The Problem of Graduate-Level Writing Support: Building a Cross-Campus Graduate Writing Initiative

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Abstract

Despite the critical role writing plays in graduate students' professional lives, graduate writing support for both native and non-native English speakers remains an unmet need at many universities. Many WPAs, like others across the university, recognize the need for graduate writing support, but they may be understandably reluctant to get involved due to the strain it might place on existing resources and personnel, which are often allocated to undergraduate writing instruction. By not engaging this issue, however, writing programs are potentially missing out on opportunities to develop cross-campus partnerships and build respect for writing program work. In this article, I argue that the "problem" of graduate writing support is a systemic one, necessitating partnerships between writing programs and other university departments (e.g., writing centers, graduate offices, other departments in the disciplines). I start by reviewing recent research on graduate-level writing in higher education, second language writing, and writing studies. I then describe a graduate writing initiative being developed at New Mexico Tech. While such programs are likely to vary considerably across institutional contexts, I aim to provide writing programs and other university departments with ideas for creating similar cross-campus efforts in their own contexts.

Introduction

This project on graduate writing support grew from a chance encounter with a group of international doctoral students who wandered into the writing program office at a northeastern state university, looking for some course that they could take to improve their science writing. By the time they came to us, they had already been pinballed from department to

department on campus. Their own department had told these students that they could help with scientific content but that the students would need to seek writing support elsewhere. The small, under-resourced English as a Second Language (ESL) institute had a graduate ESL class but could not offer much guidance in academic conventions. And the school's graduate office did not offer dissertation writing workshops at that time. The writing program seemed to be a logical place to go for writing support. While we created a one-time summer course on academic writing for these students, the fact remains that we, like many writing programs across the country, mostly offered writing courses for undergraduates. Discussing this situation a year later, one of these students admitted to being perplexed. "Why would you focus on undergraduates?" she asked. "Undergraduates don't care about writing. Graduate students *need* writing." While writing programs cannot—and *should* not—neglect undergraduate student needs, this student identified a significant gap in writing program design.

Mike Rose and Karen McClafferty argued over a decade ago that, historically, little effort has been made to address graduate-level writing instruction in any "systematic" way (27). Many across the university have long assumed that graduate students should already know how to write, even though the writing demands and genres graduate students encounter may be far different from what they have previously experienced. Given the glacial pace of change in most university systems, one should not be surprised that the situation Rose and McClafferty described still rings true today.

However, we are quite possibly witnessing a change in the priority afforded to graduate-level writing in higher education. As Alison Lee and Claire Aitchison argue in "Writing for the Doctorate and Beyond," changes in the global economy and in academic job markets have resulted in significant changes to graduate education worldwide. These changes have highlighted the need for graduate-level writing support, particularly for science and engineering students who not only might lack awareness of disciplinary writing conventions, but who also are under increased pressure from their programs and advisors to publish scientific papers before graduating and to procure high-stakes research funding (88). Furthermore, the Institute of International Education reports a continuing increase in the numbers of international students pursuing graduate degrees in the US, many of whom are non-native English speakers ("Open Doors"). Given the role that English has assumed as the lingua franca of academic publication worldwide, many of these students will need to continue publishing in English if their research is to receive international recognition.

While many across the university recognize a need for graduate writing support, few agree on who should provide it. At many universities, graduate writing support is a hot potato passed between university departments and advisors, writing centers, ESL departments, and writing programs. Graduate advisors, who get swamped very quickly from numerous advisees requesting writing feedback—and who may have difficulty explaining implicit discipline-specific writing conventions—often refer students to writing centers. Writing centers, in turn, become quickly overwhelmed by dissertation-length projects coming in from around campus. While some writing programs across the country have experimented with graduate-level writing courses, writing programs have traditionally allocated their resources and personnel to undergraduate writing instruction.

The problem with graduate-level writing support is that it does not fit neatly into any university department as currently conceived. Or, to flip this statement, university systems often do not account for the fact that graduate students might still have a lot to learn about writing. Frankly, any university department or entity—including writing programs and writing centers—would have difficulty shouldering the weight of graduate writing support independently. Thus, this dilemma's solution lies in cross-campus partnerships involving writing programs, writing centers, and ESL and other university departments.

This article draws from research and experience with graduate student writing from complete opposite corners of the US to pose principles for developing *systems-based,* cross-campus graduate writing initiatives. I start by describing recent educational initiatives and research on graduate writing from numerous fields, including higher education research, second language writing and English for academic purposes (EAP), and writing studies. I then describe one graduate writing initiative at New Mexico Tech, involving the writing and technical communication programs, the writing center, and the Center for Graduate Studies. While other institutional contexts may vary in how these components are configured, my goal is to provide writing programs and other university departments with ideas for creating similar cross-campus efforts in their own contexts.

