

Edited by Laura McGrath



ACKNOWLEDGMENTS

First, I want to express my sincere gratitude to *Collaborative Approaches's* contributing authors for their perseverance, flexibility, excellent scholarship, and numerous revisions. I have learned so much from them, and their hard work allowed me to pursue my vision for this collection and see it through to publication. Next, I would like to thank Dr. Cynthia Selfe for believing in that vision in the first place and for offering encouragement when the project was little more than a half-formed idea.

The feedback and suggestions of my colleagues Dr. Katarina Gephardt and Dr. Anne Richards were of great value to me during the early stages of the project, and Mr. Ethan McGrath's technical assistance supported my efforts to integrate media and prepare the final manuscript. I would also like to acknowledge the transcription assistance of Ms. Carol Pope, assistant director of Kennesaw State University's Disabled Student Support Services, and her staff.



CONTENTS

Int La	roduction: English Studies in the Digital Age: The Call to Collaborate ura McGrath	1
PA	ART I: SCHOLARSHIP, RESEARCH, AND PROFESSIONALIZATION	
1.	Collaborative Methodologies for New Media Research: Using Grounded Theory and Contextual Inquiry Joyce Neff, Liza Potts, and Carl Whithaus	11
2.	Computing and Communicating Knowledge: Collaborative Approaches to Digital Humanities Projects Lisa Spiro	44
3.	Technology-Focused Collaborative Research Initiatives in English Studies: The Possibilities of Team-Based Approaches Laura McGrath	83
4.	Collaboration and Graduate Student Professionalization in a Digital Humanities Research Center Jim Ridolfo, Martine Courant Rife, Kendall Leon, Amy Diehl, Jeff Grabill, Douglas Walls, and Stacey Pigg	113
5.	Playful Affinity: A Case Study of the Digital Writing and Research Lab as a Collaborative Graduate Student Research Network Sean McCarthy and Lauren Mitchell Nahas	141
PA	ART II: TEACHING AND LEARNING	
6.	Across Disciplines: Establishing a New Media Program Matt Barton and Kevin Moberly	164
7.	From Local Seminars to International Teaching and Learning Exchanges: The Cross-Cultural Collaborations Project Magnus Gustafsson, Donna Reiss, Art Young, and Linda Bradley	182

8.	The Polyphonic Classroom: A Collaborative Pedagogical Approach to Information Literacy and Digital Composition Caroline Cason Barratt, Jill Parrott, and Erin Presley	221
9.	Interdisciplinary Knowledge Work: Digital Textual Analysis Tools and Their Collaboration Affordances Monica Bulger, Jessica Murphy, Jeff Scheible, and Elizabeth Lagresa	252
	Response: "So What?" New Tools and New Humanities Paradigms Alan Liu	272
10.	Tinker-Centric Pedagogy in Literature and Language Classrooms Jentery Sayers	279
Ab	out the Contributors	301

INTRODUCTION

English Studies in the Digital Age: The Call to Collaborate

Laura McGrath

As a field concerned with the production, consumption, and analysis of texts, English studies¹ is also necessarily and uniquely tied to the technologies that support those activities. Since we first brought personal computers into our offices and learning environments, digital technologies have demanded our attention. As those technologies evolve, the field evolves new research and teaching practices and new ways of using and thinking about digital tools. No longer the sole purview of a handful of specialists, digital texts (multimedia, Web content, digitized material, etc.), tools (software and hardware), and user practices (how readers and writers interact with, read, compose, analyze, share, and remix digital texts) pervade the field, from literary studies to writing studies and beyond. Although many English studies professionals have assimilated, investigated, and experimented with digital tools and associated practices on their own, such work is often facilitated by strategic collaborations. In fact, as this collection's chapters demonstrate, forming collaborative partnerships is often the most productive way—if not the only way—to address research, professionalization, teaching, program development, and other challenges that arise as the field responds to digitality.

In my research for this collection, I came across a number of examples of collaborative work offered as counterpoints to "the prevalent notion that humanities scholars work alone" (Palmer, 2004, p. 356; see also Unsworth, 2003; Bass, 2004; Norcia, 2007; Siemens, 2009). When it comes to technology and English studies, long-standing stereotypes about the lone humanities scholar are problematic and outdated. Like other compelling discussions of collaboration and technology in the humanities (e.g., Inman, Reed, & Sands, 2004; the body of literature on collaborative digital humanities projects; the sources listed in the previous citation), the content of *Collaborative Approaches to the Digital in English Studies* illustrates the fallacy of the suggestion that "humanists communicate with each other rather than collaborate, since collaboration implies working together—building—and the humanists' work is all about deconstructing ideas and dissecting texts" (Toms and O'Brien 2008, p. 126). This misleading statement fails to recognize newer paradigms, some adapted from the sciences or team-based working environments like software development, that are influencing the truly collaborative

¹ In *English Studies: An Introduction to the Discipline* (2006), Bruce McComiskey uses *English studies* as an umbrella term under which he includes the "constituent disciplines" of "linguistics and discourse analysis," "rhetoric and composition," "creative writing," "literature and literary criticism," "critical theory and cultural studies," and "English education." While I recognize that this terminology is not entirely unproblematic, I believe it provides the collection with both the flexibility and the cohesiveness its content demands.

ways that humanists are working together to build knowledge about digital tools, texts, and user practices.

In context, what does collaboration mean and what gives rise to the call to collaborate? Simply put, collaboration means "working together" (Lunsford & Bruce, 2001, p. 52). In some cases, collaboration is associated with "big humanities" research (e.g., Davidson, 2008). The term "big humanities" suggests an adaptation of the working methods typical of "big science." The Stanford Humanities Lab² offered an example of what this adaptation might mean. The Lab's "About" page communicated a commitment to a "Big Humanities/Big Arts approach to humanistic inquiry and artistic practice, modeled along the lines of Big Science: large-scale, long-term, team-based projects that build big pictures out of the tesserae of expert knowledge." Within the Collaborative Approaches collection, "big humanities" research is represented, but it is only part of the picture. Here, *collaboration* refers to partnerships of various sizes and durations that bring individuals together around teaching, research, or scholarly projects; intellectual problems; or questions of shared interest, with the objective of producing an end product, such as a new pedagogical approach, a digital archive, or some other deliverable. Such collaborations may involve formal methods as well as informal approaches, such as play or "tinkering" (see Chapters 1, 5, and 10).

Motivations for pursuing collaborative approaches to research and teaching vary. Most often, collaboration responds to a need for diverse expertise or to staffing requirements associated with the scale of a project. As Tari Fanderclai (2004) has argued, "many of the research problems currently facing us . . . are simply too large, the changes too rapid for researchers working alone to make much headway" (p. 315). Working together makes sense when it comes to research and teaching projects that involve digital texts, tools, and user practices because such work so often calls for a variety of perspectives and technical proficiencies. Further, collaborative partnerships can bring multiple stakeholders together around technology-related topics in mutually beneficial ways.

As the chapters in the current collection reveal, productive collaborations can result from partnerships among a few (Chapters 6, 7, 8, and 9) or among many individuals (Chapters 1, 2, 3, and 4); among disciplinary colleagues (Chapters 4 and 5) or among individuals from different disciplines (Chapters 7, 8, and 9); and between academics and community/public stakeholders (Chapters 1, 2, and 4). Margaret Willard-Traub (2008) writes, "collaboration in research among faculty—within and across disciplinary boundaries—is viewed as increasingly necessary in order to address adequately the web of social, scientific, technical, and humanistic intellectual concerns relevant to a global, twenty-first-century context" (p. 437).

² A former director reports that the lab is no longer operating, though some of its projects are ongoing.

Collaborative work involves complex interactions and negotiations, and it is associated with challenges that deserve consideration. As Amy Friedlander (2009) explains, "collaboration is a social as well as an intellectual process and can be difficult for many reasons, some of them having to do with institutional and disciplinary cultures, language and terminology, mental models about the research process, trust, appropriate credit, and a sensible allocation of tasks" (p. 6). Other scholars draw attention to the relationship between collaborative work, disciplinary structures, and the standards, policies, and politics of departments and institutions. "Collaborative work," notes Randall Bass (2004), "always runs the risk of being outside the norms of community practice" (p. 336; see also Cantor & Lavine, 2006, on public scholarship). The *Collaborative Approaches* chapters provide additional perspectives on the complexity of and the challenges associated with collaborative work.

Cross-disciplinarity is a hallmark of a number of collaborations that include English studies professionals. As one researcher explains,

Just about every discipline now on a campus is investing more of its time, resources, and faculty in research pursuits in digital technologies of different sorts. So there's beginning to be a sort of shared base of interest in new media and there's also an increasing need for the specializations of other departments and programs to create projects. (Alan Liu, personal communication, October 16, 2007)

In recognizing and responding to this "increasing need," it is important to remember that complexity tends to increase when projects involve collaborators from multiple disciplines. "Chaos," one cross-disciplinary research team member comments, "seems to be one of the defining characteristics of interdisciplinary collaboration" (Freeman, 2004, p. 340). On the one hand, this chaos can be productive; on the other hand, being "outside the norms" can pose particular challenges for cross-disciplinary collaborators, and methodological and epistemological differences can make cross-disciplinary work messy at first. Some of the unique challenges associated with cross-disciplinarity are taken up in Chapters 2, 6, and 9.

Collaborative Approaches to the Digital in English Studies joins the ongoing conversation about collaborative work in the humanities. Instead of focusing exclusively on the digital humanities or emphasizing only the large-scale computational analysis or archival projects typical of that field of study, the collection focuses on a variety of projects led by or involving English studies professionals—from writing studies to literary scholars—in particular. In doing so, the collection demonstrates growing interest in and diverse application of collaborative methods within the field and provides examples of the exigencies that have prompted a move away from the stereotypical lone-scholar model of scholarly work toward collaborative endeavors. The first aim of the collection is

to present readers with compelling examples of how English studies professionals are employing collaborative approaches to the digital, thereby providing an up-to-date perspective on the nature of the work colleagues are doing as they come together around technology-related research and teaching questions. The second aim is to provide readers with concepts and models they can use in their own work as educators, researchers, and administrators. In sum, *Collaborative Approaches* offers readers a theoretical framework for thinking about collaboration and digitality as well as concrete examples of methods and approaches that they can adapt for their own purposes.

The keyword visualization in Figure 1 provides a sense of the topics associated with collaborative approaches to the digital in English studies, topics that are emphasized in the collection's chapters. As that visualization reveals, significant emphasis is placed on *students* and *research*, suggesting that collaborative approaches to scholarly inquiry and to teaching are well represented. In particular, *Collaborative Approaches* draws attention to collaborative work undertaken by graduate students. The way we prepare future colleagues for research and knowledge work says something about our values, goals, and vision for the field in the twenty-first century. Chapters 3, 4, 5, and 9 demonstrate some of the ways graduate students are shaping and being shaped by collaborative, technology-focused projects.



Figure 1. Keyword visualization created by importing *Collaborative Approaches* manuscript into <u>Wordle</u>.

What follows is a brief overview of the collection's chapters.

PART I: SCHOLARSHIP, RESEARCH, AND PROFESSIONALIZATION

Chapter 1, Joyce Neff, Liza Potts, & Carl Whithaus's "Collaborative Methodologies for New Media Research: Using Grounded Theory and Contextual Inquiry," examines grounded theory and contextual inquiry as methods for collaborative research into new media writing. Both grounded theory and contextual inquiry encourage multiple types of data collection and analysis; support cross-disciplinary and collaborative perspectives; and produce empirical, theoretical, and applied outcomes. By looking at how grounded theory and contextual inquiry were used to study the impact of writing technologies in fourth- and fifth-grade classrooms, in a management writing course, and in a small hospital, this chapter demonstrates eight features that these methods offer team-based, cross-disciplinary projects.

In Chapter 2, "Computing and Communicating Knowledge: Collaborative Approaches to Digital Humanities Projects," Lisa Spiro examines HyperCities, the Tibetan and Himalayan Library, the Orlando Project, and The Mind Is a Metaphor. Within English studies, digital humanities projects have been associated primarily with the study of texts (text encoding, stylistic analysis, text mining, hypertext, digital archives and editions) and a relatively small group of researchers. A key message of Spiro's chapter, however, is that digital humanities projects—literary and otherwise have much to teach scholars in all English studies disciplines about participatory, collaborative, and interdisciplinary work. This work matters because digital texts, tools, and methods open up innovative ways of both producing and communicating knowledge, as Spiro's chapter illustrates. Spiro's research, which includes interviews with key figures from the projects mentioned, reveals important information about why researchers collaborate, how "participatory humanities" work happens, and how such work can be facilitated. "Ultimately," Spiro explains, "this chapter addresses how modes of knowledge production and dissemination are changing as information becomes networked and digital and as humanities scholars envision new ways of doing their work" (p. 49).

In Chapter 3, "Technology-Focused Collaborative Research Initiatives in English Studies: The Possibilities of Team-Based Approaches," I present the results of research into collaborative, team-based initiatives that served as the catalyst for this collection. This research involved visiting three sites—the Writing in Digital Environments Research Center (WIDE), the Digital Writing and Research Lab (DWRL), and the University of California, Santa Barbara, English department—where collaborative, team-based initiatives were taking place. While there, I conducted interviews, observed and photographed workspaces, and attended meetings. As I note in the chapter, "my field research provides a starting point for thinking about the ways in which . . . collaborative research initiatives in English studies challenge us to rethink fundamental aspects of our professional work" (p. 84).

The last two chapters of Part I present perspectives from two of the initiatives discussed in Chapter 3—WIDE and the DWRL. Chapter 4, "**Collaboration and Graduate Student Professionalization in a Digital Humanities Research Center,**" by Jim Ridolfo, Martine Courant Rife, Kendall Leon, Amy Diehl, Jeff Grabill, Douglas Walls, and Stacey Pigg, and Chapter 5, "**Playful Affinity: A Case Study of the Digital Writing and Research Lab as a Collaborative Graduate Student Research Network**" by Sean McCarthy and Lauren Mitchell Nahas, describe productive approaches to collaborative research that also professionalization" and provide first-hand accounts of their work on "community-driven research projects" (pp. 113-114). McCarthy and Nahas describe "play as a structuring principle . . . that guides collaborative research practices in digital rhetoric" and present a research group as a case study of "graduate research and professionalization that may be useful to those thinking about the relationship between graduate education, collaboration, and new media" (p. 142).

PART II: TEACHING AND LEARNING

Chapter 6, Matt Barton and Kevin Moberly's "Across Disciplines: Establishing a New Media Program," focuses attention on the spaces in which learning happens and on creating environments in which students can learn about and faculty can teach and research the "inherently interdisciplinary subject" of new media. "The interdisciplinary nature of new media," Barton and Moberly explain, "can pose significant challenges to the contemporary university, requiring scholars to collaborate with each other across disciplinary boundaries, and, to some degree, against disciplinary expectations" (p. 164).

In Chapter 7, Magnus Gustafsson, Donna Reiss, Art Young, and Linda Bradley's "From Local Seminars to International Teaching and Learning Exchanges: The Cross-Cultural Collaborations Project," collaboration at a distance is modeled by faculty and their students in a cross-cultural exchange involving participants from two American universities and from Chalmers University of Technology in Göteborg, Sweden. As the authors explain, "The Cross-Cultural Collaborations project—a poetry-focused electronic discussion activity that we have used in our courses for over five years—offers a representative example of an international teaching partnership and an evolving cross-cultural, collaborative, and multimodal learning environment" (p. 182). The project also involved cross-disciplinary collaborations: Swedish technical university students enrolled in a "Poetry for Engineers" course interacted with American students specializing in English or education. Gustafsson and colleagues adapted available technologies to meet their pedagogical needs and to support learning outcomes, treating technology (discussion fora and then a blog) as a facilitative tool rather than a focal point. As Karen Lunsford and Bertram Bruce (2001) note, "A single collaborative tool is always part of an activity system" (p. 53), and so, understanding a collaborative teaching-and-learning enterprise like the Cross-Cultural Collaborations Project requires attention to all of the negotiations, pedagogical decisions, and expertise sharing that shape the endeavor. Gustafsson and co-authors discuss those elements in detail and "emphasize the importance of establishing a shared teaching culture among . . . facilitators, selecting a flexible and comfortable genre through which students will communicate, and carefully choosing prompts and setting up groups" (p. 184).

