The experience of the anatomy lab models the development of skills and the socialization required of expertise. Students work with tools and TAs in what Fountain describes as an assemblage that not only imparts skills and knowledge of the body, but also affects how those students will think and act within their professional realm. An aspect of expertise is “trained vision,” which involves “learning to see, and to touch as well as
how to think through evidence and communicate findings to others” (p. 96). Learning to see with the vision required of a technical communicator becomes an essential outcome of technical and professional communication courses.

Creating drawings of anatomical features and systems may have a role in acquiring a trained vision. Fountain correctly identifies the rich, cognitive experience that drawing provides for students, in contrast to the formal anatomical displays in the lab that are produced by outside sources. The drawings made by TAs on whiteboards also demonstrate expertise and trained vision; effectively drawing anatomical images before students see and touch those anatomical structures establishes a paradigm for the meaning behind studying and understanding anatomy. For technical and professional communication students, a curriculum that includes multimodal composition via drawing could contribute to heightened cognition of the subject and awareness of another problem-solving approach to technical communication problems.

Fountain seems to suggest that for technical and professional communication students, the workplace is the equivalent of cadavers in the gross anatomy lab. Students should work to understand workplace culture as junior ethnographers and archaeologists and pursue insights into the embodied practices of technical and professional communication through visits to labs and workplaces.

Beyond Fountain’s recommendations, Rhetoric in the Flesh helps clarify the position of rhetoric in technical communication pedagogy. Many texts about technical communication, both introductions to the field and more advanced theoretical writing, overlook rhetoric as foundational theory; it is refreshing to see a useful and sophisticated application of classical learning. In this elegantly written book, Fountain provides an approach to understanding how complex sites of knowledge formation can be understood for their contributions to socialization and the acquisition of expertise.

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