The Problem of Graduate-Level Writing Support

Riding the Winds of Change in Graduate Education

Recent interest in graduate writing support comes alongside much larger concerns about the state of graduate education in the US and abroad, concerns fueled by rising graduate attrition rates (which range from 40–50 percent in US doctoral programs), increasing time to completion, and dismal

academic job markets (Golde 669; Golde and Walker). In the US, both government and privately funded organizations such as the National Science Foundation (NSF), the Carnegie Foundation for the Advancement of Teaching, and the Woodrow Wilson Foundation have called for research into how the doctoral experience can be improved and for creative educational initiatives that better prepare graduate students for academic life. (See, for example, the NSF Integrative Graduate Education and Research Traineeship [IGERT] program, the Carnegie Initiative on the Doctorate, and the Woodrow Wilson Foundation's Responsive PhD Initiative). In Europe, the Bologna Process, which now boasts participation by forty-seven European countries, has sought to improve the quality of graduate education in Europe and to make European graduate schools more competitive with US institutions, both in terms of research quality and international student enrollment.

These calls for graduate education reform have prompted a flurry of higher education research on graduate education and mentorship in the sciences (Boud and Lee; Golde; Nakamura and Shernoff; Walker et al.; Wuff and Austin). Granted, researchers have identified numerous aspects of graduate education needing improvement—from the quality of mentoring relationships to student isolation—but communication skills surface continually in these discussions. Changing conditions in the academic job market, coupled with increased competition for research funds, have raised the stakes considerably for graduate students. As Anthony Paré explains in "Slow the Presses," graduate students are under more pressure to publish *before* graduation than they were in the past. "Scholarship juries, funding agencies and hiring committees all search for ways to divide applicants into the more and less desirable," Paré argues, "and a list of publications identifies a promising newcomer" (30). Further, many science and engineering programs have abandoned the book-length dissertation for the "article compilation" dissertation—a dissertation comprised of three or four publishable (or *published*) articles.[1] In some universities, including my own, even master's students are pressured to publish research and to present at academic conferences, as doing so makes them more competitive for leading doctoral programs.

Admittedly, the push for graduate students to publish early is fueled by pragmatic concerns: Not only does publication make students more marketable for jobs and post-doc positions, but writing journal-length articles makes more sense for journal-driven fields with few publication outlets for book-length manuscripts. Several advisors whom I interviewed at my previous institution in the northeastern US gestured with amusement at the

hulking, black-bound, dissertations collecting dust on their shelves. One professor joked that his dissertation made an ideal door stop.

As Paré laments, this "premature" push to publication also changes the dynamic of graduate writing. Graduate school, he argues, has always emphasized learning the practices of academia and specialized research communities, and dissertations have always been, and continue to be, an intense experience for any graduate student. A dissertation monograph written mainly for an audience consisting of one's advisor and doctoral committee played a much more "heuristic" role in students' learning processes than a collection of articles written for the entire research community (31). Students learned the practices of their community, but in a slightly lower-stakes environment more forgiving of novice mistakes. The pressure to publish as a graduate student forces students into the role of a practicing scientist much more quickly and steepens the curve for learning scientific genres and conventions. However, Paré concedes that "we cannot ignore the market pressure on students who must compete for jobs and scholarships, or the potential educational benefit of entering the debate in one's field" (38). Thus, universities need innovative ways of supporting their graduate students in these efforts.

My colleagues in second language writing and applied linguistics have been researching advanced academic literacy practices of non-native English speaking graduate students and researchers for over two decades (e.g., Casanave; Swales *Genre, Research;* Tardy). While they have developed models for genre-based academic writing courses for non-native English speaking graduate students, researchers in writing studies and higher education research seem to be just picking up the trend.[2]

Much of the recent research on graduate writing support has come from researchers in non-US settings, most notably from Australian and Canadian researchers. Barbara Kamler and Pat Thomson's *Helping Doctoral Students Write: Pedagogies of Supervision* and Aitchison, Kamler and Lee's *Publishing Pedagogies for the Doctorate and Beyond* are two particularly useful works from Australian settings that blend research on writing as a social practice with practical programmatic and classroom suggestions for graduate-level writing. Kamler and Thomson identify a huge gap in the scholarly attention given to doctoral writing—particularly to writing the dissertation—and an equally significant gap in the time doctoral advisors give to explicit writing instruction, though advisors frequently comment on students' difficulty with writing. In the absence of specific guidance, they argue, doctoral students often seek the help of the many "do-it-yourself" dissertation writing guides on the market—such as *Writing Your Dissertation in Fifteen Minutes a Day* (Bolker)—though such books often oversim-

plify the writing process and are a poor substitute for quality writing support (Kamler and Thomson, "Failure," 507).