In a *Pedagogy* article, Megan Norcia (2007) writes, "By reaching across disciplinary lines to forge knowledge partnerships with special collections librarians, administrators, digital librarians, technology professionals, and a cadre of interdisciplinary faculty, we can improve and enhance the opportunities for student learning in the digital age" (pp. 91-92). Though Norcia's essay focuses on literary studies and digital archives, her point about the educational benefit of cross-disciplinary "knowledge partnerships" is illustrated within the context of an information and digital literacy course by Caroline Cason Barratt, Jill Parrott, and Erin Presley's "The Polyphonic Classroom: A Collaborative Pedagogical Approach to Information Literacy and Digital Composition." In Chapter 8, Barratt, Parrott, and Presley demonstrate the advantages of pedagogical collaboration between rhetoric and composition specialists and librarians in an information and digital literacy course that emphasizes digital composition and facilitates students' academic use of available technologies. When collaboration, multiple literacies, and digital technology combine to form a model for blending information and digital literacy instruction, the authors suggest, students are provided not only with new skills but also with a way to think differently about their roles as information creators and consumers. Further, Barratt and co-authors argue, employing librarians as coinstructors fosters an increase in both breadth and depth of research skill development while embedding critical thinking skills into the curriculum, creating a more sophisticated academic environment for students.

The final two chapters of Part II demonstrate innovative pedagogical methods that call to mind recent conversations about educational change. A July 2010 American Association of State Colleges and Universities/EDUCAUSE leadership summit offered "an opportunity to explore new models of teaching and learning and the disruptive nature of technology to consider the ways that they are fundamentally changing learning environments" ("2010 Leadership Summit"). A pre-institute reading, George Mehaffy's "The Red Balloon Project: Re-Imagining Undergraduate Education," asked the following key questions,

- 1. How are our universities going to use these new models of knowledge acquisition and application to change the way teachers teach and students learn?
- 2. How are we helping prepare students to be creators, disseminators, and strategic users of this new knowledge in what is now a deeply networked environment?
- 3. At the most important level, how are we beginning to deal with the challenge presented by new technologies to traditional, top-down notions of expertise and authority? How can we use the new technologies, and the ways of knowing embedded in them, to challenge and reshape—even reinvent—universities at every level? What long-held assumptions about teaching, learning, and about the role of the professor still have resonance in this age of the Internet? And which assumptions regarding the academic enterprise must be discarded? (pp. 13-14)

Although all of the Part II chapters address these questions to some extent, Chapter 9, Monica Bulger, Jessica Murphy, Jeff Scheible, and Elizabeth Lagresa's **"Interdisciplinary Knowledge Work: Digital Textual Analysis Tools and Their Collaboration Affordances" (with a response from Alan Liu),** and Chapter 10, Jentery Sayers's **"Tinker-Centric Pedagogy in Literature and Language Classrooms,"** discuss particularly thought-provoking pedagogies. Bulger and coauthors describe the work they did as graduate students and collaborators in an experimental "Literature+: Cross-Disciplinary Models of Literary Interpretation" course. The authors also address the main goals of their collaboration, as they emerged through the group's work together: to explore implications of using digital textual analysis methods on a variety of texts; to uncover possibilities in datasets through experimentation with different tools; and to recognize the possibility for crossdisciplinary use of the methods tested. The chapter is followed by a response by Alan Liu, who developed and taught the "Literature+" course.

In Chapter 10, Sayers argues that "embracing tinkering's inexpert, tactical, and situational experimentation lends itself well to introducing students of literature and language to otherwise unfamiliar modes of learning" (p. 279). In addition to providing background information about tinkering and noting that educational environments are growing "increasingly collaborative and digital in character," Chapter 10 also presents classroom examples of "tinkering" as a learning method. After identifying five elements of what he calls a "tinker-centric pedagogy," Sayers demonstrates how he has incorporated each into "prompts, workshops, and exercises" (p. 284).

REFERENCES

- 2010 Leadership Summit: Designing learning environments for the 21st century. (2010). AASCU/EDUCAUSE. Retrieved from <u>http://net.educause.edu/7341</u>
- Bass, Randall. (2004). Response. In James A. Inman, Cheryl Reed, & Peter Sands (Eds.), *Electronic collaboration in the humanities: Issues and options*, pp. 363-375. Mahwah, NJ: Lawrence Erlbaum.
- Cantor, Nancy, and Lavine, Steven D. (2006, June 9). Taking public scholarship seriously. *Chronicle of Higher Education*, *52*(40), B20.
- Davidson, Cathy N. Humanites 2.0: Promise, perils, predictions. *PMLA, 123*(3), 707-717.
- Fanderclai, Tari. Collaborative research, collaborative thinking: Lessons from the Linux community. In James A. Inman, Cheryl Reed, & Peter Sands (Eds.), *Electronic collaboration in the humanities: Issues and options*, pp. 311-320. Mahwah, NJ: Lawrence Erlbaum.
- Freeman, John Craig. (2004). Imaging Florida: A model interdisciplinary collaboration by the Florida Research Ensemble. In James Inman, Cheryl Reed, & Peter Sands (Eds.), *Electronic collaboration in the humanities: Issues and options*, pp. 335-362. Mahwah, NJ: Lawrence Erlbaum,
- Friedlander, Amy. (2009). Asking questions and building a research agenda for digital scholarship. In Working together or apart: Promoting the next generation of digital scholarship (pp. 1-15). Washington, DC: Council on Library and Information Resources.
- Inman, James A., Reed, Cheryl, & Sands, Peter, eds. *Electronic collaboration in the humanities: Issues and options*. Mahwah, NJ: Lawrence Erlbaum.
- Lunsford, Karen J., & Bruce, Bertram C. (2001). Collaboratories: Working together on the Web. *Journal of Adolescent & Adult Literacy, 45*(1), 52-58.
- Palmer, Carole L. (2004). Thematic research collections. In Susan Schreibman, Ray Siemens, & John Unsworth (Eds.), A companion to digital humanities, (pp. 348-365). Malden, MA: Blackwell.
- McComiskey, Bruce, ed. (2006). English studies: An introduction to the discipline. Urbana, IL: NCTE.

- Mehaffy, George L. (2010). The Red Balloon Project: Re-imagining undergraduate education. Retrieved from http://www.aascu.org/meetings/aa_summer10/RedBalloonProject.pdf
- Norcia, Megan A. (2007). Out of the ivory tower endlessly rocking: Collaboration across disciplines and professions to promote student learning in the digital archive. *Pedagogy*, *8*(1), 91-114.
- Siemens, Lynne. "It's a team if you use 'reply all'": An exploration of research teams in digital humanities environments. *Literary and Linguistic Computing, 24*(2), 225-233.
- Stanford Humanities Lab. (n.d.) About. Retrieved from http://www.stanford.edu/group/shl/cgi-bin/drupal/?q=node/3
- Toms, Elaine G., & O'Brien, Heather L. (2008). Understanding the information and communication technology needs of the e-humanist. *Journal of Documentation*, *64*(1), 102-130.
- Unsworth, John. (2003, Oct. 17). *The humanist: "Dances with wolves" or "bowls alone"?* Paper presented at Scholarly Tribes and Tribulations: How Tradition and Technology Are Driving Disciplinary Change (Association of Research Libraries Conference). Retrieved from <u>http://www.arl.org/bm~doc/unsworth.pdf</u>
- Willard-Traub, Margaret K. (2008). Writing program administration and faculty professional development. Which faculty? What development? *Pedagogy, 8*(3), 433-445.

Collaborative Methodologies for New Media Research: Using Grounded Theory and Contextual Inquiry

Joyce Neff Liza Potts Carl Whithaus

Over the past decade, we have seen research projects outgrow traditional English and writing studies models that put one person in conversation with textual data. Instead of producing solo interpretations (albeit socially and culturally situated in their sites of production), researchers are now more likely to grapple with the ever-shifting sites of production and consumption of new media literacy. These locations can range from elementary classrooms where IT is being integrated into the language arts curriculum to offices where IT is reshaping workplace literacies to virtual sites where writers compose with emerging text tools such as Twitter.

Studies of these digital tools, the texts they create, and the user practices they engender work best when they take into account multiple stakeholders and shifting epistemological frameworks. When we applied grounded theory or contextual inquiry to studies of distance learning (Neff & Whithaus, 2008; Whithaus & Neff, 2006), writing across the disciplines (Neff & Whithaus, 2008), communication technologies and processes in hospitals (Bartocci, Potts, & Cotugno, 2008), the development of genres in tweets (Whithaus, 2008), and integrating technology into elementary school curricula (Whithaus, Moore-Pewu, & Riley, 2009; Whithaus, Moore-Pewu, & Sinha, 2009; Whithaus, Senna, Sinha, & Wong, 2010), our experiences taught us important lessons about methodological choices, and they illuminated ways in which traditional methods may need to be modified as researchers begin to account for the practices employed in new media composing. Our goal in this chapter is to explore grounded theory and contextual inquiry for researching new media projects because these methodologies encourage multiple types of data collection and analysis; support cross-disciplinary and collaborative perspectives; and produce empirical, theoretical, and applied outcomes.

How grounded theory and contextual inquiry enable cross-disciplinary collaboration and fuller understandings of how new media technologies work can be seen in one of the early studies of Twitter (Whithaus, 2008). In the fall of 2008 and winter of 2009, Twitter was in transition between a stage of emergence and wider acceptance as a tool for writing. Twitter was becoming more known, but its

audience was still much smaller than that of social media sites such as Facebook. Its under 140-character rule was a strict limitation on form; however, differences in styles of tweets could be seen and analyzed. For instance, on Super Tuesday (February 2008), one could track Twitter posts from around the United States about the primary election results. These tweets included posts from local news affiliates as well as from individuals. They could be followed using Google Maps to see pop-ups from around the country and see the election results being announced and spun in real time. On Super Tuesday, Twitter provided a site where multiple authors with various agendas wrote using a relatively new tool for text production and distribution—yet, within these different postings text types could be identified. These text types show ways in which distinctive genres may be developing as writers work with Twitter as a tool. The tipping point for Twitter may very well have come in June 2009 during the aftermath of the Iranian election. To understand the future of writing, we need close textual analyses of emerging forms, but we also need theories of genre that highlight the interplay between formal text structures and social interactions.

Analyzing the development of genres within tweets works at the seams of writing studies and computational linguistics. North American writing studies has tended to define genre as fluid, socially constructed, and always changing descriptions of documents embedded within activity systems (i.e., Russell's [1997, 1999], Miller's [1984, 1994] and Spinuzzi's [2003] work based on Bakhtin's semiotic theory of genre). In contrast, applied linguistics and Australian and European writing studies have been more willing to identify text types as fixed forms associated with and used by groups with social power (i.e., Kress's [2003] and Cope and Kalantzis's [1993] works based on Halliday's systemic functional linguistics). The vast textual corpora produced in Twitter provide an ideal ground for analyzing the development of genres within a new media tool. Coding samples of tweets according to Halliday's systemic functional linguistics can help writing researchers establish working definitions of text types or emergent genres. Bakhtin's theory of genre as speech act can be used to contextualize these text types within a field of social interactions. This type of research framed by grounded theory or contextualized inquiry methods, then, can describe the dynamic genre conventions being used in an emergent writing tool (Twitter) and can attempt to balance genre analysis based on systemic functional linguistics' social semiotic approach with a poststructuralist, Bakhtin-influenced approach to genre as a more fluid, highly contingent social creation.

Grounded theory and contextual inquiry can bridge the gap between humanitiesbased and social-science-based understandings of writing and genre, and they hold particular promise for studies of new media literacies. Many disciplines accept grounded theory and contextual inquiry as legitimate methodologies, so a team composed of scholars from different disciplines already shares a methodological sensibility and can get a faster start on a complex interdisciplinary study or a study that requires multiple subject-matter experts. Disciplines such as sociology, criminal justice, business, education, counseling, and health sciences publish research that uses grounded theory and contextual inquiry methods. Because grounded theory and contextual inquiry actively seek participant perspectives and willingly construct research subjects as coinvestigators during data collection and analysis, they are collaborative by definition as well as by design.

PART I: DEFINING AND LOCATING GROUNDED THEORY AND CONTEXTUAL INQUIRY FOR NEW MEDIA RESEARCHERS

Taken together, grounded theory and contextual inquiry are part of an epistemological shift in empirical research and provide a variety of techniques for collecting data about how material conditions shape the production of knowledge and effectiveness of communication when new media technologies are used. Further, both methods emphasize the potential for researchers and research subjects to apply the knowledge gained from empirical research to writing practices and to reshape those writing practices and the information technology tools used in those activities. Sketching the histories, epistemological bases, and techniques of grounded theory and contextual inquiry opens discussion about how these empirical methods can be used by writing and new media researchers.

In this section, we define grounded theory and contextual inquiry and offer a brief history of their applications in writing studies and technical communication. We then review relevant adaptations of these methodologies by Kathy Charmaz (2006), Adele Clarke (2005), Clay Spinuzzi (2005), and Hugh Beyer and Karen Holtzblatt (1998). Charmaz and Clarke have remediated the epistemological basis of grounded theory to emphasize its adaptability for constructivist researchers; Spinuzzi has adapted activity theory to enhance user-centered design projects; and Beyer and Holtzblatt have developed contextual inquiry as a method of incorporating effective workarounds adapted by individual participants and users into larger workplace-based communication systems. For example, Clarke adds to grounded theory with her strategy of situational analysis, which is a way of mapping the intersecting social worlds where a study is located. And while Spinuzzi and Beyer and Holtzblatt offer discrete, practical techniques for incorporating insights from individual actors into qualitative research projects, their studies challenge existing epistemologies in technical communication in ways similar to Charmaz's and Clarke's adaptations of grounded theory. As collaborative research techniques, these advances in grounded theory and contextual inquiry have created ways of capturing more complete data sets and producing more rigorous analyses than traditional English and writing studies models that privileged solo interpretations of texts and surrounding contextual data.

Grounded Theory

Grounded theory is an interpretive methodology developed by Barney Glaser and Anselm Strauss in the 1960s for sociological research and for the "discovery of theory from data" (1967, p. 1). Through systematic approaches to data analysis, grounded theory methods lead to better understandings of "interaction processes and social change" (Strauss, 1987, p. 6). In grounded theory, analysis begins early in the data collection phase. Researchers use a specified set of procedures, including coding, constant comparison, and returning to the field to further test emerging patterns, to discover conceptual relationships, and to generate theory from data. Eventually, the emerging categories become fewer and the final core categories become more inclusive. The dimensions and properties of core categories are further tested through theoretical sampling, a process in which the researcher reviews data "on the basis of concepts that have proven relevance to the evolving theory" (Strauss & Corbin, 1990, p. 176). Theoretical sampling provides a means of checking for confirming and disconfirming evidence.

The methods of grounded theory leave a paper trail of memos, matrices, and other graphics that document the researchers' moves between data and theory (see Lempert [2007] on memo writing). The video below features Elizabeth Vincelette recounting her application of grounded theory methods to a National Public Radio *Talk of the Nation* transcript. Vincelette coded the transcript multiple times, beginning with Charmaz's (2006) suggestion to use gerunds as category names. Vincelette then moved to color coding to better see emerging categories. Her final rounds used Clarke's (2005) method to generate situational maps.



See <u>Appendix A</u> for transcripts of both videos included in this chapter.

Vincelette's rounds of coding illustrate Strauss and Corbin's (1994) emphasis on the iterative nature of the analytic process: "Grounded theory methodology insists that no matter how general—how broad in scope or abstract—the theory, it should be developed in that back-and-forth interplay with data that is so central to this methodology" (p. 282). The outcome of the methodology is an explanatory theory that adds to our understanding of complex interactions such as teaching and learning. Piantanida, Tananis, and Grubs (2002) put it this way:

Concepts, as Glaser and Strauss (1967) remind us, are the building blocks of theory. The procedures of grounded theory provide interpretive researchers with a disciplined process, not simply for generating concepts, but more importantly for coming to see possible and plausible relationships among them. It is the researcher's portrayal of these conceptual relationships that constitutes a grounded theory. Within an interpretive epistemology, such grounded theories are understood to be heuristic, not predictive, in nature. (p. 3)

Grounded theory has been used in a limited number of studies of writing and technology. Sue DeWine's "Student Journals in the Communication Classroom" (1978) and David Schuelke and Thomas King's "New Technology in the Classroom" (1983) represent two early accounts. In 2002, Marion Adler examined a creative writing curriculum for adolescents as her dissertation project. The concepts of "writing as play" and "balancing rules and freedom" emerged from her analysis. One implication of Adler's study is that "students need enough structure to keep play functional yet enough freedom to allow it to

do its work" (Adler, 2002, Abstract). Once a concept like "writing as play" emerges as a core category, researchers can generate hypotheses that theorize the concept's explanatory usefulness. The annual meeting of the Conference on College Composition and Communication (CCCC) has featured a few panels and pre-conference workshops on grounded theory (e.g., Neff, Farkas, Jordan, & Vincelette, 2008), and the Research Network Forum at CCCC draws a few participants who are using grounded theory methods. Grounded theory is mentioned as an analytic tool in the May 2009 issue of Research in the Teaching of English in an article by Jane Agee and Jeanette Altarriba titled, "Changing Conceptions and Uses of Computer Technologies in the Everyday Literacy Practices of Sixth and Seventh Graders." Agee and Altarriba (2009) built a database from surveys, literacy inventories, classroom observations, reading protocols, and individual interviews, and they analyzed the interview transcripts over an eight-month period using coding to tease out patterns and develop categories and concepts. They found differences in "how students with different abilities and preferences defined themselves as readers, what they thought about computer technologies, and what role these technologies had in their lives in and out of school" (p. 379). Grounded theory led Agee and Altarriba to "three categories of use (school related work, personal entertainment/knowledge, and social networking) and three categories of conceptions (personal relevance, trustworthiness, and difficulty of use) that represented themes in these students' responses" (p. 375). In spite of these interesting projects, the full potential of grounded theory for studying new media literacies remains largely untapped.

As is true for most methodologies, grounded theory is not static. Since its beginnings, scholars have adapted the procedures to suit their research questions and contexts (Covan, 2007), including those who place more emphasis on coding and constant comparison than on the development of substantive theory. In other words, some studies result in a description or case analysis rather than a grounded theory. (See Jane Hood's [2007] "Orthodoxy vs. Power: The Defining Traits of Grounded Theory" for a discussion of the distinctions between grounded theory and generic inductive qualitative methods.) In the early 2000s, Kathy Charmaz put a social constructivist spin on grounded theory. In 2003, Adele Clarke introduced situational maps as visual tools that further elucidate human and nonhuman elements, social worlds, and positionality within grounded theory studies. Situational maps increase the degrees of complexity that researchers can tease out from data, and they take advantage of the postmodern turn in empirical work. (See Greckhamer and Koro-Ljungberg, 2005, for a critique of these adaptations).

Contextual Inquiry

Contextual inquiry emerges from a developing sense of the importance of audience and research subject participation in the interpretation of data about complex social processes. Robert Johnson (1997) acknowledges that "the involved audience is an actual participant in the writing process who creates knowledge and determines much of the content of the discourse" (p. 363). This emerging sense of audience and subject participation in the creation of knowledge about daily practices is integrated into the basic principles of contextual inquiry. Generally, user-centered design is understood by practitioners to mean creating products from the user's perspective (Saffer, 2007) and is often associated with participatory design methods (Spinuzzi, 2005). Recognizing that we should be collaborating with users rather than designing without them, user-centered design researchers bring to fruition the notion of collaboration and participation, granting that "the purpose of public discourse will not be to persuade but to participate in an ongoing exchange of ideas with other people and other cultures" (Zappen, 2004, p. 161).

The four principles of contextual inquiry as set forth by Beyer and Holtzblatt (1998) are highlighted in the video below. These principles include context, partnership, interpretation, and focus. Beyer and Holtzblatt (1998) explain them as follows: "context, go where the work is and watch it happen; partnership, talk about the work while it happens; interpretation, find the meaning behind the customer's words and actions; and focus, challenge your entering assumptions" (p. 77). In the video, Dave Jones and Liza Potts enact a data-gathering session using the four principles. The session takes place in the Center for Mediated Experience Lab in the English Department at Old Dominion University.



Researchers apply contextual inquiry, a methodology based on ethnographic methods borrowed from anthropology, to designing digital experiences such as software applications, Web sites, and service design projects (Potts & Bartocci, 2009). Such collaborations between researchers and participants "build on natural human ways of interacting" (Beyer & Holtzblatt, 1998, p. 41). Researchers conduct contextual inquiry at the location where the participant accomplishes whatever tasks need to be studied. Locations such as hospitals, schools, homes, and offices are all relevant places where work happens, and designers must travel to them to understand the contexts in which people accomplish their work. Within these spaces, the researchers are encouraged to "interview, apprentice with, and interpret the resulting data with users" (Courage & Baxter, 2005).

The goal of gathering these insights is either to improve current processes and technologies or to create new ones that are based on actual user behaviors and goals. To "co-design the system with users" (Beyer & Holtzblatt, 1998, p. 370), researchers are encouraged to immerse themselves in their user's culture and work process. Whereas other techniques such as usability testing and surveys distance the researcher from research subjects, contextual inquiry is "apprenticeship compressed in time" (Beyer & Holtzblatt, 1998, p. 46). The apprenticeship is not meant to instruct the researchers on how to do the work so much as it is meant to educate the researchers on the context in which the work takes place so they can design technologies to support it (Beyer & Holtzblatt, 1998, p. 46). Incorporating local, situational elements into empirical studies is an aspect of the postmodern turn in qualitative studies and reflects Charmaz's (2006) and Clarke's (2005) adaptations of grounded theory.

In order to understand the environment and daily experience of the participant, the researchers prepare a set of questions ahead of time, which they use to prompt the participant during the field study phase. Typically, these questions lead to information not previously investigated, such as current limitations of the system. Often, contextual inquiry allows the researcher to learn about new workarounds invented by the participant. Sometimes these workarounds can be integrated into the system; at other times they are best left as unofficial workarounds shared by expert users within the community. Current industry practices are more aligned with recent work in user-centered design for interfaces and systems (Potts, 2009; Potts & Bartocci, 2009; Slattery, 2007; Spinuzzi, 2002; Swarts, 2007). Examining the locations of use provides a way for the designer to understand macroscopic processes and how they may relate to microscopic tasks that can be supported by technology and design choices.

On location, the researcher sits next to the study participants both to observe their everyday work activities and to inquire as to how these activities are accomplished. While Beyer and Holtzblatt (1998) recommend fifteen to twenty participants, Courage and Baxter (2005) state that four to six is more common in industry practice (p. 581). These field study sessions are often recorded, either with video cameras, which can be intrusive, or with audio recorders, which are generally seen as less intrusive. The researcher takes notes during these sessions, and any materials offered by the participant, such as personal notes or office procedures, are also gathered. In industry settings, it is best for two researchers to be present: one to interact with the participant and the other to take notes. This is done to gain rapport with the participant as well as to avoid overwhelming the participant with too many observers (Courage & Baxter, 2005, p. 596).

The researchers then analyze these observations and interviews. Looking for patterns across participants, the researchers construct process diagrams, use cases, and other materials (Bartocci, Potts, & Cotugno, 2008). Such materials either support the design process or lead to further research such as affinity diagramming, card sorting, and usability testing.

Potential of Grounded Theory and Contextual Inquiry for New Media Research

Both grounded theory and contextual inquiry emphasize research methods that account for multiple stakeholder views, shifting epistemological frameworks, and anti-foundational, anti-essentialist interpretations of data gathered in empirical research projects. Aligning these two methods as a means of understanding how new media technologies are affecting literacy practices in school, work, and leisure activities offers writing researchers the potential to produce studies that are rich in situational detail and yet have testable and reliable findings with potential applicability to other sites or tasks. These findings and their applications for developing new literacy practices and new information technology tools enable writing researchers to contribute to the building of knowledge about newmedia literacy practices.

Studies in nursing (Kearney, 2001), aging (Covan, 2006), chronic illness (Charmaz, 1993), teaching (Whithaus & Neff, 2006), women's studies (Hesse-Biber, 2006), hospitals (Bartocci, Potts, & Cotugno, 2008), and other social processes (Potts, 2009) confirm our claim that grounded theory and contextual inquiry are especially appropriate for studying complex, situated activities such as composing new media, and for collaborative research that encourages

participation by multiple team members. Grounded theory unpacks the theorypractice binary and requires a reflective stance; we see similar moves in contextual inquiry's emphases on context, partnership, interpretation, and focus. As Neff (2002) argued in a previous study, "Grounded theory is, itself, a critical research practice with the potential to help compositionists work the borderlands between scholarship and teaching" (p. 132). This emphasis on an interplay between theory and practice, between scholarship and teaching, and between user-centered design research and professional communication underscores grounded theory's and contextual inquiry's shared epistemologies. The various techniques developed by grounded-theory and contextual-inquiry researchers are integral to the building of knowledge about literacy practices in new media environments. To understand and map these techniques, we turn to in-depth examples of new media studies that employ them.

PART II: THREE EXAMPLES OF GROUNDED THEORY AND CONTEXTUAL INQUIRY IN NEW MEDIA RESEARCH

This section of the chapter analyzes recent uses of grounded theory and/or contextual inquiry in studies of new media writing. Specifically, we look at studies of the impact of integrating information technologies into the language arts curricula of three elementary schools, the video versus textual aspects of a mediated management writing course delivered from a distance, and technology uses at a hospital. At the end of this section, we diagram and compare the analytic steps taken in these studies with attention to the outcomes and action components of each.

Impacts of Integrating Information Technologies into the Elementary Language Arts Curriculum

To understand how information technologies can be implemented in fourth- and fifth-grade classrooms is a difficult task. Teachers, principals, students, parents, and experts in language arts curriculum development and educational uses of IT all play a part in this sort of project. Grounded theory provides a methodology for bringing together these participants from multiple disciplines and professions when evaluating how the integration of multimedia reading and writing activities improves student performance in language arts. The project under review (Whithaus, Pewu-Moore, & Riley, 2009) targeted fourth- and fifth-grade students at three elementary schools in California's Central Valley. The project team included three school principals, nineteen teachers, three experts in educational uses of IT, four experts in language arts curriculum development (writing project

Teacher Consultants), and six project evaluators, drawn from writing, education, and cultural studies.

Participating fourth- and fifth-grade teachers connected with university and community partners to examine and implement twenty-first-century strategies and resources. This collaboration and professional development was intended to make California's rigorous content standards in language arts attainable for all 452 students involved in the study. Staff development at the sites included training and support on how new technologies can transform the delivery of the language arts textbook (<u>Open Court</u>) from the traditional workbook approach to a highly participatory, interactive multimedia program that actively engages students in the learning process and requires them to problem-solve, communicate, create, and share.

Targeted teachers participated in forty-two hours of professional development on information and communication technologies followed by hands-on explorations with specific Web 2.0 tools (blogs, wikis, podcasts, and multimedia applications) that "powered up" Open Court lessons and engaged students in the learning process. Literacy consultants modeled teaching strategies and lessons aligned to the textbook and also provided pre- and post-writing assessments. Technology specialists provided training and support in selected applications. Targeted teachers also participated in twelve hours of follow-up activities in which they shared the successes and challenges associated with moving their teaching— and their students—into the twenty-first century.

Grounded theory played a key role in the assessment and research components of the program. Teachers conducted regular assessments of student progress in language arts. Student performances were assessed using multiple measures that examined the development of digital literacy practices and forms of conventional academic writing. Using grounded theory, the research team created a formative and summative evaluation plan that assessed the impact of technology integration on student performance and determined evolving staff development needs. This process could be seen as a social impact assessment/needs assessment in contextual inquiry. Open and axial coding techniques were used to arrive at core categories and then confirm those categories' accuracy and usefulness with participating teachers. The project team forged strong connections between student performance assessment, technology training, and curriculum integration.

Using grounded theory, the research and assessment team helped the schools embrace new opportunities for teaching and learning in a digital age, established clear and measurable improvement goals, and used data to guide action and practice. The preliminary findings from this study indicate an increase in student achievement of 27.5 percent in technological literacy skills and 10.2 percent in the print-based literacy skills tested on statewide standardized assessment. These efforts provided students with relevant and engaging reading and writing experiences, resulting in strong academic gains, and, more importantly, students becoming prepared to live, learn, and thrive in the twenty-first-century workforce.

The Enhancing Education Through Technology project is significant in terms of collaborative, empirical research methods because it draws together a diverse group of stakeholders and researchers. Using grounded theory as the key methodology in the evaluation portion of the project allowed the research team to gather data and test open and axial coding categories (i.e., preliminary analyses) with participants' experiences. The input from participating teachers, teaching consultants, and school district staff and administrators allowed the research team not only to sketch out formative feedback, which could shape the project's implementation during year two, but also to confirm/disconfirm the researchers' analyses of the data. In some cases, the teachers' commentary on the data caused the research team to discard some categories and reshape others; in other areas, the teachers' commentary confirmed the importance of a line of inquiry and encouraged the gathering of further data to illustrate the dynamics in that area.

A Mediated Writing Course Delivered from a Distance

In "Contact and Interactivity: Social Constructionist Pedagogy in a Video-Based, Management Writing Course," Whithaus and Neff (2006) analyze the impact of video-based media on the delivery of a management writing course to distance learning students. This study demonstrates one way in which grounded theory can be used to account for the experiences of a variety of stakeholders interacting with content across a variety of media. It also highlights the ways in which grounded theory can enable a collaborative research process involving a teacher-researcher examining her own pedagogical practices and an outside researcher interested in issues of media and content delivery.

Using grounded theory to analyze their data, Whithaus and Neff (2006) identified two core categories (contact and interactivity) and four subcategories (presence, control, dialogue, and liveliness). *Contact* dealt with technological connections among participants, while *interactivity* involved exchanges between the teacher and students. *Presence* and *control* were subsets of *contact*, and *dialogue* and *liveliness* were subsets of *interactivity*. Both *dialogue* and *liveliness* were seen as

forms of interactivity, but they were coded as *dialogue* when teacher directed; and when the discussion moved in a different direction-driven by the students and by its own internal logic and intensity-it was seen as liveliness. Coding for liveliness was a way of acknowledging those moments of unpredictable interactions among teachers and students enabled by the distance learning technology tools. The possibilities of allowing more moments of liveliness were identified as a means of using distance learning technologies to make the courses more student centered. Whithaus and Neff's (2006) analysis of these categories revealed that for distance learning students, active learning may occur more readily during the spontaneous (i.e., "lively") discussions enabled by video components than during text-based forms of interaction. As a methodology, arounded theory provided techniques that supported the analysis of students' reactions in three different environments-within the studio classroom, at remote studio classrooms, and at home on isolated computer terminals. The researchers incorporated interviews with instructional assistants, studio engineers, and distance education administrators into the study's data collection to provide a fuller, richer context.

The impulse to work with multiple stakeholders and examine their reactions to content in a variety of media-delivery systems shows grounded theory's usefulness for studying how material conditions of texts impact the production and reception of new media. The products of the course were students' written texts (memos, business plans), yet the digital learning spaces examined in the study were both products and processes of learning. As a research methodology, grounded theory insists on capturing and including as much contextual data as possible. Having a research methodology that supports analysis of multiple forms of text is vital for studying learning and writing environments mediated by or created through digital technologies. Understanding the significance of these texts and the activity systems in which they are embedded is achieved by generating working categories through open and axial coding and then confirming those theoretical categories with the experiences of multiple research participants. Further, in this instance, grounded theory facilitated collaboration between a teacher-researcher studying her own class and an outside researcher focused on questions about the impact of IT. Each participant provided his or her perspective and contributed to data analysis, theory development, and production of research reports. An eventual outcome was the redesign of two classrooms to increase synchronous video capabilities and opportunities for liveliness.

Investigating Communication Technologies and Processes at a Hospital

In "Communicating Ethnographic Findings Effectively Within Multidisciplinary Teams and to Your Client," Bartocci, Potts, and Cotugno (2008) discuss how they communicate ethnographic findings across teams and clients. In their study, the researchers assessed the communication landscape of a small hospital in order to develop recommendations to "bring their data collection, analysis, communication and planning out of the paper-and-pencil age" (Bartocci, Potts, & Cotugno, 2008, p. 99). The artifacts that resulted from this study aimed to solve communication, technology, and process issues for the hospital staff.

The team was comprised of representatives from various fields including design anthropology, information architecture, software development, visual design, project management, and content quality. Such diversity allowed different members to focus on different aspects of the people and technologies with which and the settings in which they worked. The team's diverse makeup was a key component to understanding the context of use for these processes, systems, and technologies. In this case, context is described as "the physical setting, the particular business culture, and the goals, standards, rules, and regulations" of the hospital (Bartocci, Potts, & Cotugno, 2008, p. 99). The value of contextual inquiry is how it encourages active participation within these cultures. While it has been argued that contextual inquiry can be too focused on general process issues (Spinuzzi, 2002), in industry practice, contextual inquiry can be employed to look at specific issues, while a less formal practice referred to as "deep hanging-out" can be used to examine holistic issues (Courage & Baxter, 2005).