Further, Doreen Starke-Myerring and a team of researchers from McGill University and the University of Alberta have been conducting an ongoing, multi-site study on "The State of Doctoral Writing in Doctoral Education," with funding from the Social Sciences and Humanities Research Council of Canada. This large-scale study involves extensive interviews with graduate students and their advisors, department heads, and writing center administrators at Canadian research institutions to identify both the writing problems students and advisors identify and the systemic obstacles to graduate writing support. (For some initial results, see Paré, Starke-Meyerring, and McAlpine, "Dissertation"; Starke-Meyerring)

US-based composition researchers have just started exploring this subject in more depth. Laura Micciche and Allison Carr's pivotal *College Composition and Communication* (*CCC*) article, for example, recently called for an "explicit commitment to graduate-level writing in English studies" (478). While Micciche and Carr focus on graduate-level writing courses for English and composition students, they nonetheless raise numerous issues relevant for graduate writing across the disciplines. Mya Poe, Neal Lerner, and Jennifer Craig's *Learning to Communicate in Science and Engineering,* a series of case studies emerging from the communication across the curriculum program at MIT, features an innovative grant-writing assignment as part of a graduate-level biomedical engineering course. Furthermore, graduate writing initiatives have received much more attention in recent writing studies conferences, such as the 2011 Writing Research across Borders II conference at George Mason University, and the 2011 Conference on College Composition and Communication (CCCC) in Atlanta, GA. Example sessions from the 2011 CCCC include "The Successful Dissertation Boot Camp: Time, Space, and Motivation for Writing," a presentation on a cross-disciplinary dissertation workshop at the University of Delaware; "The Story of the Dissertation Writing Institute," an endowed graduate writing initiative at the University of Michigan; and "Graduate Student Writing: Dissertations, Grant Proposals, and Publications."

While graduate-level writing research is developing momentum in writing studies, more research is needed to explore programmatic responses to the need for graduate writing support. Moreover, we need more research that identifies areas of overlap between emerging research in writing studies and existing bodies of research on genre-based graduate writing pedagogies in second language writing and English for academic purposes. A need exists for graduate writing pedagogies, and as writing researchers, we have a significant body of expertise to bring to this discussion. If we disengage

from these conversations, we miss out on offering our valuable input. We also miss an opportunity to meet a growing need at US research institutions and to develop critical cross-campus partnerships that could potentially build both the visibility of and respect for writing program work.

Pedagogical and Programmatic Challenges to Graduate Writing Support

Three pedagogical and administrative issues emerge as we discuss graduate-level writing support. First, learning in graduate school is much more decentered than we typically expect in undergraduate education. Graduate education, as a system, relies heavily on mentoring as the engine of teaching, particularly in the sciences. While this system is advantageous for numerous reasons (among them the opportunity for hands-on, situated learning with experienced professionals), it also has its pitfalls, in that mentoring relationships—and, in turn, students' learning experiences—can vary drastically from field to field and even within graduate programs. Some advisors are hands-off; others micromanage students' every movement. Some advisors, particularly in the sciences, carry additional responsibilities outside the university that limit one-to-one attention (e.g., consulting and government advising jobs); others have more time to work closely with students. Some advisors articulate writing habits to students well; others experience difficulty explaining writing conventions for which they have only implicit—not explicit—knowledge. While graduate mentoring relationships are critical, and while many in writing program administration might (rightly) believe that advisors should play a more active role in their students' writing development, the reality is that graduate students often need multiple sources of input, as Jeanne Nakamura and David J. Shernoff have argued in their study of scientific mentoring (259). The challenge is to create sources of input that strengthen (and do not compete against) the mentoring relationship and that help students recognize and tap into existing resources in their fields.

Along these same lines, learning in graduate school can be highly distributed, in that much of the learning happens outside traditional classroom settings as students work in labs or in the field, solve problems with their research, negotiate with advisors or journal reviewers, network with other researchers at conferences—in general, while "in the thick" of their academic work. Similarly, as Nakamura and Shernoff argue, students encounter "multiple influences during the course of professional training" (184). Students, as learners, become active "selective agents" in their learning: adaptive complex systems that actively choose to select or reject pieces of knowledge in their attempt to construct a "model of the kind of scien-

tist they would like to be" (183–184). This distributed nature of learning might necessitate rethinking our knee-jerk models of writing instruction (i.e., offering preparatory writing classes) and exploring models that better fit within students' existing academic networks and learning rhythms. For example, graduate students can be highly resistant to the idea of writing support when it is presented before they have recognized the need for it in their own learning, yet highly engaged once they have recognized this need (especially once they have started the dissertation process). Thus, graduate writing support needs to be flexible and to have multiple points of entry for students.

Second, both native and non-native English speakers need graduate writing support, which raises questions about how to satisfy the needs—some overlapping, some distinct—of both populations. Christine Feak, a graduate English for Academic Purposes (EAP) instructor at the University of Michigan's English Language Institute and co-author with John Swales of a popular graduate ESL textbook series (e.g., Swales and Feak), raised this very issue in her talk at the 2011 CCCC, "Academic Writing for Graduate Students: It's Not Just for International Students Any More." Feak's call for genre-based graduate writing courses for both native and non-native English speakers was motivated by her recent experiences with native English speaking graduate students requesting to enroll in her graduate ESL courses, as—like the students described earlier in this essay—they felt that they had nowhere else to go.

However, our field often has difficulty imagining how the needs of native and non-native English speakers intersect. In both our literature and our teaching, we struggle to find the balance between separating and integrating the concerns of non-native English speaking students (NNES)—between seeing their concerns as distinct from those that Native English speakers (NES) face (e.g., as so-called ESL issues) and seeing them as pretty much the same as NES issues. I have also encountered this phenomenon repeatedly when talking to disciplinary faculty. For example, advisors have told me that every student—both NES and NNES—struggles initially writing a methods section for a journal article. Thus, writing a methods section is not an "ESL issue"; it is something every student needs to learn. While both populations do struggle with the methods genre, speaking to NNES students about their experiences reveals that they struggle for a number of reasons, some related to difficulties with the English language and some related to learning generic conventions.

Similar to what Paul Kei Matsuda argues in "Embracing Linguistic Diversity in the Intellectual Work of WPAs," and in "The Myth of Linguistic Homogeneity in US College Composition," so-called ESL issues

need a place for discussion in any writing course that we teach, even if there is a mixed student population. While many writing researchers have posed intriguing classroom models that purposefully integrate the needs of NESs and NNESs (for example, see Matsuda and Silva; Reichelt and Silva; Shuck), many of us in writing program development are still wrapping our minds around how to make this integration a regular part of the writing classroom. For graduate students, the question extends beyond just how to integrate the needs of these populations to how to put these two populations in conversation with each other in productive ways.

Third, as David Damrosch argues throughout *We Scholars: Changing the Culture of the University,* many university systems are highly fragmented and compartmentalized, and they resist the sort of interdisciplinary efforts needed to effect meaningful change. That is, university departments often work on a strict division of labor model and assume that any task that they do not identify as belonging to their department belongs, by default, to another department, a phenomenon that has frustrated writing program and WAC/WID administrators for years—"Our job is to work on the *science. You're* supposed to work on the writing!"

Ironically, while departments within the university appear to be disconnected and to make decisions locally and independently, these departments can likewise be seen as functioning as part of a common system—albeit, a frequently inefficient one—in that decisions made locally in the university often have ramifications for other departments. Thus, a department that decides that it is not responsible for teaching writing might feel as if it is solving an internal departmental problem, though it is really, as Peter Senge and other systems and management theorists argue, "shifting the burden" to some other part of the system (104)—in many cases, writing centers and writing programs. Writing programs that decide they are not responsible for graduate writing are, again, shifting the burden elsewhere. As Senge argues in *The Fifth Discipline,* his landmark book on systems thinking and management strategy, this compartmentalization of responsibilities "creates a false sense of confidence": "The boundaries that make the subdivisions are fundamentally arbitrary—as any manager finds out who attempts to treat an important problem as if it is purely 'an economic problem,' or 'an accounting problem.' Life comes to us whole. It is only the analytic lens we impose that makes it seem as if problems can be isolated and solved" (283). Similarly, the "problem" of graduate writing instruction demands a more holistic lens, one that does not treat it simply as a "mentoring problem," a "writing program problem," or a "writing center problem," but a problem affecting the entire institution.

The problem of graduate writing is a systemic problem in need of a systems-based solution. Contrary to what many think, the solutions to systemic problems are rarely large-scale system overhauls, as large-scale solutions are generally costly and time-consuming and can introduce new sets of problems in need of fixing. In the case of most writing programs, systemic overhaul might not even be on the table, as few writing programs have the resources, personnel, or energy to redefine themselves in such drastic ways. Rather, systems theorists work to identify "leverage points," places in a system where small, strategic changes can potentially have ripple effects throughout the system, nudging even the most stubborn systems to adapt and change (Meadows 145; Senge 114). While these leverage points are not magical cures, they are places where writing programs and university departments with few resources and personnel can focus their efforts to strengthen their educational systems. As Damrosch argues, "Global changes can be initiated only by local means, in our decentralized academic system; at the same time, however, local changes, if they can be carried through gradually and cumulatively, can have profound consequences across the entire system" (159).

Developing a Graduate Writing Initiative at New Mexico Tech (NMT)

Institutional Context

New Mexico Institute of Mining and Technology (NMT) is a small science and engineering research university with twenty-eight graduate programs, including very strong programs in astro- and atmospheric physics, earth sciences, and petroleum engineering. While our graduate population is small—approximately 400 students, 30 percent of whom are international students—our students contribute to cutting-edge research performed in a variety of labs and research facilities located on campus or operated in partnership with our university, such as the Very Large Array, a radio telescope apparatus featured in the movie *Contact* with Jodie Foster; the New Mexico Bureau of Geology and Mineral Resources; and a laboratory at an active volcano in Antarctica. NMT also specializes in energetic materials research, making it a popular filming location for the hit show, *Mythbusters.*

NMT has both a writing program with a three-course undergraduate writing sequence (two first-year writing courses and a required junior-level technical writing course) and a technical communication (TC) program with a bachelor's of science in technical communication, one of only thirty such programs in the country. Both writing programs are housed in the interdisciplinary department of Communication, Liberal Arts, and Social