In order to better understand the hospital context, the team used numerous ethnographic approaches. Methods included contextual inquiry coupled with focus groups, stakeholder interviews, user interviews, facility tours, and demonstrations of the hospital's technology (Bartocci, Potts, & Cotugno, 2008, p. 100). Obviously, diverse stakeholder backgrounds can cause communication issues, many of which can be avoided by creating common documents that can allow for cross-disciplinary collaboration. It is for this reason that Bartocci, Potts, and Cotugno (2008) recommended the use of a common document set from which different information could be captured, cataloged, and defined. Altering the structure of the traditional data inventory, which is a tool used in technology work to define where data comes from and where it goes, the team was able to capture activities outside of technology systems to include more holistic, natural workplace experiences such as writing on blackboards, walking paperwork from one floor to another, and reserving rooms on whiteboards (Bartocci, Potts, & Cotugno, 2008, p. 100).

The deliverables of this research were a data inventory, a gap analysis derived from user needs and technological limitations cataloged in the data inventory, and a feature set describing technological and process solutions based on the gap analysis (Bartocci, Potts, & Cotugno, 2008, p. 100). In this case, the results of these field studies were applied outcomes that would allow the researchers' client to address pressing issues. By encouraging participation during these contextual inquiries, the research team was met with eagerness and a high level of involvement by the hospital leadership and staff. Through these documents, the team was able to narrow down rich, contextual data to specific action items resulting in a recommendation set that was communicated to the staff leadership (Bartocci, Potts, & Cotugno, 2008, p. 99).

Comparison and Discussion of Three Sample Studies

New media forms of writing have had an impact in each of the studies discussed in this section. In the Enhancing Education Through Technology project, the integration of opportunities for new media composition into fourth- and fifth-grade classes has changed how teachers and students conceive of, and practice, literacy—reading and writing are no longer only about handwriting and printed books. They now include computer screen time, keyboards, and digital audio and video recorders as literacy tools. For the teachers, students, and staff involved in delivering the management writing courses through a distance learning platform, the opportunities to learn how to write effectively have been changed by the modes of delivery. In the hospital case study, technology-based communication systems were not capturing all the available information; changes in how IT was used—informed by the research—impacted how information was managed in the hospital. Because the collaborative research projects drew on grounded theory or contextual inquiry, changing information technologies not only reshaped these environments but also impacted participants' lives.

To understand how grounded theory and contextual inquiry work as collaborative research methods, we can compare the analytic steps, action components, and multiple outcomes of these studies with attention to the action components of each (see Table 1).

ANALYTIC STEPS	ACTION COMPONENTS	OUTCOMES				
Project 1: Enhancing Education Through Technology (integrating IT into 4 th - and 5 th -grade ELA)						
Open coding, axial coding, development of core categories, core categories	12 professional development workshops	Mid-year Report to the California Department of Education (Feb. 2009)				
research subjects	elementary school classrooms to observe	Annual Report to the California Department of				
Research process developed by a team that included researchers from writing studies, education, and cultural studies as well as active participation by research subjects (teachers, teaching consultants, school district staff and site administrators)	teachers' and students' use of the technology in the English/Language Arts curriculum Weekly meetings of the research and evaluation team	Education (Sept. 2009) Students receive awards at district-wide film festival (Apr. 2009) Family literacy nights and Internet safety nights are hold at each of the three				
	3 full project team meetings (Attendees included the 3 school site principals, the school district project coordinator, the project consultant, a writing project coordinator or teaching consultant, and the 3 members of the research and evaluation team)	held at each of the three school sites. Presentation at Computers and Writing Conference (June 2009 in Davis, CA) Presentation at National Conference of Teachers of English (November 2009 in				
	 Opening meeting with EETT project team to outline implementation plans for the project and answer questions about the process Mid-year meeting with EETT project team to review progress made and refine activities for the next 6 months 3rd quarter meeting with EETT project team to review progress made and refine activities for the next 3 months and 	Philadelphia, PA)				

Table 1. Comparison of Analyses, Actions, and Outcomes in Three Sample Studies.

	plan for implementation of the 2nd year of the project	
Project 2: Management Writing		
Open coding, axial coding, development of core categories (2 core categories; 4 subcategories), core categories confirmed with research participants Research process developed by a team that included a teacher- researcher and an outside researcher	 Instructor's written reflections on a teaching journal kept during the course Data set included group and individual interviews with students, instructional assistants, engineers, and administrators during and after the course videotapes of class sessions memos that captured team negotiations during coding sessions 	New designs for ITV studios when 2 more rooms were brought online. New studios now have 2-way video to increase opportunities for liveliness. Collaborative Decision Matrix for institutions designing distance programs Matrix of Change for redesigning writing courses for distance delivery Whithaus and Neff article published in <i>Technical</i> <i>Communication Quarterly</i> 2006 Neff and Whithaus, <i>Writing</i> <i>Across Distances and</i> <i>Disciplines</i> , 2008 Conference presentations at CCCC, Watson, Penn State, U of New Hampshire
Project 3: Communication Tech	nologies and Processes at a H	ospital
Data points (collected from CI), data clusters, grouping of data points, data cluster coding (names, functions, definitions [organizational goal and use]), whom cluster affects, method of collection (paper, system, etc.) Research process developed by a team that included an anthropologist, visual designer, software developer, project manager, and content writer	Data inventory (served as the knowledge repository) Collection of data clusters listed by process within functional areas across processes and functional areas Gap Analysis Derived by examining the data inventory vs. user needs	Feature Set Document that listed the requirements for improved communication systems Bartocci, Potts, and Cotugno, paper published in the <i>Proceedings of the 26th</i> <i>ACM International</i> <i>Conference on Design of</i> <i>Communication</i> , 2008.

In each case, the research method provides a framework of analytic steps that helps organize how the interdisciplinary research team develops their research process. A key element in both grounded theory and contextual inquiry is interaction among the researchers and research participants. The meetings among researchers and participants and the emphasis on user needs in the action components of all three studies demonstrate the interactivity of these methodologies. The variety of outcomes (i.e., official reports to funding agencies, participant actions/awards, researcher presentations and publications) is another key element. Studies using these methodologies usually are not done only to produce scholarship or theory; rather, they are research methods that support intervening in and improving given situations. Using these methodologies in studies of writing and communication foregrounds the increasing emphasis in English and writing studies on action-based or applied research—what we do within our field studies should positively impact those involved in the studies. Collaborative research methodologies share a vision of university researchers as participants in communities. To understand grounded theory and contextual inquiry as methods for pursuing this sort of action-oriented research, we need to review some of their promising features.

PART III: PROMISING FEATURES OF GROUNDED THEORY AND CONTEXTUAL INQUIRY

The third section of this chapter discusses the features of grounded theory and contextual inquiry that hold promise for team-based, cross-disciplinary projects looking at sites of, and text tools used in, new media literacy activities. A central claim behind this section is that understanding digital tools requires a situated evaluation of how these tools are used by multiple individuals. Grounded theory and contextual inquiry enable research teams to draw on quantitative and qualitative data sources to represent how these tools function and to give a fuller picture of the production and reception of new media writing. When it comes to theoretical and empirical knowledge-making, grounded theory and contextual inquiry are well suited to researchers who see writing itself as a means of inquiry (Richardson & St. Pierre, 2008). Key features of these methodologies include the following:

1. Grounded theory and contextual inquiry bridge the gap between

researchers and practitioners by putting stakeholders in direct communication (Bartocci, Potts, & Cotugno, 2008). The methodologies encourage researchers to cycle early interpretations of data to those who participate in the study and to use participants' responses to tease out additional meanings: "Subjects' become 'agents' in analysis phases of a project" (Neff, 2002, p. 145). As a result, the

theory produced by these methods has great "fit" and "working capacity" to explain things to researchers and practitioners (Glaser & Strauss, 1967, p. 4). Similarly, the designs produced by a contextual inquiry result from the collaboration between researchers and practitioners in the workplace. Rather than asking practitioners to summarize their experiences, the researchers observe and interact with the workers as they walk through their daily tasks, leading to a nuanced picture. Although Beyer and Holtzblatt (1998) emphasize the discovery of work structures (p. 48), the experience of industry researchers focuses on more specific issues to pinpoint use habits and preferences for task completion (Courage & Baxter, 2005). The principle of partnership in contextual inquiry addresses collaboration between the researcher and participant. In contrast to the traditional interview model, in which the researcher controls the interview, asks the questions, and paces the meeting, in contextual inquiry the discussions are purposefully balanced between the participant and researcher. The researcher should not be the "apprentice" to the "master" participant, nor the "interviewer" of the "subject" participant. Only with such equal footing will the designer be able to "develop expertise in seeing work structure, in seeing patterns and distinctions in the way people organize work" (Beyer & Hotlzblatt, 1998, p. 51).

2. Grounded theory and contextual inquiry are ideal for team research.

Features such as the paper trail of memos and visuals make the methodologies suitable for broadly conceived studies of new media literacies where experts from different fields are a necessity. It is unlikely that one individual knows about consumption, design, and production of a new media technology as well as knowing about literacy acquisition related to that technology. It is also unlikely that one individual can manage studies of this scope. For example, the study of distributed learning mentioned above (Whithaus & Neff, 2006) involved faculty, students, IT experts, administrators, site directors, academic advisors, and instructional designers—the stakeholders in the production and consumption of the management writing course. All of these stakeholders contributed to the database and reviewed emerging findings as the study progressed.

Sometimes, subject matter experts from different disciplines are critical to a research team; both grounded theory and contextual inquiry methods invite team approaches. For example, the hospital study discussed above had its own interdisciplinary team for the hospital but also presented findings to the CEO contextually. The researchers spent time with many participants reviewing the feature set that they had distilled from the data inventory/process inventory. The participants were able to confirm these requirements, talk through them with the researchers, and prioritize them to help the research team with its own strategic

IT plan. A vital outcome that is not commonly discussed is that integrating participants into the process leads them to have more at stake and to be more open to and excited about the findings.

3. Grounded theory and contextual inquiry support numerous forms of data collection and do not restrict what counts as data—interviews, statistics, field notes, new media compositions. Everything is data. By beginning with empirical data, grounded theory and contextual inquiry situate an emerging theory or a design revision in the local perspectives and practices of the individuals and groups engaging in the processes being studied. For example, in contextual inquiry, the context principle instructs the design research team to observe and interact with participants in their workplace setting. By going to these places to do the research, they can gather "ongoing experience rather than summary experience, and concrete data rather than abstract data" (Beyer & Holtzblatt, 1998, p. 47).

4. The results of grounded theory and contextual inquiry can be reported in multiple formats that are suited to various audiences. The results also can be reported incrementally so that initial designs or emerging concepts can be further tested through user application or theoretical sampling. In both methodologies, researchers imagine an ongoing trajectory for their projects. Ideally, the iterative process allows participants to be as active as possible in the research and allows researchers to become participants (Potts & Bartocci, 2009).

5. The outcomes of grounded theory and contextual inquiry—the concepts or designs produced—are intended to be applied in other contexts where they might be useful. In other words, each research project is open ended. A grounded theory continues a trajectory of studies that over time expands the explanatory value of the core category or concept. For example, the study of a management writing course delivered through interactive television produced the core category of "liveliness" in distance education (Neff & Whithaus, 2008). The applicability of the concept of liveliness can be hypothesized for other delivery modes, which can then be studied for confirming and disconfirming evidence. Liveliness as a concept will be further theorized and refined in these studies. Conversely, other forms of qualitative data analysis aim to produce detailed descriptions of local events, descriptions which are trustworthy and accurate, but which are not intended to be generalized. As Ian Dey (2007) puts it, "Categories are grounded when they provide logical and economical accounts of empirical observations; they do not so much represent these observations as explain them" (p. 177). Grounded theory produces fertile,

theorized concepts that have applicability for researchers and practitioners on a wider scale.

Similarly, the new designs produced by contextual inquiry have a future trajectory since the designs lead to applications whose outcomes produce further data, more theorizing, and improved designs. Beyer and Holtzblatt's (1998) view on abstraction is particularly insightful regarding the usefulness of contextual inquiry. By their definition, contextual inquiry favors concrete rather than abstract data. Their view is that abstractions, while necessary to build user experiences, cannot be the starting point for designing systems because "if designers start from abstractions, not real experience, and then abstract again to go across all customers, there is little chance the system will actually be useful to real people" (Beyer & Holtzblatt, 1998, p. 48). Eventually, however, engagement in real-world scenarios that garner *in situ* data as opposed to more hypothetical situations experienced during usability testing, leads to more accurate interpretations and improved design.

6. The analytic methods in grounded theory and contextual inquiry include induction, deduction, and abduction, the last being the creative move so useful to research in new media literacies. Charmaz (2006) defines abductive inference as "considering all possible theoretical explanations for the data, forming hypotheses for each possible explanation, checking them empirically by examining data, and pursuing the most plausible explanation" (p. 188). According to Beyer and Holtzblatt (1998), interpretation is "the assignment of meaning to the observation" (p. 56). Each observation reveals certain facts regarding the participants' tasks and goals. These facts then lead the designer to construct initial interpretations. In collecting these observations, the researcher is looking for patterns across the data. These patterns have meaning, and interpretations of varied meanings can influence the technology's design. In a contextual inquiry, one goal of the site visits is to locate the networks of technologies, people, groups, and organizations that affect the worker's daily tasks. While this can be seen as a more holistic view, understanding the wealth of actors available to these workers can be of great value to the designer (Potts, 2009). It is through interpretation that we examine situations and ask questions to probe the participant about specific tasks and processes. This is a key factor in finding specific data to interpret, and it is part of the cyclical process of observing, coding, seeking response to interpretations, observing further, and so forth.

7. Contextual inquiry and grounded theory insist that methodological processes in a study must be well explained. Methodological transparency keeps researchers and participants honest and keeps the results of a study open

for review and reflection on many levels. For example, the partnership formed between the researcher and participant during a contextual inquiry can lead to the participant becoming "invested in making sure we get it right—that we see everything that's relevant and that we take away the exact right shade of meaning" (Beyer & Holtzblatt, 1998, p. 60). Bringing these contextual viewpoints to the stakeholders can aid in the understanding of the problem and provide the context for relevant decision making (Bartocci, Potts, & Cotugno, 2008). In grounded theory, coding charts and a narrative about the process used to arrive at a concept are made available in published accounts of the study.

8. The requirement for graphics (mapping, Venn diagrams, charts, matrices) creates visual opportunities in grounded theory and contextual inquiry research. Participants across disciplines can see the links between the empirical and theoretical elements of their projects. This added dimension parallels the added dimension of new media tools that move beyond text on a page. For example, matrices that capture multiple participants in process, situational maps, and actor diagrams (Potts, 2009) that clarify positionality in organizations all expose layers of complex activities that might otherwise remain closed to researchers and readers of research alike.

CONCLUSION

Grounded theory and contextual inquiry offer a variety of useful techniques for investigating dynamic and socially situated composing processes. The openness to many forms of data collection means greater flexibility for capturing the diverse and ever-emerging forms of discourse produced using new media technologies. These collaborative methodologies enable teams of researchers from different disciplines to pool their knowledge and offer more complete pictures of how new media texts are created and received. Not only do grounded theory and contextual inquiry encourage interdisciplinary collaboration, they also close the gap between researchers and practitioners. By building in feedback loops that include participants, these methods increase the likelihood that analyses and findings are accurate for those at the research sites. Furthermore, grounded theory and contextual inquiry may produce theoretical insights and new designs for media that have applicability beyond the immediate study. Finally, collaborative research often requires researchers to write up their results for different disciplinary audiences; grounded theory and contextual inquiry support publications that make good use of graphics and other media.

The case studies discussed in this chapter (i.e., technology in fourth- and fifthgrade language arts, a distance learning management writing course, and
communication technologies and processes in a hospital) highlight the analytic steps, action components, and outcomes produced when collaborative research methods are used to investigate the impacts of IT on people and processes. Using grounded theory or contextual inquiry as methods for understanding new media texts situates these works within a dynamic map that includes research participants as well as researchers. These approaches to understanding texts and textual technologies reflect the complexities of the highly mediated writing environments of the early twenty-first century. English and writing studies benefit when researchers engage with various forms of data collection and analysis, are members of interdisciplinary teams, and produce reports and articles that have empirical, theoretical, and applied outcomes. As collaborative research methodologies, grounded theory and contextual inquiry offer approaches to understanding texts and how texts work that produce just these sorts of complex, dynamic, and reflective studies. Shifts in the technologies used to produce texts as well as shifts among the sorts of texts defined as worth examining in English and writing studies have been occurring since at least the early 1990s. Developments within grounded theory and contextual inquiry have produced methods that can capitalize on these shifts and provide researchers with robust means of investigating new types of texts and the composing processes that produce them.

REFERENCES

- Adler, Marion Robin. (2002). *The role of play in writing development: A study of four high school creative writing classes* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (AAT 3039719)
- Agee, Jane, & Altarriba, Jeanette. (2009). Changing conceptions and uses of computer technologies in the everyday literacy practices of sixth and seventh graders. *Research in the Teaching of English*, *43*(4), 263-396.
- Bartocci, Gerianne, Potts, Liza, & Cotugno, Clare. (2008). Communicating ethnographic findings effectively within multidisciplinary teams and to your client. In *Proceedings of the 26th ACM International Conference on Design of Communication* (pp. 99-102). Lisbon, Portugal: ACM SIG:DOC.
- Beyer, Hugh, & Holtzblatt, Karen. (1998). *Contextual design: Defining customercentered systems*. San Francisco, CA: Morgan Kaufmann.
- Bryant, Antony, & Charmaz, Kathy. (Eds.). (2007). *The SAGE handbook of Grounded Theory*. London, England: SAGE.
- Camargo, Marta R. (2008). A grounded theory study of the relationship between e-mail and burnout. *Information Research*, *13*(4). Retrieved from <u>http://InformationR.net/ir/13-4/paper383.html</u>
- Charmaz, Kathy. (2006). Constructing Grounded Theory: A practical guide through qualitative analysis. London, England: SAGE.
- Charmaz, Kathy. (1993). Good days, bad days: The self in chronic illness and time. Piscataway, NJ: Rutgers University Press.
- Clarke, Adele. (2005). *Situational analysis: Grounded Theory after the postmodern turn*. Thousand Oaks, CA: SAGE.
- Courage, Catherine, & Baxter, Kathy. (2005). Understanding your users: A practical guide to user requirements. San Francisco, CA: Morgan Kaufmann.
- Cope, Bill, & Kalantzis, Mary. (Eds.). (1993). *Powers of literacy: A genre approach to teaching writing*. London, England: Falmer.

- Covan, Eleanor Krassen. (2007). The discovery of Grounded Theory in practice: The legacy of multiple mentors. In Antony Bryant and Kathy Charmaz (Eds.), Constructing Grounded Theory: A practical guide through qualitative analysis (pp. 58-74). London, England: SAGE.
- Covan, Eleanor Krassen. (2006). Caresharing: Hiding frailty in a Florida retirement community. *The Grounded Theory Review, 5*(2/3), pp. 59-81.
- Dey, Ian. (2007). Grounding categories. In Antony Bryant & Kathy Charmaz (Eds.), *The SAGE handbook of Grounded Theory* (pp.167-190). London, England: SAGE.
- DeWine, Sue. (1978, August). *Student journals in the communication classroom: A reassessment through grounded theory development*. Paper presented at the Annual Meeting of the American Psychological Association, Toronto, Canada.
- Glaser, Barney G., & Strauss, Anselm L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Chicago, IL: Aldine.
- Glaser, Barney G. (2004). Remodeling grounded theory. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research*, *5*(2). Retrieved from <u>http://nbn-resolving.de/urn:nbn:de:0114-fqs040245</u>.
- Greckhamer, Thomas, & Koro-Ljungberg, Mirka. (2005). The erosion of a method: Examples from grounded theory. *International Journal of Qualitative Studies in Education*, *18*(6), 729-750.
- Hackos, JoAnn T., & Redish, Janice. (1998). User and task analysis for interface design. New York, NY: Wiley.
- Hesse-Biber Sharlene Nagy. (2006). *The cult of thinness* (2nd ed.). New York, NY: Oxford University Press.
- Holtzblatt, Karen. (2003). Contextual inquiry: A participatory technique for system design. In Julie A. Jacko & Andrew Sears (Eds.), *The human computer interaction handbook: Fundamentals, evolving technologies and emerging applications* (pp. 941–63). Hillsdale, NJ: Erlbaum.

- Holtzblatt, Karen, and Beyer, Hugh. (1996). Contextual design: Principles and practices. In D. Wixon & J. Ramey (Eds.), *Field methods for software and systems design* (pp. 301-334). New York, NY: Wiley.
- Hood, Jane C. (2007). Orthodoxy vs. power: The defining traits of Grounded Theory. In Antony Bryant & Kathy Charmaz (Eds.), *The SAGE handbook* of Grounded Theory (pp. 151-164). London, England: SAGE.
- Johnson, R. R. (1997). Audience involved: Toward a participatory model of writing. *Computers & Composition*, *14*(3), 361-376.
- Lempert, Lora Bex (2007). Asking questions of the data: Memo writing in the Grounded Theory tradition. In Antony Bryant & Kathy Charmaz (Eds.), *The SAGE handbook of Grounded Theory* (pp. 245-264). London, England: SAGE
- Kearney, Margaret H. (2001). Levels and applications of qualitative research evidence. *Research in Nursing & Health*, *24*(2), 145-153.
- Kress, Gunther. (2003). *Literacy in the new media age*. London, England: Routledge.
- Miller, Carolyn. (1984). Genre as social action. *Quarterly Journal of Speech*, 70, 151-67.
- Miller, Carolyn. (1994). Rhetorical community: The cultural basis of genre. In Aviva Freedman and Peter Medway (Eds.), *Genre and the new rhetoric* (pp. 67-78). London, England: Taylor and Francis.
- Mirel, Barbara. (1996). Contextual inquiry and the representation of tasks. *Journal of Computer Documentation*, 20(1), 14-20.
- Neff, Joyce M. (2002). Capturing complexity: Using Grounded Theory to study writing centers. In Paula Gillespie, Alice Gillam, Lady Falls Brown, & Byron Stay (Eds.), Writing center research: Extending the conversation (pp. 133-148). Mahwah, NJ: Erlbaum.
- Neff, Joyce, Farkas, Kerrie, Jordan, Jay, & Vincelette, Elizabeth. (2008, April). Using grounded theory in composition studies. Paper presented at the Conference on College Composition and Communication, New Orleans, LA.

- Neff, Joyce M., & Whithaus, Carl. (2008). Writing across distances and disciplines: Research and pedagogy in distributed learning. New York, NY: Erlbaum.
- Nørgaard, M., & Hornbæk, K. (2006). What do usability evaluators do in practice? An explorative study of think-aloud testing. In *Proceedings of the 6th conference on Designing Interactive Systems* (pp. 209-218). New York, NY: ACM.
- Piantanida, Maria, Tananis, Cindy, & Grubs, Robin. (2002, January). Claiming Grounded Theory for practice-based dissertation research: A think piece. Paper presented at the Conference on Interdisciplinary Qualitative Studies Roundtable Discussion. Athens, Georgia. Retrieved from http://www.coe.uga.edu/quig/pdf/claim.pdf
- Potts, Liza. (2009). Using actor network theory to trace and improve multimodal communication design. *Technical Communication Quarterly*, *18*(3), 281-301.
- Potts, Liza & Bartocci, Gerianne. (2009). <Method>Experience Design</Method>. In *Proceedings of the 27th ACM International Conference on Design of Communication* (pp. 17-22). Bloomington, IL: ACM SIG:DOC.
- Raven, Mary Elizabeth, & Flanders, Alicia. (1996). Using contextual inquiry to learn about your audiences. *Journal of Computer Documentation*, 20, 1– 13.
- Richardson, Laurel, & St. Pierre, Elizabeth Adams. (2008). Writing: A method of inquiry. In Norman Denzin & Yvonna Lincold (Eds.), *Collecting and interpreting qualitative materials* (pp. 473-499). Los Angeles, CA: SAGE.
- Russell, David. (1997). Writing and genre in higher education and workplaces: A review of studies that use cultural-historical activity theory. *Mind, Culture, and Activity*, *4*(4), 224-237.
- Russell, David. (1999). Activity theory and process approaches: Writing (power) in school and society. In Thomas Kent (Ed.), *Post-process theory: Beyond*

the writing-process paradigm (pp. 80-95). Carbondale, IL: Southern Illinois University Press.

- Saffer, Dan. (2007). *Designing for interaction: Creating smart applications and clever devices*. Berkeley, CA: New Riders.
- Schuelke, David, & King, Thomas. (1983). New technology in the classroom: Computers and communication and the future. *Technological Horizons in Education, 10*(6), 95-100.
- Slattery, Shaun. (2007). Undistributing work through writing: How technical writers manage texts in complex information environments. *Technical Communication Quarterly*, *16*(3), 311-325.
- Spinuzzi, Clay. (2002). Toward integrating our research scope: A sociocultural field methodology. *Journal of Business and Technical Communication*, *16*(1), 3-32.
- Spinuzzi, Clay. (2003). *Tracing genres through organizations*. Cambridge, MA: MIT Press.
- Spinuzzi, Clay. (2005). The methodology of participatory design. *Technical Communication*, *5*2(2), 163-174.
- Strauss, Anselm. (1987). Qualitative analysis for social scientists. New York, NY: Cambridge University Press.
- Strauss, Anselm, & Corbin, Juliet. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: SAGE.
- Strauss, Anselm, & Corbin, Juliet. (1994). Grounded theory methodology: An overview. In Norman Denzin & Yvonna Lincoln (Eds.), *Handbook of qualitative research* (pp. 273-285). Thousand Oaks, CA: SAGE.
- Strauss, Anselm, & Corbin, Juliet. (1998). *Basics of qualitative research* (2nd ed.). Thousand Oaks, CA: SAGE.
- Swarts, Jason. (2007). Mobility and composition: The architecture of coherence in non-places. *Technical Communication Quarterly*, *16*(3), 279-309.

- Whithaus, Carl. (2008, November). A case study in the emergence of text tools and genres. Paper presented at the Future of Writing Conference, Irvine, CA. Retrieved from <u>http://www.humanities.uci.edu/humanitech/multimedia/writing/2.1-</u> <u>Whithaus.mp3</u>
- Whithaus, Carl & Neff, Joyce. (2006). Contact and interactivity: Social constructionist pedagogy in a video-based, management writing course. *Technical Communication Quarterly*, *15*(4), 431-456.
- Whithaus, Carl, Moore-Pewu, Jamila, & Riley, Brian. (2009). Enhancing education through technology competitive grant round 7 semi-annual performance report mid-year 1 reporting period, September 2008 – January 15, 2009. Sacramento, CA: California Department of Education.
- Whithaus, Carl, Moore-Pewu, Jamila, & Sinha, Aparna. (2009). Enhancing education through technology competitive grant round 7 annual performance report year 1 reporting period, September 2008 – June 2009. Sacramento, CA: California Department of Education.
- Whithaus, Carl, Senna, Manuel, Sinha, Aparna, & Wong, Joanna. (2010).
 Enhancing education through technology competitive grant round 7 semiannual performance report mid-year 2 reporting period, September 2009 – January 2010. Sacramento, CA: California Department of Education.
- Zappen, James P. (2004). The rebirth of dialogue: Bakhtin, Socrates, and the rhetorical tradition. Albany, NY: State University of New York Press.

APPENDIX A: VIDEO TRANSCRIPTS

1. Elizabeth Vincelette on Grounded Theory

I'm going to talk about how I used grounded theory in order to develop a research project on a transcript from the National Public Radio show "Talk of the Nation" and I used a transcript from Talk of the Nation" that was discussing conspiracy theory after September 11 and there was a show regarding a Popular Mechanics article that had pitted *Popular Mechanics* against conspiracy theorists who were discussing why they thought that September 11 had happened and how, and the conspiracy theorists who like to call themselves truth activists debated a number of scientists.

I was interested in looking at the transcript from this program to see what types of things emerged from the language that people were using in the program. He had a bunch of research questions to start off with, such as what types of rhetorical or linguistic strings do the people use, what sorts of keywords are repeated, what kinds of categories come from those, including the number of metaphors that come out of the project, and I found that grounded theory allowed me a way to examine this transcript, just as an artifact for what it is without applying any other theory.

I started to code by writing gerunds off to the side and this was after reading Cathy Charmaz's book on grounded theory that I did these gerunds. After doing the coding of the verbs I went through again and in the second coding I went and I color coded different roles that people were taking in the conversation, and I realized as I was working on it that I was very comfortable coding with colors. And I began to use colors as a way for me to readily identify categories that were emerging and I felt while I was doing this that one of the things that was most interesting and important about using grounded theory was that the categories did emerge, I didn't have a lot of preconceived ideas about the show, but the categories came directly from the transcript. I would have the transcript up on my monitor, and I would have my codings behind it on color-coded sticky notes and I could start to see shapes take place because when I started seeing categories by putting the notes up, I would move them around and then sometimes I would have to change colors, so literally a picture came out of what I was looking at. Or I coded on different versions of the transcript, there were a number of different codings, the more I became interested in these visual shapes and images.

And that led me to looking at Adele Clark's grounded theory using situational analysis, which is grounded theory after the post-modern turn, and what Adele Clark did was she took some of the ideas on grounded theory and looked at how to take codings and turn them into maps, and so these seven codings that I did here on the transcripts turned into different types of codings that Clark writes about, which includes situational maps, social worlds and arenas maps, and positional maps. So, in all there were seven codings on the transcript and then three organizing maps that I did using Clark's theory from those seven codings. My final conclusion was that conspiracy theory serves a democratic function even though it's considered to be a kind of a crackpot way of thinking about disasters a lot of the time or other questionable historic events.

2. Dave Jones and Liza Potts Enact a Data-Gathering Session Using the Four Principles of Contextual Inquiry

Karen Holtzblatt's four principles of contextual inquiry are *context*—go where the work is and watch it happen; *partnership*—talk about the work while it happens; *interpretation*—find the meaning behind the customer's words and actions; and *focus*—challenge your entering assumptions. A key element in contextual inquiry is the interaction between the researchers and the research participants. Rather than asking practitioners to summarize their experiences, the researchers observe and interact with the workers as they march through their daily tasks leading to a nuanced picture.

On location, the researcher sits next to the study participants to both observe these everyday work activities and to inquire as to how these activities are accomplished. These fields study sessions are often recorded either with video cameras which can be intrusive or as audio recorders which can be less intrusive. The researcher takes notes during these sessions and any materials offered by the participants—such as personal notes, office procedures, etc.—are also gathered.

Similarly, the designs produced by contextual inquiry result from the collaboration between researchers and practitioners in the workplace. In contrast to the traditional interview model in which the researcher controls the interview, asks the questions, and paces the meeting, in contextual inquiry the discussions are purposely balanced between the participant and the researcher.

In a contextual inquiry one goal of the site visit is to locate the networks of technologies, people, groups, and organizations that affect the workers' daily

tasks. While this can be seen as a more holistic view, understanding the wealth of actors available to these workers can be of great value to the designer. It is through interpretation that we examine situations and ask questions to probe the participant about specific tasks and processes. The partnership formed between the researcher and participant during a contextual inquiry can lead to the participant becoming invested in "making sure we get it right, that we see everything that's relevant and that we take away the exact right shade of meaning." Bringing these contextual viewpoints to the stakeholders can aid in the understanding of the problem and provide the context for relevant decisionmaking.

ACKNOWLEDGMENTS

The authors would like to acknowledge Katherine Gossett for filming, editing, and producing the videos, Dave Jones for participating in the contextual inquiry video, and Elizabeth Vincelette for participating in the grounded theory video.

Computing and Communicating Knowledge: Collaborative Approaches to Digital Humanities Projects

Lisa Spiro

According to stereotype, the humanities scholar works alone, surrounded by books. But a counter-image is emerging of the collaborative digital humanist who participates in interdisciplinary teams and networked communities (Howard, 2009). "Digital humanities," a debated and loosely defined term, refers to a "diverse and still emerging field that encompasses the practice of humanities research in and through information technology, and the exploration of how the humanities may evolve through their engagement with technology, media, and computational methods" ("About," 2009). I selected this definition because it emphasizes both methods and media, as well as digital humanities' concern with understanding (and shaping) the impact of computation and networked information on the humanities. While some argue that digital humanities should focus on harnessing social media to create "a new space for scholarship and public intellectualism" (Parry, 2010), others emphasize that the practical "slow work" of building technologies and methods is likewise important, since digital collections, text analysis software, GIS tools, and the like provide the basis for scholarship (Clement, 2010; Ramsay, 2010b). This chapter takes a wide view of the digital humanities, since computation and communication, method and media, enable us to explore the larger question of how we can employ technology to produce, represent, and exchange ideas about culture. As Stephen Ramsay (2010a) puts it, "technology and discourse are intertwined." Collaborative and multidisciplinary, digital humanities projects bring together cultural data, humanities questions, and computer-based methods for producing, analyzing, and/or representing and disseminating knowledge.