Sciences (CLASS), which also hosts the school's writing and oral presentation center. Due to the small size of the department, overlap exists in faculty and resources for the two writing programs and the writing center, a configuration which may differ from other institutional contexts.[3]

In 2009, NMT received a Title V grant for graduate students from the Department of Education (PPOHA: Promoting Postbaccalaureate Opportunities for Hispanic Americans) which allowed the school to retool its Center for Graduate Studies and to launch a series of initiatives to improve students' graduate experience, including graduate communication courses and ESL support. Substantial portions of this grant called for classes or resources that our TC program would need to supply, which initially placed us in a complicated position. However, our department also saw participation in this grant as an opportunity to fill long-overdue needs on campus (such as graduate ESL support), to increase our programs' visibility, to build our programs, and to build better cross-campus relationships with science and engineering faculty. Our goal was to help build an infrastructure for graduate student support without confirming notions of our department as a "service" entity, and to do so with fairly limited resources—a small and maxed out staff, a very small writing center, and state-wide funding cuts that limited the potential for new personnel. I was hired in large part to develop graduate writing and communication programs proposed by this grant and to serve as a liaison between the TC and writing programs and the Center for Graduate Studies.

Leverage Points for Program Development

Because of our department's small size, we knew that building a sustainable graduate writing initiative would require significant buy-in and involvement from other campus departments. While we would initiate these graduate writing programs, other departments would need to recognize their importance and share the burden of sustaining them. Not only would these writing initiatives need involvement from other departments, they would need to strengthen existing or potential networks within other departments. As Donella Meadows argues in "Leverage Points: Places to Intervene in a System," "information flow" (i.e., "access to information") is a high point of leverage in many systems (156). Numerous bottlenecks exist in the input students receive in their departments. Ask any graduate student in science and engineering fields who gives her feedback, and she inevitably answers "her advisor," and only her advisor. As I have argued elsewhere, graduate students' most underused resource is often each other (Simpson). Despite the collaborative nature of science and engineering research, graduate stu-

dents can become intensely isolated once they hit the writing stage. This lack of additional writing input places an incredible strain on the advisory relationship, as advisors can become quickly bogged down with just how much feedback they are expected to give.

With these thoughts in mind, we developed the following principles for designing sustainable graduate writing resources:

- Graduate writing support should enhance the feedback students receive from advisors and peers.
- Any course that is created should be seen as a "springboard" to other sources of support, rather than being a terminal learning experience. In other words, courses should do more than just provide content; they should provide longer-term learning strategies.
- Graduate writing support should provide explicit opportunities for both native and non-native English speakers and should put the two populations in conversation with each other.
- Graduate writing support mechanisms should intersect and should be flexible enough for students to access at multiple points in their graduate careers.

These guiding design principles, while simple, had a complicated origin. In part, they originated from research and from experiences with graduate students at a northeastern state university. However, they crystalized over the course of several months of strategic planning at NMT with faculty and staff from the TC program and from the Title V grant team. In one sense, these principles reflected both the realities and limitations of our institution and the needs of our graduate students. In another sense, they dovetailed well with our grant objectives, in that they leveraged, when possible, existing resources to encourage feasible and sustainable growth, which should be a program development goal with or without the existence of such a grant.

Naturally, these principles are ideal. Operationalizing them is the difficult part. As one can see in the remaining portions of this essay, this process is gradual and unfolds through modeling these principles to others within our department and across the university and through diplomacy and cross-campus dialogue. In our case, we started the process by opening our Writing and Oral Presentation Center for graduate students and piloting the following courses and initiatives in the 2010–2011 school year.

"Linked" Communication in the Sciences/Engineering Graduate Courses. These 3-credit courses, the rough graduate equivalent of undergraduate linked learning communities, focus on graduate and professional academic

genres (e.g., conference abstracts, journal articles, conference presentations, etc.) and communication to a variety of audiences. More importantly, they each have a "link" to a specific course or seminar in another department. That is, the communication course and the class/seminar in the disciplines share at least one writing or communication assignment, and the two professors collaborate on topics.[4] In addition to the shared assignment, the communication courses explore a range of topics relevant to the sciences and engineering, such as communicating technical information to non-specialist audiences, analyzing discipline-specific writing for generic features, and "surviving" the academic peer review process. These courses are open to both native and non-native English speakers and purposefully integrate materials intended for both populations, thus inviting cross-cultural and cross-linguistic dialogue on academic conventions. We piloted two courses in fall 2010, one taught by the TC program director (linked with a mechanical engineering graduate seminar) and one taught by me (linked with a required quantum mechanics class in the physics department), and two courses in the 2011–2012 school year (linked with earth and environmental sciences and electrical engineering).