In English studies, digital research can take many forms, such as building editions and collections, using computational methods to produce new interpretations of texts and other cultural objects, examining online reading and writing practices, facilitating participatory knowledge sharing, or producing multimodal scholarship that presents scholarly arguments in a dynamic, interactive fashion. Collaboration is generally vital to accomplishing such projects because of their scope and complexity. As Todd Presner—professor of Germanic Languages, Comparative Literature, and Jewish Studies at UCLA—suggests, "Digital humanities is always participatory and collaborative. . . . No scholar in isolation could have the knowledge, ability, or time to do this work" (personal communication, July 24, 2009).

I want to focus on two cultural and technological transformations that are influencing the move toward collaborative digital humanities scholarship: (1) the abundance of data and (2) Web 2.0, or "the participatory web" ("Web 2.0," 2010). The amount of digital information is massive: 12 million books digitized by Google, 6 million JSTOR articles, at least 21.13 billion Web pages, and petabytes of scientific data (JSTOR, 2010; Oder, 2010; "The Size of the World Wide Web," 2010). In fields such as genetics, environmental studies, and astronomy, the explosion of data is allowing scholars to pursue "information- and data-intensive, distributed, collaborative, and multi-disciplinary" approaches to research, such as conducting longitudinal studies of the environment that draw from multiple datasets (Borgman, 2009). What the availability of huge amounts of data means for humanities research remains an open question, one that is being explored through the "Digging into Data" international competition sponsored by the UK's Joint Information Systems Committee (JISC), the United States's National Endowment for the Humanities (NEH) and National Science Foundation (NSF), and Canada's Social Sciences and Humanities Research Council (SSHRC) (NEH, JISC, NSF, & SSHRC, 2009). At the same time that we are gaining access to massive amounts of data, participatory Web 2.0 technologies are enabling people to exchange information through social networking sites such as Facebook; share, comment on, and remix media through social media sites such as Flickr; and collectively construct knowledge through open content initiatives such as Wikipedia. Invoking the participatory, interactive approaches of Web 2.0, Cathy Davidson calls for Humanities 2.0, which embraces the open exchange of information, values participation by academics and non-academics alike, and "de-centers" core assumptions about authorship, expertise, and status (Davidson, 2008). This call has been echoed by the Digital Humanities Manifesto, which advocates for "wiki-scholarship" that is "iterative, cumulative, and collaborative" (UCLA Mellon Seminar, 2009).

As the digitization of the cultural record makes available an abundance of humanities data, and as Web 2.0 technologies connect researchers to each other and to the broader community, digital humanists are exploring new models for producing, analyzing, representing, and communicating information. By examining research goals and practices, this chapter first investigates why the digital humanities tend to be more collaborative than "traditional" humanities. I then provide brief case studies of projects focused on (1) communicating and exchanging knowledge through participatory online environments; (2) building digital collections of primary and/or secondary scholarly resources; and (3) developing computational methods for analyzing humanities data. (For a more extensive listing of different types of collaborative projects in the digital

humanities, see Spiro, 2009b.) These case studies are based on semistructured, hour-long interviews I conducted with project leaders as well as analyses of articles and Web sites associated with the projects.

The three types of projects listed above can be considered reinventions of traditional humanities work: expansions of the collaborations involved in promoting public humanities, creating scholarly editions and reference collections, and pursuing interdisciplinary approaches to literary criticism. Yet these collaborations also take the humanities in new directions, whether by moving from public to "participatory humanities," where the public become active co-creators rather than passive recipients of knowledge; engaging humanities scholars not only in editorial work but also in encoding and representing knowledge; or applying methods derived from computer science and statistics to humanities questions.

These projects provide compelling examples of the digital humanities, but they also illustrate different approaches both to collaboration and to humanities research. Participatory projects generally take a distributed, community-driven, "loosely coupled" approach to collaboration, so that work is modular, often occurs remotely rather than via face-to-face meetings, and can be done independently (Olson & Olson, 2000). Yet in the participatory projects discussed in this chapter, HyperCities and the Tibetan and Himalayan Digital Libraries, project teams work closely with local communities to produce media representing the communities' own experiences. These projects break down the barriers between scholars and the community by engaging all in constructing intellectual resources. With projects to build digital collections, a large group of content experts, programmers, interface designers, and text encoders together define, produce, and disseminate a common scholarly resource. Projects to create new methodological approaches typically involve smaller interdisciplinary teams of humanities scholars and computer scientists, information scientists, or statistics researchers. In the chapter's final section, I examine the challenges that collaborative humanities research faces and suggest how to better support this sort of work.

WHY DO DIGITAL HUMANITIES RESEARCHERS COLLABORATE?

Collaboration has become a buzzword, the subject of hundreds of books and a goal touted in many university strategic plans. Collaboration, meaning "united labor" ("Collaboration," 2009) in pursuit of a common goal, can take many forms depending on who is working together (e.g., researchers in the same or different fields, inside or outside of the academy), how the work is done (tightly or loosely

managed), and what is produced (e.g., research paper, software, digital collection) (Palmer, Teffeau, & Pirmann, 2009). Closely aligned to collaboration is participation, which suggests "sharing in an action" ("Participation," 2009); this sharing may be less coordinated than collaboration, but it likewise involves people working together for a common purpose.

Field-specific research practices typically shape whether and how scholars collaborate. In the sciences, collaboration is expected, reflected in the organization of research into labs where a faculty member oversees work by postdocs, research assistants, graduate students, and undergraduates. In the humanities, by contrast, faculty members typically work alone and advise graduate students on their own unique projects. In part, the practice of solitary humanities scholarship may reflect the romantic ideal of the literary theorist as an "isolated poet and thinker" (Gilman, 2004, p. 386). Even as the humanities preach the death of the author, they value the individual subjectivity of the scholar and practice solo authorship (Ede & Lunsford, 2001).

Whereas the "traditional" humanities continue to produce solo scholarship, the digital humanities tend to be much more collaborative. We can see this trend toward collaborative digital humanities scholarship by comparing rates of coauthorship, a typical measure of collaboration. A study of patent records and articles in Web of Science, an online citation index that includes the Arts & Humanities Citation Index, concluded that in the arts and humanities a single author wrote over 90 percent of the articles, although there is a trend toward teamwork (Wuchty, Jones, & Uzzi, 2007, p. 1037). In contrast, I found that between 2004 and 2008, 48 percent of the articles published in Literary and *Linguistic Computing* (LLC), a leading digital humanities journal, were written by two or more authors (see Spiro, 2009a). Of these articles, 49 percent were written by scholars from two or more institutions, while about 16 percent involved authors from two or more countries. The relatively high frequency of collaboratively written articles likely reflects the diverse practices of LLC's contributors, including researchers from disciplines such as computer science, linguistics, classics, information science, and literature; indeed, since digital humanities research joins subject knowledge in the humanities and computerbased approaches, it is by nature interdisciplinary and collaborative. Likewise, two or more authors wrote 41 percent of the articles published in *Digital* Humanities Quarterly between the spring of 2007 and the fall of 2009. Typically, single authors wrote articles describing interpretive or theoretical work (e.g., "Interpretative Quests in Theory and Pedagogy" [Howard, 2007]), while multiple authors produced articles describing practical projects to develop collections,

tools, or methods (e.g., "Mining Eighteenth Century Ontologies" [Horton, Morrissey, Olsen, Roe, & Voyer, 2009]). Although this study should be carried out more systematically across a wider range of publications and a longer time span, the initial citation analysis supports the observation by Brett Bobley (2009), director of the NEH's Office of Digital Humanities, that "digital humanities is collaborative and international."

Why do digital humanities scholars collaborate more frequently than "traditional" humanities scholars? What difference does collaboration make? In part, the traditional emphasis on solitary scholarship reflects how the humanities typically gain access to and make use of information (Toms & O'Brien, 2008). Unlike scientists or social scientists, humanities scholars traditionally have not created data through experiments or elicited data through surveys and focus groups. Rather, they analyze the existing cultural record, which typically does not require collective efforts (Goldenberg-Hart, 2004). Whereas collaboration is common in quantitative, positivist fields like sociology, it is less typical in theoretical and interpretive fields (Moody, 2004)-an observation that likely applies to the humanities as well. According to Andrew Abbott (2008), humanities work is "artisanal" and depends on the individual mind interacting with research materials (p. 533). In contrast, digital humanities work often engages a team of researchers in "building" something (a collection, tool, method, hypermedia publication, participatory platform, etc.), occurs on a larger scale, and demands diverse expertise. A recent survey of digital humanities research teams found that the most common reasons researchers cited for working together are "Team members have different skill sets" and "Collaboration is more productive than individual work" (Siemens, 2009, p. 120).

Yet it would be too simple to say that "traditional" humanities scholars do not collaborate. Even if humanities scholars have tended to conduct independent research and produce fewer co-authored books and articles than their colleagues in the sciences, they actively participate in research communities by exchanging ideas and citations, presenting at conferences, and reviewing essay drafts and journal submissions. Indeed, "[a]t times, the dependence of humanities scholars upon their colleagues can approach joint authorship of a publication" (Brockman, Neumann, Palmer, & Tidline, 2001, p. 11). Scholarship involves a conversation with fellow scholars and with the broader community, past, present and future, as reflected in citations and acknowledgments. Networked technologies such as blogs, wikis, listservs, digital collections, and scholarly networks like <u>Romantic</u> <u>Circles</u> and <u>HASTAC</u> open up, accelerate, and make visible that scholarly conversation.

As humanities scholars gain access to data and embrace the culture of information sharing, collaborative research may become more common in the humanities, even as solitary scholarship will continue to be appropriate for some projects. The tendency to collaborate may not be inherent in the discipline, but is instead a function of the difficulty of accessing and analyzing data. For example, seventeenth-century astronomers such as Johannes Kepler were reluctant to publish and share their data because it was so difficult to generate (Choudhury & Stinson, 2007). In contrast, humanities scholars had long collaborated in copying, illuminating, and "recasting" works such as the Roman de la Rose. Choudhury and Stinson (2007) thus suggest that how scholars perform and disseminate their research is determined not so much by "inherent characteristics within specific disciplines" but by "the relative ease or difficulty with which practitioners of those disciplines can generate, acquire or process data." In "big science" projects such as analyzing massive amounts of astronomical data made freely available through the Sloan Digital Sky Survey, interdisciplinary collaborations are common (Borgman, 2009). In twentieth-century humanities research, however, scholars typically built their reputations through their individual efforts, whether by making unique discoveries in archives or advancing brilliant theoretical approaches. Yet the nature of archives is changing, as we move into an era of data abundance (Rosenzweig, 2003). Just as producing manuscripts during the early modern era required the labor of many, so digital humanities projects focused on representing, analyzing, and disseminating data are fundamentally collaborative.

Ultimately, this chapter addresses how modes of knowledge production and dissemination are changing as information becomes networked and digital and as humanities scholars envision new ways of doing their work. In digital literary studies, as in other fields, researchers collaborate because it enables them to accomplish their goals. Stanford University lecturer and academic technology specialist Matthew Jockers suggests, "I think collaboration arises naturally from the pursuit of a particular kind of question. . . . We're going to see more collaboration because the questions we're interested in are changing" (personal communication, June 5, 2009; see also Jockers, 2010). These questions might be

- How can we break down the barriers between "academic knowledge" and "community knowledge" and create a platform for sharing *all* knowledge?
- How do we encode and represent information so that readers can discover new knowledge?
- How can we use computational methods to answer rhetorical, literary, or other relevant questions?

Technology supports performing and delivering such work, but research goals drive it. Although their core questions may differ, these digital humanities projects point toward more interdisciplinary, collaborative approaches to producing humanistic knowledge, approaches that deserve the attention of English studies professionals.

PARTICIPATORY HUMANITIES

Collaborative open-content projects such as Wikipedia demonstrate the power of peer production, even as they raise questions about authority and expertise. As Cathy Davidson and David Theo Goldberg (2009) argue, our culture is shifting toward collaborative forms of knowledge production, a shift that academic institutions must engage. Through "citizen humanities" projects, academics and non-academics alike are sharing their knowledge and experiences online, providing genealogical information, digitizing and transcribing documents, and creating dynamic maps of local culture. Rather than viewing the public simply as the subjects of research, participatory knowledge initiatives take "public humanities" to a new level, not only reaching out to communities but also "reaching in" and creating channels for knowledge sharing and collaboration (Davidson & Goldberg, 2004).

Through HyperCities, scholars and citizens co-create knowledge as they contribute their own layers of information to a series of interactive maps that offer different perspectives on the urban experience. HyperCities, "a collaborative research and educational platform for traveling back in time to explore the historical layers of city spaces in an interactive, hypermedia environment" ("HyperCities," n.d.; see Figure 1), has been developed through a partnership of universities and civic organizations, including UCLA, USC, City University of New York–Baruch, <u>Pilipino Workers' Center</u>, and <u>Public Matters</u>, Los Angeles.



Figure 1. <u>HyperCities Web site</u>.

By using the Google Maps and Google Earth API to create geospatial mashups, HyperCities has created an open, interactive platform where people can explore and contribute information documenting experiences of urban space and time, such as photographs, video, oral histories, maps, stories, and GIS data. Although HyperCities hosts some data, it also aggregates digital media stored elsewhere, so its architecture is based on connecting distributed information.

HyperCities invites open participation, whether through individuals contributing media, archives sharing collections, or institutions collaborating on city-based projects. Users can search by place and time, see both overlay maps and content associated with a particular place and time, and view data generated by the local community and scholarly community side-by-side. According to founder and director Todd Presner, HyperCities aims to "create maps that are different from more traditional historical maps, to interrogate representations, to use knowledge in communities and the repositories in people's heads to contribute to academic content and interrogate it" (personal communication, July 24, 2009). Thus, HyperCities recognizes and values different kinds of expertise, both the knowledge of people who live in communities and of scholars who make arguments about those communities. For instance, users can explore Phil Ethington's Ghost Metropolis, Los Angeles, since 13,000 BP, which provides a global multimedia history of Los Angeles from the age of woolly mammoths to the present, alongside videos documenting Los Angeles's Filipinotown that were created by students participating in a program sponsored by the Pilipino Workers' Center and Public Matters.

Although some people complain that putting everything on the same level makes it difficult to distinguish vetted and unvetted material, Presner favors openness, rich juxtapositions of data, and flexibility over locking down information (personal communication, July 24, 2009). According to Presner, exploring HyperCities resembles walking through a physical city, where "there's going to be graffiti on the subway, but there's great stuff too. There are many different modes of expression, some of which you may not agree with, but you sift through them." The user applies his or her own critical judgment in evaluating and applying the knowledge made available through HyperCities. This participatory digital space values experience as well as formal, analytical knowledge and is engaged in the community rather than standing apart from it.

Like HyperCities, the Tibetan and Himalayan Library (THL) re-envisions knowledge creation and dissemination as participatory and collaborative,

engaging the local communities that are the objects of investigation as participants sharing their own knowledge (see Figure 2).





From its start in 2000, THL aimed to "create a collaborative research environment and publishing system for scholars and projects from around the world" ("A Short History of the Tibetan and Himalayan Library," n.d.). Its initial focus included supporting scholarly exchanges between the U.S. and Tibet, developing software for the Tibetan language, and providing access to "collaborative repositories" of XML-encoded texts, images, GIS maps, audiovideo resources, and dictionaries (The UVA Tibet Center, 2008).¹ To encourage contributions to its collaborative repositories, THL features a "<u>Participatel</u>" link in the footer of each page on the site and provides extensive documentation explaining how and why to contribute content.

As THL founder David Germano acknowledges, however, "We didn't create a truly different model for how we can create knowledge in a radically distributed fashion....The work should involve not just elite scholars and students, but really open up participatory knowledge in a broad variety of localities" (personal communication, June 10, 2009). Thus, THL launched its "Participatory Knowledge Initiative," which aims to document and disseminate knowledge within and beyond local communities. As Germano argues, scholarship suffers when it overlooks the knowledge of local people: "There is a wealth of knowledge about places, communities, practices—but that knowledge is tacit, oral, embodied in character. It doesn't go beyond that community. Participatory knowledge makes

¹ To facilitate both participation and open scholarship, THL takes a flexible approach to copyright, generally supporting the open content movement but also embracing contributors' needs to make money from their work by offering more restrictive licenses (Tibetan and Himalayan Library, n.d.).

knowledge more migratable, transmitted to others, kept, sustained, transmitted to future generations."

The Participatory Knowledge Initiative is building structures that enable local community members to share their own knowledge and take part in conversations about their communities. For example, it worked with Machik (a non-profit), the Columbia Film School, the Maysles Institute, and Rabsal on participatory projects in Eastern Tibet, where students, monks, villagers, and others were provided equipment and training so that they could produce their own documentaries about their community and perspectives. Students produced "Making Good Choices," a short film that warns against substance abuse among young adults. This work is now being extended in Tibet in partnership with Winrock International to try to create a broader network of partnerships for knowledge creation and dissemination that extend from local communities on the plateau to elite universities in Europe and America and back. These representations support both self-reflection and global understanding as the communities become visible on the Internet, their own cultures documented through multimedia. As Germano argues, "When you use digital technology, you can allow communities to pop up, each distinctive with its own traditions, histories, etc. We then see the world as this heterogeneous stitching together of so many localities" (personal communication, June 10, 2009).

The THL has embraced participatory knowledge creation to fulfill ethical obligations and to benefit both society and scholarship, so that higher education "doesn't just extract knowledge and send students to study, but rather engages in truly reciprocal relationships where we take care of how the transmission and the delivery of knowledge impact these communities which we engage with" (David Germano, personal communication, June 10, 2009). According to Germano, such a participatory mode of knowledge production and dissemination should be fundamental to what the university does, since both society and scholarship improve when they respect and integrate local knowledge. Participatory projects reflect the growing understanding of writing as social, connected, and collaborative, as readers become writers and editors—or, in the case of HyperCities and THL, mapmakers and filmmakers (Lundin, 2008). Moreover, they demonstrate the larger value of humanities by recognizing that scholarship is an ongoing conversation with the public and that non-Ph.D.s may have valuable knowledge to offer.² Although getting people to participate, crediting

² For example, a comparison of a wiki about Pynchon's novel *Against the Day* produced by nonacademics to an academic study of the novel suggests that while the wiki is less consistent and coherent, it is also more comprehensive and less prone to error (Schroeder & Den Besten, 2008).

participation, and ensuring that the content is trusted can be challenging, participatory projects point to ways of making the humanities more engaged in the community and ultimately more innovative, as embedded and expert knowledge are shared.

BUILDING SCHOLARLY COLLECTIONS

Scholars have long collaborated to construct scholarly resources such as critical editions and reference works. For instance, the credits page for the Northwestern Newberry edition of Melville's *Confidence Man* (1984) lists fourteen people, including editors, associate editors, contributing scholars, an editorial coordinator, and co-authors of the historical note. However, producing a digital collection or edition typically necessitates even more staff than a comparable print edition, as people with both technical and literary expertise work together to develop a model of the text, determine how to apply markup standards (which, as Julia Flanders [2009] suggests, are themselves "collaborative technologies" that communicate ideas so that they can be "reused"), analyze and encode features of the texts, design interfaces, and, in many cases, publish the texts. A glance at the credits page for digital collections reveals the extent of collaborative work. For example, the <u>William Blake Archive</u> lists 70 people, including the editors, technical editors, project managers, bibliographer, project assistants, research assistants, scanning assistants, consultants, programmers, and technical staff.³

Differentiating "traditional" from electronic scholarship, John Walsh (2008) suggests, "Electronic scholarship encourages interdisciplinary collaboration and gives scholars control over more aspects of the production and presentation of their work, from writing and editing to design, contextualization, and publication." Whereas in traditional literary scholarship the scholar produces knowledge while the publisher determines how it will be represented and disseminated, creating a digital collection often involves a team effort where the production and representation of knowledge are integrated. Teams not only do background research and encode texts using XML markup standards such as the one developed and maintained by the <u>Text Encoding Initiative</u> but also devise stylesheets for representing the texts, design interfaces for interacting with information, and often serve as publishers or distributors.⁴

³ Credits pages for digital projects tend to be more extensive than their print equivalents, acknowledging everyone who made a contribution to the project. Since many digital humanities projects rely on student labor, they typically involve a fair amount of turnover.

⁴ Many digital humanities collections are published by digital humanities centers rather than presses, although their creators tend to prefer the word "distribute" to "publish." For example, the Walt Whitman Archive is "freely distributed" by the Center for Digital Research in the Humanities at the University of Nebraska–Lincoln ("The Walt Whitman Archive," 1995) and the Rossetti

Since building digital resources requires extensive teamwork, such projects have caught the attention of those advocating for the humanities to become more collaborative. For instance, Lunsford and Ede (2001) cite the Orlando Project, Women's Writing in the British Isles from the Beginnings to the Present, for exemplifying multidisciplinary collaboration, given "[t]he number of scholars involved, the breadth of the goal, and the multiple perspectives necessary to illuminate the writing of women across such a broad span of time" (p. 361). The Orlando Project originated in a print reference book⁵ called *The Feminist* Companion to Literature in English (1991), which was so packed with information that there was no room for an index or other research that the editors wished to include. Rather than being boxed in by print, the editors turned to electronic publication—see Figure 3—as a way to offer more information, provide richer modes of access, and, ultimately, realize the "advantages of moveable text that permitted dynamic ordering of materials according to reader's priorities; the dialogism or multi-voicedness that seemed particularly suited to collaboration" (Brown, Clements, & Grundy, 2006, p. 320).

An ongoing collaborative experiment in the use of computers to engage in women's literary history HOME ORLANDO TEXTBASE * ABOUT US * NEWS RESEARCH * WRITERS WITH ENTRIES *	Type here and press enter to search
International Women's Month events at The Women's Library February 24, 2011 The Women's Library in London, UK, draws attention to the following events to mark Women's History Month. All events and exhibitions, unless otherwise stated will be held at: Read more	Orlando: Women's Writing in the British Isles is an on- line cultural history generated from the lives and works of over 1200 writers. It is a rich resource for researchers, for students, and for readers with an interest in literature, women's writing, or cultura
Bluestockings: The Social Network	history more generally. With more than eight million words of text, it is full of interpretive
Scholars may be interested in a forthcoming colloquium to be hosted by Swansea University on the 3rd and 4th of June 2011 in connection with the Elizabeth Montagu Read more	information on women, writing, and culture. Orlando currently features 995 British women writers, 171 male writers, 155 other women
Writers with Entries: January 2011 Update January 5, 2011	writers—listed twice in cases of multiple, shifting or contested nationality—; 13,486 free-standing
In January 2011, Orlando released 11 new entries (9 British women writers, 1 male writer, 2 other women writers—listed twice if their nationality shifted); 54 free-standing chronology entries; Read more	chronology entries; 24,840 bibliographical listings 2,378,647 tags; and 9,675,061 words (exclusive of tags).

Here "collaboration" means empowering readers to engage in a dialogue with scholarly materials and participate in the process of building knowledge. As the

Archive is "freely distributed" by the University of Virginia's Institute for Advanced Technology in the Humanities and the <u>NINES</u> consortium ("Rossetti Archive," n.d.).

⁵ Although the Orlando Project is a reference tool rather than a critical edition, both types of projects involve collaborative efforts to develop data standards as well as to encode and represent the data.

editors found, such goals entailed moving to "a new mode of scholarly production" that required intense collaboration, explicitness in devising and documenting standards for representing knowledge, and flexibility in applying these standards (Brown et al., 2006, p. 533). On a practical level, creating a digital resource meant expanding the project team from three co-editors to "two principal investigators, four co-investigators, three postdoctoral fellows, a project librarian, a research collaborator, and eight graduate research assistants" (Brown & Clements, 1998); ultimately more than one hundred people in Canada, the United Kingdom, the United States, and Australia worked on the project.

With its focus on women's writing, the Orlando Project is exploring the "domestication of computing for the humanities," bringing a feminist perspective to using computers to produce and disseminate knowledge (Brown & Clements, 1998). Core to the Orlando Project's collaborative, feminist practice was creating an encoding standard for describing women's literary history "that would valorize and give voice to women and the texts they wrote, and make them susceptible to kinds of historicization, interrelation, juxtaposition, and analysis not previously possible" (Brown et al., 2006). The Team Planning Group, made up of "core project members," developed the Orlando Project's Document Type Definitions (DTD) to encode information included in the project, focusing initially on Events, Biography/Life, Writing and Documentation (Brown, Clements, Grundy, Balazs, & Antoniuk, 2007). For example, the Orlando Project represents the social nature of writing by encoding personal as well as textual relationships: family, friends, influences, reception, and even whether authorship is collaborative (see Figure 4).

<DIV2 ID=chidka-w.sgm:DIV2:1><PRODUCTION><SHORTPROSE> <P ID=chidka-w.sgm:P:2><PMATERIALCONDITIONS><NAME STANDARD=Chidley, Katherine>KC</NAME> was able to write only because at this time private conventicles (or religious assemblies outside established churches) were tolerated.</PMATERIALCONDITIONS><PAUTHORSHIP COLLABORATION= COLLABORATIONYES>She did much of her writing collaboratively. She and her son <NAME STANDARD=Chidley, Samuel>Samuel</NAME>became an effective writingpublishing team. In composing<TGENRE GENRENAME= PETITION>petition </TGENRE>s she acted as one of a group of Leveller women.<BIBCITS> <BIBCITPLACEHOLDER=Gillespie 215,214 DBREF=1483>215,214</BIBCIT> </BIBCITS></PAUTHORSHIP></P></BIBCITPLOSE>

Figure 4. How Orlando encodes collaborative authorship.

Developing this encoding scheme required a degree of collaboration that distinguishes the Orlando Project from most traditional humanities work: "Instead

of a single researcher needing to communicate effectively and clearly with one or more research assistants, we have a research collective that together had to develop a shared view of the project's research aims" (Hockey, Butler, Brown, & Fisher, 1997). Through a consensual decision-making process, the group could hash out both the scholarly and technical approaches necessary to accomplish the project's goals, explicitly representing the structure and semantics of the text. Such a process had some disadvantages: "it took—literally—years to devise, test, and finalise our tagsets" (Brown et al., 2006, p. 321). Team members applied these tags in authoring "chunks" of text documenting literary history, producing a dynamic resource that brings together a number of authorial voices (Brown et al., 2006). By encoding information such as people, places, and intertextuality, the Orlando Project enables readers to go beyond keyword searches and explore connections among different chunks of knowledge. Readers can even view the SGML (Standard Generalized Markup Language) tags that were used to mark up the information. This open approach invites the reader to become a collaborator in navigating and interpreting both the text and the editorial decisions that inform it (Brown & Clements, 1998).

In 2006 Cambridge University Press published Orlando as an online textbase with almost 7.7 million words, but the project team continues to create new content and enhance the technological infrastructure (Brown, Clements, Grundy, Ruecker, Antoniuk, & Balazs, 2009). In particular, the Orlando Project is investigating how to leverage the semantic markup in the texts and provide interfaces that enable readers to study patterns and examine interlinkages such as writers' associations with each other or with a particular place (Brown, Ruecker, et al., 2009). In the future, the Orlando Project plans to facilitate participatory literary scholarship, so that scholars beyond the core team can be invited to modify and contribute to the textbase (Susan Brown, personal communication, January 28, 2010). Implementing participatory scholarship involves complexity both in balancing openness and authoritativeness and in redesigning the workflow management system to make entries easy to edit and to ensure appropriate permissions. Collaboration thus occurs at different levels in Orlando: the team planning group collaboratively developed standards and approaches; the larger project team, including a number of graduate students, together authored and edited entries and applied the tags: and the readers take part in the ongoing scholarly conversation by using the encoded texts to make connections and see scholarly processes at work.

Many groundbreaking digital collections were launched in the 1990s, prior to the emergence of Web 2.0 (Kirschenbaum, 2010), but now scholars are beginning to

explore using open, participatory approaches to create critical editions and other digital collections. Given the expense and time required to produce digital editions, Peter Robinson (2005) proposes embracing a participatory model to produce "fluid, co-operative and distributed editions, the work of many, the property of all." Work would be distributed and shared online, so that some participants would scan the documents, others would transcribe them, and others would provide commentary, notes and emendations, and so forth. Such a collaborative approach would recognize that "any good reader must sometimes be an editor" and enable people to have a common stake in producing and sharing knowledge (Robinson, 2005). Efforts are underway to create the infrastructure that will support collaborative textual editing. For instance, the TextGrid project is building a "virtual workbench" for "collaborative editing, annotation, analysis and publication of specialist textual data" (D-Grid Initiative, n.d.). Similarly, John Bryant (2008) received NEH funding to develop the TextLab tool, which will open up the editorial process by supporting the collaborative editing of manuscripts. We thus see the creation of editions and reference tools transforming from a hierarchical model whereby an editor oversees work by multiple research assistants, to a cooperative model whereby people with a range of expertise come to common decisions, to a distributed model where contributors together build a common intellectual product.

COMPUTATIONAL METHODS AND DATA-DRIVEN SCHOLARSHIP

Restricted by the limited availability of information (or access issues) and the time required to analyze material, English studies scholars-and literature scholars in particular—have typically based arguments about complex cultural phenomena on close readings of a handful of texts (Wilkens, 2009). Yet as both massive collections of texts and text analysis tools become available, humanities scholars can draw upon a much wider range of evidence in making their arguments. Humanities scholars can now begin to practice what Franco Moretti (2000) calls "distant reading," looking at large scale phenomena such as "genres" and systems" by examining patterns across large text collections. Likewise, they can use computational methods to examine particular features of texts, such as the presence of metaphor or markers of authorship. Recently, Literary and Linguistic Computing featured two articles that illustrate both the possibilities of textual analysis and the ways in which collaboration supports such work: Matthew Jockers, Daniela M. Witten, and Craig Criddle's (2008) "Reassessing Authorship of the Book of Mormon Using Delta and Nearest Shrunken Centroid Classification" and Brad Pasanek and D. Sculley's (2008) "Mining Millions of Metaphors." These articles not only offer compelling interpretative arguments about the Book of Mormon and metaphor but also explore emerging

computational methods for understanding literature and show how collaboration among humanities, statistics, and computer science researchers is essential to developing such methods.

Each article is motivated by a question that it would be difficult to answer without the aid of a computer. For Jockers, Witten, and Criddle (2008), the question is, "Who wrote the Book of Mormon, and how can we know?" while Pasanek and Sculley (2008) ask, "Can a machine learn metaphor?" In each article, the authors bring together a lucid analysis of cultural and interpretive contexts with a detailed description of the computational techniques used to analyze texts, producing a sort of hybrid of literary scholarship and computer science that includes features not commonly seen in literary journals, such as formulas and graphs. The bibliographies likewise reveal the conversation among disciplines, as *Joseph* Smith: Rough Stone Rolling appears with "Class Prediction by Nearest Shrunken" Centroids, with Applications to DNA Microarrays," and Truth and Method joins Machine Learning. Through the transdisciplinary dialogue that these articles undertake, readers comprehend the challenges facing computational approaches to literature, such as how to evaluate algorithms for authorship attribution and how to make sense of text-mining data. Data-driven humanities scholarship demands diverse expertise in acquiring, curating, processing, analyzing, visualizing, and understanding data, as well as a keen understanding of the literary and cultural contexts surrounding the data.

"Reassessing Authorship of the Book of Mormon Using Delta and Nearest Shrunken Centroid Classification" (Jockers, Witten, & Criddle, 2008) tests two different classification techniques for investigating the authorship of the Book of Mormon: delta, which has commonly been used in the humanities computing community to evaluate differences among texts and establish authorship, and nearest shrunken centroid, a more general classifier that has been applied to diagnosing cancer. Such computational methods have wider relevance beyond authorship studies, allowing researchers to cluster texts by categories such as genre, rhetorical approach, and even mood; to hone in on relevant data; and to observe sometimes unexpected patterns. This project not only illustrates computational approaches to analyzing cultural information but also offers a vivid example of how methods originally developed in the sciences have potential relevance in the humanities. The collaboration originated when Craig Criddle, a Stanford professor of environmental engineering and ex-Mormon who was investigating the authorship of the Book of Mormon, searched the Stanford Web site for a text analysis specialist and came across Jockers's name. Jockers, manager of Stanford's Academic Technology Specialist Program and a lecturer

in the Department of English, recognized that they needed to add someone with expertise in statistics and machine learning to the team and recruited Daniela Witten, a statistics graduate student whose other publications include "A Recoding Method to Improve the Humoral Immune Response to an HIV DNA Vaccine" (Huang et al., 2008).