An Academic Communication Course for NNES Students, Linked with the Writing Center. In spring 2011, I piloted an EAP course very similar to the communication in the sciences/engineering courses, open to NNES graduate students from all departments. This course doubled as an independent study for our graduate writing center tutor, who received course credit for assisting with in-class activities and working with students on their projects in the writing center. By piloting a course specifically for NNESs, we are in a position to compare NNESs' experiences in a mixed NES-NNES course with their experiences in a course strictly for NNESs. (One student has actually taken both courses). After offering the course again in spring 2012, we can determine whether both courses are necessary.

Thesis/Dissertation Boot Camp. "Boot camp" is a week-long intensive workshop for graduate students at the thesis or dissertation stage. Currently, the workshop is hosted by the writing center and staffed by a technical communication faculty member, a math professor, and a graduate writing tutor. While the boot camp staff offers short writing and time management workshops, participants spend much of the week writing in a comfortable environment with plenty of coffee and a strict "No Facebook" policy. Currently, we offer two boot camps a year, during both winter and summer breaks. Boot camp originated as a free writing center workshop,

though it will eventually be institutionalized as a 1-credit class covered by students' graduate fellowships.

The need to make these initiatives flexible and accessible to graduate students has required us to adapt our program plans along the way. For example, we initially envisioned that graduate students would take the communication courses while completing their coursework in their departments, and that they would prefer to attend boot camp while in the final push toward finishing their degrees. We quickly found, however, that graduate students differed in how they wished to use these resources. Some graduate students preferred to have the support of a structured communication course while working on a thesis, and some graduate students used the boot camp to kick start the process of writing their thesis or dissertation. We even had students attend boot camp and then follow up the next semester by taking the EAP class. While our original conception fit a little more snugly with our grant objectives, allowing for graduate students to decide when and how to use these resources ultimately made them more useful to students. (As it happens, our external reviewer from the Department of Education also appreciated this flexibility in program design). These changes in resource use required us to adjust our planning strategies, though. For instance, in our second round of pilots, we linked the communication in the science and engineering courses with larger departmental seminars rather than entry-level graduate courses.

As mentioned previously, cross-campus partnerships are critical to the success and sustainability of these programs. Interestingly, we found that the well-advertised, cross-disciplinary nature of these programs created opportunities to initiate conversations about graduate writing on campus and to forge new partnerships. In the initial stages of program development, we relied on a couple of energetic faculty members in science and engineering disciplines whom we recognized as potential writing advocates. The graduate dean at the time—an astrophysicist and a proponent of a well-rounded education—advocated the idea to his own department and encouraged a physics professor to participate in one of the links. This physics professor, Dr. Sharon Sessions, who later became my research collaborator, was up for tenure and saw this course link as a potentially beneficial opportunity. For the engineering link, we knew that the mechanical engineering department head was the most vocal proponent among engineers of communication on campus. As we expected, he was eager to participate. Lastly, our boot camp was developed with the help of a math professor whose daughter had just attended a dissertation boot camp at a nearby university. Upon hearing that we were developing cross-disciplinary

graduate writing initiatives with our Title V: PPOHA grant, this professor approached me with the idea of creating a dissertation boot camp. The fact that he was also serving as the current faculty senate moderator helped with publicizing the initiative.

In our first round of pilot courses, we tapped science, technology, engineering, and mathematics (STEM) faculty who were already convinced of our program's importance. The real work came in the second round of pilots when we needed to persuade other campus departments to participate. As Paretti et al. indicate in "Reformist Possibilities? Exploring Writing Program Cross-Campus Partnerships," partnerships are often formed more easily with departments in the humanities or social sciences than with science and engineering disciplines (86). While many faculty acknowledge the need for graduate writing support, many initially favor outsourcing this support over forming a partnership that could potentially take away from research time. However, our first round of pilot courses allowed us to approach departments with specific examples of successful linked courses and with STEM faculty members who could vouch for our initiative.

In the case of the communication in engineering course, the successful mechanical engineering link caught the attention of professors from both electrical and chemical engineering, sparking conversations on what these courses would look like in their own departments. Discussions surrounding the second communication in the sciences course were more complex. I approached the earth and environmental sciences department for two reasons: they have the largest graduate program on campus, and many of their students had already participated in our other initiatives (i.e., boot camp and the EAP course). My proposed link was met with cautious enthusiasm. While speaking at a department meeting, I perceived an immediate consensus among faculty regarding the need for graduate communication support mixed with a reluctance stemming from numerous possible reasons (e.g., the time commitment or questions about implementation). One hydrology professor agreed to participate, though he later confessed to holding back a little until seeing how many graduate students enrolled. Once students expressed interest in the course, he jumped in with both feet.

In addition to simply linking with departments, these courses, by design, provide space for faculty and researchers to share their own experiences with students, which helps open lines of feedback among faculty and students in participating departments. The hydrology professor took an active role in the communication course. In one class devoted to communicating with non-technical audiences, he shared specific documents that he had tailored to non-scientific audiences, including a PowerPoint he had used when serving as an expert witness in a water rights trial. He

also helped organize a session on writing job application materials, such as CVs and research statements. Dr. Sessions shared a very rough version of a National Science Foundation proposal with the first communication in the sciences course and discussed her composing processes. In other cases, staff from the various research facilities on campus—including the New Mexico Bureau of Geology and Mineral Resources and the National Radio Astronomy Observatory (NRAO)—visited to share anecdotes and communication strategies.

Some Initial Results

While we are still in the early stages of program development, we are already seeing signs of success. At the most basic level, student reviews for the courses and boot camp have been overwhelmingly positive. Enrollment in all of our courses has been optional, yet most have filled quickly. (Both the EAP and the communication in engineering courses, each capped at 12 students, were at capacity). In a recent campus-wide survey on graduate communication needs, one respondent self-identified as a former student and wrote that "bar none, the most useful course I took outside my major was the graduate writing course." All three boot camps have filled quickly (13 in the first boot camp, 10 in the second, and 14 in the third) with a healthy mix of NESs and NNESs students from across campus, and reviews from both students and advisors have been positive. One advisor, responding to an anonymous survey, noted that "the student presented me with an excellent draft of his thesis last week . . . [;] it would not have been anywhere near that had it not been for the boot camp."

Beyond the surveys and program assessments, however, the stories of student collaboration are particularly telling. Most promising were the opportunities for NESs and NNESs to interact and grow more trusting of each other's expertise, which was one of our original principles for program development. The open nature of these initiatives encourages students to share articles or advice with others. In the fall 2010 communication in the sciences course, one Colombian student, who frequently admitted to lacking confidence in her English proficiency, voluntarily provided a workshop for her peers (complete with a set of written instructions) on inserting LaTex equations into PowerPoint presentations.[5] In the fall 2011 communication in the sciences course, students regularly stayed after class to continue peer review sessions. In one case, an NES geology student recognized that an NNES petroleum engineering student was experiencing difficulty with the geological terminology in his essay, and the two scheduled a meeting outside of class so that she could explain the concepts behind the difficult dis-

ciplinary terminology. Students also scoured professional newsletters and journals for writing-related articles to forward to the rest of the class, several of which we worked into class readings. For example, students found an article from *Eos,* an American Geophysical Union publication, entitled, "What Role Can Scientists Play in Public Discourse?" (Oppenheimer) and a recent *Nature* article about a group of Italian seismologists on trial for manslaughter for not adequately communicating the risks associated with an "earthquake swarm" (Hall).

Our larger goals for these programs, however, were to build better infrastructures within departments for graduate-level writing support, which involves creating avenues for more regular feedback among students in particular graduate programs. While we expect this process to happen more gradually over time, we are already seeing some positive results. For example, since we know that we are not yet able to accommodate all graduate students in courses or in boot camp, we coach students on peer review and on developing writing groups. The idea is that these students can share these learning strategies with other students in their programs through other means, such as student-run peer writing groups. So far, we have had two graduate writing groups evolve from these initiatives, both of which were comprised of both NESs and NNESs. In both cases, the writing center helped students with logistical start-up issues, such as meeting times and spaces, but the groups were entirely student-run. Both groups also recruited students who had not yet participated in any of our writing initiatives, an indication that our students were passing along what they learned to others. One writing group from the first boot camp coached another student from their department on developing a writing plan for the second boot camp. I have even had professors from that department boast about these writing groups both privately to me and publically. (I am particularly pleased with the way these faculty members took ownership of the writing groups when speaking about them).We would like for these self-aggregating writing groups to be more widespread and will use the current groups as models when speaking with students in other departments.

Most importantly, both of the departments with which we worked in fall 2010 (physics and mechanical engineering) have taken steps toward better integrating communication and writing instruction in their curricula. The mechanical engineering department head actually requested permission from academic affairs to hire a communication specialist.[6] Dr. Sessions has become my collaborator and has been instrumental in planning and publicizing our graduate writing initiatives. She and I will offer faculty-development workshops on our campus on integrating writing instruction with graduate courses in the disciplines. She adopted most of

the shared writing assignments that she and I developed as a regular part of her graduate courses (some of which are required of all incoming physics graduate students). Further, she and I have continued to experiment with writing center workshops that help students with these writing assignments.

In many ways, Dr. Sessions embodies the sort of cultural shift in attitudes toward writing and teaching that we would like to see on campus. While we have a ways to go before we experience a campus-wide cultural shift, her discussion of her own transformation—in addition to more practical discussions of how to fit the hands-on writing projects into traditionally content and lecture-based courses—has provided opportunities to discuss our program goals with other disciplinary faculty.

Granted, much work still needs to be done for these programs—these leverage points—to develop into large-scale shifts in the culture of writing on our campus. I don't wish to misrepresent our experiences. We have had numerous successes, though for each success, we encounter at least two logistical issues that need to be sorted out. Our biggest obstacle has been fitting these initiatives into students' schedules, which is easier in some departments than others. Both the physics and mechanical engineering departments were flexible in moving around students' required labs and research hours, but other departments have less "wiggle room" than others. Thus, these obstacles may require not only more diplomatic effort on our part to argue for the value of our initiatives, but some more flexibility in our program design to better accommodate students from these departments.

Conclusion

This article has described a graduate writing initiative at NMT that involves partnerships between our writing and TC programs, the writing center, the Center for Graduate Studies (which has helped considerably in resolving logistical issues with students' schedules), and various departments across campus. While this particular argument is directed toward writing programs, a variety of other university departments or offices—writing centers, independent WAC/WID programs, graduate offices, and science and engineering departments—may also benefit from our program description and may be instrumental in initiating such conversations on their campus. As mentioned previously, the configuration of departments and resources on our campus might differ from the configuration at other institutions, and so such partnerships will inevitably look different from campus to campus.

Good reasons exist, however, for writing programs to assume a leading role in these conversations. My status as a tenure-track research faculty member—working with a tenured professor in the physics department—

has given me considerable clout when speaking to departments about graduate education. While some writing center directors are tenure-track faculty, others are not. Thus, depending on the institution, writing program faculty might have a little more leverage to discuss graduate education. Further, graduate writing support is a significant gap on many campuses. Writing centers have already felt the pressure to provide graduate student support, and some have started to respond through a variety of programs, including graduate writing consultations, writing groups, and boot camps. Writing programs have been slower to respond, and many could benefit from exploring how they could collaborate with writing centers in this effort. Finally, graduate writing initiatives have the potential both to build our writing programs and to enrich the research in our field considerably. The fact that our programs have taken the lead in addressing what many have identified as a serious need on campus has not gone unnoticed by faculty in other departments and by the school's administration, and we have benefitted from our involvement in numerous tangible ways, including financially.

Graduate writing support is rich, unexplored territory. While fruitful discussions of graduate writing are underway, more research into appropriate programmatic responses is needed. As this article's title states, graduate writing support is, indeed, a "problem," but it is a problem with the potential to galvanize our field's research and pedagogy.

later versions. Last, I thank Elisabeth Kramer-Simpson for being my voice of reason throughout the writing process.

Notes

1. A similar discussion on dissertations in the humanities emerged in a session at the 2012 Modern Language Association convention in Seattle, "The New Dissertation: Thinking Outside the (Proto) Book." This discussion prompted an *Inside Higher Ed* article—Jaschik's "Dissing the Dissertation"—and a provocative string of posts on the WPA listserv (e.g., "The Dissertation is a Bogus Requirement"). Jaschik, summarizing the views presented in several MLA sessions, reported that "too many dissertations are indeed governed by out-of-date conventions, leading to the production of 'proto-books' that may do little to promote scholarship and may not even be advancing the careers of graduate students."

2. Writing studies, particularly the rhetoric of science, has had an academic interest in the scientific article and advanced academic genres (e.g., Bazerman; Myers), but this research has not prompted systematic attention to graduate writing pedagogy nor encouraged writing programs to pursue it. Also, some attention has been given to graduate literacies in our own and similar fields, such as Berkenkotter and Huckin's study of "Nate" (*Genre;* "Initiation"), though again such studies stop short of exploring broader programmatic graduate writing support. For a more thorough history of research on graduate writing support, see Lee and Aitchison, "Writing."

3. It is difficult in our institutional context to speak of the writing program, the TC program, and the writing center as distinct entities due to faculty overlap. We have five tenured or tenure-track faculty and four to five non-tenure-track faculty responsible for all the writing and upper-level technical communication courses. Most tenured and tenure-track faculty teach in both the writing program and the TC program. The TC program director also directs the oral presentation center (part of the writing center), and the writing program administrator teaches upper-level TC courses. While I am writing center director, I am also a tenure-track faculty member responsible for courses in both the TC and writing programs, and I am responsible for assisting with program development.

4. For example, one communication course linked with a required graduate quantum mechanics class shared two writing assignments: a larger course paper and a short homework response explaining "quantum measurement" to a non-specialist audience, arguably one of the more difficult quantum mechanical concepts. Students also participated in a mock "double-blind" peer review process modeled after academic peer review and presented a version of their final paper to the entire physics department. These courses purposefully blend materials intended for native and non-native English speaking audiences. My course, for example, uses both *The MIT Guide to Science and Engineering Education* (Paradis and Zimmerman) and *Science Research Writing: A Guide for Non-Native Speakers of*

English (Glasman-Deal). Everyone reads and benefits from both books, and issues of language and cultural diversity are discussed throughout the class. For more information on this class, see Simpson, "Graduate," available at this url: http://newsmanager.commpartners.com/tesolslwis/issues/2011-02-28/1.html

5. LaTex is a code-based document preparation system preferred in many STEM fields that make frequent use of equations and complex derivations. Most journals in astrophysics and atmospheric physics, for example, expect LaTex journal submissions.

6. The TC professor who taught the fall 2010 Communication in Engineering course was asked to serve a dual appointment in technical communication and mechanical engineering. This shift opened up room for the TC program to hire another tenure-track TC faculty member.

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