In "Reassessing Authorship," Jockers, Witten, and Criddle (2008) first provide a context for their analysis by exploring the history of the debate over the authorship of the *Book of Mormon*, including the flaws in prior work using stylometric methods to automatically classify texts. The article is part methodological primer, part detective story, examining how other researchers misread textual signals and explaining why their own careful, statistical approach produces more reliable results. The section headings are more typical of a scientific article than a work of literary criticism: "Background," "A New Approach," "Source Selection," "Methodology," "Results," "Discussion," and "Conclusions." However, the key question—"Who wrote the *Book of Mormon*?"— is one of literary and religious history and requires knowledge of that history to answer.

Through this collaboration, each team member was challenged to explain his or her assumptions and to understand how the other disciplines approached problems. Whereas humanities scholars "tend to seek the complications in things, the scientists and mathematicians... are adept at honing in on revealed sorts of moments, sifting through the complexities and finding things that one could say with a degree of certainty" (Matthew Jockers, personal communication, June 5, 2009). For some, focusing on what can be proven and quantified may threaten the foundations of humanities scholarship, which resists positivism and values argument and interpretation over certainty. However, putting the two approaches into dialogue can foster new insights, challenging humanists to be precise in defining their methods and scientists to acknowledge the importance of interpretation in evaluating humanities data. According to Jockers, working with Witten "has been one of the most enriching moments of my academic career. It's incredibly fun to sit down with someone who sees the world completely differently," someone who takes an objective perspective and demands proof for conjectures (personal communication, June 5, 2009). This collaboration has led to further work between Jockers and Witten, a comparative analysis of machine learning algorithms for authorship attribution (Jockers & Witten, 2010).

Whereas Jockers, Witten, and Criddle's (2008) article uses statistical methods to evaluate how the use of common words reveals authorship, Brad Pasanek and

D. Sculley's (2008) "Mining Millions of Metaphors" examines how machine learning and natural language processing techniques can be used to understand metaphor. Invoking Gregory Crane's (2006) question "What do you do with a million books?" Pasanek and Sculley shift the focus to a more granular, semantic level, seeking to explore the history of metaphor. The project originated in Pasanek's dissertation, *Eighteenth-Century Metaphors of Mind, A Dictionary*. To support his research, Pasanek set up a database called *The Mind Is a Metaphor*, where he hand curated nearly 9,000 examples of metaphors of the mind harvested from electronic text collections.

Collecting these metaphors was time- and labor-intensive and required deep literary knowledge. When Pasanek ran into his friend D. Sculley, who was working on a Ph.D. in computer science, and told him about the database, Sculley suggested that his "hunt and peck methodology was in part insane. But he said we could automate a lot of what we do" (Brad Pasanek, personal communication, June 15, 2009). Pasanek and Sculley decided to collaborate, since Pasanek offered a compelling project as a subject expert, while Sculley provided technical expertise. While not every literary scholar has a friend who happens to be a computer scientist, their partnership illustrates that literary problems can lead to engaging research for a computer scientist and that computational methods for literary analysis—and the transdisciplinary conversations that it takes to develop such methods—can produce new insights.

Challenging Aristotle's notion that expertise in metaphors cannot be learned, Pasanek and Sculley asked, "Can we teach a computer to learn metaphor?" (Brad Pasanek, personal communication, June 15, 2009). In order for Sculley to develop and apply algorithms that detected metaphor, he used Pasanek's handcurated collection to train an automatic classifier to recognize more examples of metaphor in a larger set of data. Pasanek and Sculley found that their classifiers could detect examples of metaphors of the mind in works by other authors, so that the model developed for Shakespeare can be applied to Pope. Such an insight, tested across eight authors from Shakespeare to Keats, suggests that metaphors retain some continuity through literary history, whether because of the tastes of canon-making critics or poets' attempts to fit themselves into the literary genealogy through quotation and allusion.

Even though the article is presented in the unified voice of "we," Pasanek and Sculley (2008) reflect on the dialogue between disciplines and find that learning about the other's perspective generates new ideas. For example, they acknowledge that "manually mining this data still introduces potential for what

the computer scientist recognizes as human biases into the analysis," so they examine automated, probability-based techniques to categorize metaphors (p. 354). By employing probability to measure the importance of a word to the author's style, Pasanek and Sculley generated a ranked list of the words that Shakespeare and Pope used in creating metaphors of the mind, body, soul, and heart. Although Pasanek found it "alienating" to examine charts rather than poems, they "quickly realized that just this sort of defamilarization is a good thing" (p. 355). Indeed, the *defamilarization* resulting from applying statistical methods to literature forces the critic to direct attention to features of the texts that might otherwise have remained invisible, such as Pope's use of language drawn from eighteenth-century brain science and Shakespeare's references to heat (p. 355). Using computational methods, literary scholars are pressed to find "objective" ways to describe data, to remove bias as much as possible and look for what can be stated with certainty. At the same time, Pasanek and Sculley acknowledge that the study of literature is ultimately interpretive rather than empirical, as how the researcher chooses to represent the data determines what conclusions are generated by applying the algorithm. Even if the methods for automated classification of literature derive from mathematics and computer science, the data still require analysis and interpretation by a literary scholar. Pasanek and Sculley's collaboration challenged them to explore how techniques developed in computer science can be applied to literature, enlarging their understanding of both domains. As Pasanek explains, when he and Sculley run experiments they discuss what is happening and "spend a lot of time calibrating, one against the other" (personal communication, June 15, 2009). By explaining assumptions, theories, and practices to someone from another discipline, they also come to understand their own disciplines better. According to Pasanek, the work "helps [him] think about Derrida, and I'm sure it helps [Sculley] to sort out algorithms" (personal communication, June 15, 2009). Pasanek and Sculley identify productive differences in method, such as the computer scientist's sense that more objective means need to be used to test interpretations of differences in language between Shakespeare and Pope, and the literary scholar's need to

Pasanek and Sculley have faced some challenges, particularly figuring out how to find time for their collaboration and where to present their work. They get much more accomplished when they meet face to face, but coordinating schedules is difficult since Sculley now works for Google in Pittsburgh and Pasanek is an English professor at the University of Virginia.⁶ Pasanek and Sculley's research

place data generated through automated means in context.

⁶ Does collaboration demand frequent face-to-face collaboration? That depends on whether tasks can be modularized and completed independently or need to be worked on jointly. With

is an example of a "tightly-coupled" collaboration, since it is ambiguous, requires intense communication, and depends on the expertise of each team member (Olson & Olson, 2000). Without the collaboration, Pasanek doesn't think he would have been able to accomplish what he has, and he doubts that Sculley would have pursued the project on his own. Since their work crosses disciplinary boundaries, it is not clear where they should publish it. To date they have published two articles in *Literary and Linguistic Computing*, a major digital humanities journal that represents a sort of hybrid between humanities and computer science. To publish in a computer science journal, they would need to come up with a problem and approach that computer scientists would find interesting and innovative. To publish in a mainstream humanities journal, they would likely need to strip out many of the technical details. Yet their work has generated wide interest perhaps because it is interdisciplinary, appearing in *Chronicle of Higher Education* and the *San Jose Mercury News*.

Instead of taking a proprietary approach to the data he has collected, Pasanek is sharing it through The Mind Is a Metaphor, an online database that uses an Attribution-Noncommercial-Share Alike Creative Commons license to enable other researchers to reuse the data as long as they cite it (see Figure 5). Pasanek and Sculley (2008) acknowledge that metaphors of the mind have broad relevance to a number of disciplines, including linguistics, rhetoric, history, psychology, philosophy, neuroscience, and literary criticism. They advance their own metaphor for the interdisciplinary collaborations that can take place around commonly available information: the library. They explain, "A library is not just a collection of books-nor even a collection of metaphors-but is also a meeting place for researchers to come together and share ideas, guestions, thoughts, and conversations" (p. 359). Thus the library is envisioned not as the place where humanists go to work alone with their books, but as a community that comes together through shared discovery—an apt rethinking of the literary scholar at work. The THL uses similar language in describing the library as a "knowledge community" (Tibetan and Himalyan Library, 2010).

collaborative digital humanities projects such as the Blake Archive, MONK, and the Text Alliance Developers Association (TADA), distributed teams come together physically for occasional meetings and "hackfests," which participants view as essential for defining project goals, working through problems, and making progress on design and programming work (Eaves, 1997; Ruecker, Radzikowska, & Sinclair, 2008). A recent study of digital humanities research teams indicated that face-to-face communication is important to collaborative projects (Siemens, 2009). Project teams maintain continued contact using collaborative technologies such as listservs, project management software, wikis, and instant messaging.



Figure 5. The Mind Is a Metaphor Web site.

SUPPORTING COLLABORATIVE WORK IN THE DIGITAL HUMANITIES

Although collaboration is essential to many digital humanities projects, such as the examples discussed, would-be collaborators face significant challenges, including infrastructure and technical support, funding, tenure and promotion policies, getting credit, and establishing a common language. As experienced collaborators recognize, "collaboration is immensely enriching, but it is also both time-consuming and inevitably involves lots of administration, communication, compromise, and some relinquishment of scholarly autonomy" (Brown et al., 2006). But obstacles to collaboration can be overcome through institutional support, clear communication, effective management practices, and a common interest in achieving a goal.

Under the solo model of humanities scholarship, producing research is relatively inexpensive, requiring funds for a salary and, perhaps, a research assistant, travel, and research materials. Often, internal funds can cover these costs, which means that humanities scholars are not always working on and worrying over grants (Ayers, 2009). Yet many digital humanities projects depend on grants, since these projects require significant funding for salaries, technology support,

facilities, access to data, and sustaining the project. Compared to the sciences, much less money is available for humanities research. For example, the NSF was allocated \$6.49 billion for fiscal year 2009 (National Science Foundation, 2009), dwarfing the total NEH 2009 budget request of \$144.4 million, of which \$2 million was designated for the Digital Humanities program (NEH, 2008).⁷ Some projects, such as Orlando, establish partnerships with publishers to raise funds and disseminate their content, but many aim to make their work available without a subscription. Not only is funding scarce, but applying for grants takes significant time and resources. Less wealthy institutions may lack funding for staff and infrastructure, limiting their ability to participate in digital humanities projects. Describing how liberal arts institutions struggle to provide staff for digital humanities projects, David Green and Michael Roy (2008) argue, "anyone can see that it 'takes a village' to produce this type of cyberscholarship. . . . One obvious worry is that this sort of endeavor is so expensive that it will become the exclusive enclave of the richest of institutions." Green and Roy suggest that colleges and universities can accomplish more by sharing the burden across institutions. Funding agencies such as the National Endowment for the Humanities encourage cross-disciplinary, cross-institutional, and even international collaboration through programs like the Collaborative Research Grants, Digging into Data Challenge, JISC/NEH Transatlantic Digitization Collaboration Grants, and DFG/NEH joint grants.

Despite such opportunities for external funding of collaborative work, institutional norms tend to favor solitary scholarship in the humanities. Can a graduate student earn a Ph.D. for collaborating on a dissertation?⁸ How many universities offer a collaborative sabbatical? How about a collaborative appointment?⁹ Even the physical layout of humanities departments reflects the focus on solo scholarship, since humanists typically hole away in individual offices rather than working in large collaborative areas such as labs. To provide institutional support for collaboration in the digital humanities, universities are founding centers such as the Institute for Advanced Technology in the Humanities at the University of Virginia and the Center for Digital Research in the Humanities at the University of

⁷ I was not able to find out how much the NEH was actually allocated in 2009.

⁸ However, the MLA is advocating collaborative scholarship. For example, 2010 president Sidonie Smith suggested alternatives to the long-form dissertation in languages and literatures, such as "an ensemble of forms" that might include a collaborative project (Smith, 2010).

⁹ Judd Ruggill and Ken McAllister together run a research group in the interdisciplinary field of game studies. They collaborate because "we've learned that we do our best work when we do it together. Our articles are smarter and better written, and we write a lot more of them" (Ruggill & McAlister, 2004). When they tried (and failed) to find a joint position as an "academic couple," joined not by romance but by their collaborative work, commentators suggested that it was a joke and even hypothesized that they had a sexual relationship (Ruggill & McAlister, 2005). The idea of a collaborative pair seemed too strange.

Nebraska. Such centers provide technical, intellectual, and managerial support for digital humanities projects, organize colloguia and other events, sponsor training and educational programs, and often provide both physical and virtual spaces where those interested in digital humanities can come together. Diane Zorich's (2008) study of digital humanities centers suggests that one of their core principles is "collaboration and cross-disciplinarity," as they aim to move beyond "divisions between the arts, sciences, and humanities; between the academy, industry, and culture; between practitioners and theorists" (p. 11).¹⁰ However, as Mark Sample (2010) points out, many digital humanists work at institutions without digital humanities centers. Further, some of these centers have a precarious existence subject to changes in academic focus and funding. Thus he urges people to create their own "network of possible collaborators." Even without the support of formal centers, digital humanities researchers can and do work with collaborators, such as their institutions' libraries or information technology departments, colleagues in other departments or at other institutions, and community groups.

While funding and infrastructure challenges may limit the ability of humanities scholars to launch collaborative digital projects, tenure and promotion policies may reduce their willingness to participate in such initiatives (Friedlander, 2009). Most existing models for evaluation in the humanities assume that research is done solo, reflecting the discipline's focus on individual interpretation rather than collective effort (Cronin & La Barre, 2004). Yet there are efforts to change how collaboration is rewarded. For example, the MLA's 2006 *Report on Evaluating Scholarship for Tenure and Promotion* recommends developing protocols for evaluating collaborative work. And in 2009 the MLA and HASTAC launched an initiative to establish guidelines for the evaluation of digital works (Jaschik, 2009).

Collaboration requires clear agreements about who does what, sharing of data, allocation of credit, and management practices (Borgman, 2008). Figuring out exactly how to award credit remains an issue. For interdisciplinary projects, definitions of what qualifies as research vary by field, so that collaboration may lead to publishable research in one field but not the other (Paepcke, 2008). As Bethany Nowviskie (2009) points out, many digital humanities projects

¹⁰ According to Zorich (2008), 78 percent of digital humanities centers said that they had experienced unsuccessful partnerships because of staff issues, poor communication, mismatched expectations, partner failures, and external factors such as lack of funding. Although Zorich does not cite a corresponding figure for the number of digital humanities centers that have experienced *successful* collaborations, she does suggest that centers have collaborated effectively by building trust, securing the appropriate infrastructure, sharing goals, communicating effectively, and nurturing the collaboration.

necessarily involve collaborations among tenured faculty, graduate students, research faculty, and staff. Sometimes such collaborations involve inequities in which the faculty member claims the greater share of the credit as well as intellectual property rights, but Nowviskie argues that the most successful projects typically take a more egalitarian approach. To define how to manage collaborations fairly, participants in the "Off the Tracks" workshop hosted by the Maryland Institute for Technology in the Humanities (MITH) developed a "Collaborators' Bill of Rights" that emphasizes the importance of providing a "legible trail" of credit and of treating all contributors equally with regard to intellectual property policies (Kirschenbaum et al., 2011). Project teams should engage in open discussions about intellectual property and credit and ensure that the contributions of all members are acknowledged and rewarded. Aiming for transparency, some scientific publications spell out the specific contributions of each author. Since individual reputation can be built on collective achievement, scholars may find that participating in collaborative work brings greater scholarly credibility (Shanks, n.d.).

Just as desktop publishing software enabled users to be designers and the Web gave those with access the power to become publishers, so collaborative technologies and increased access to information can make researchers out of non-academics—a prospect that both opens up the humanities and raises profound anxieties about the nature of scholarly expertise. For projects that depend on community contributions, soliciting public involvement requires hard work in raising awareness of the project, coordinating with local communities, developing an easy and meaningful way for people to participate, and rewarding participation. But, in the sciences as in the humanities, a number of participatory resources, such as blogs and wikis, demonstrate little evidence of participation, perhaps because there are few incentives to participate and academic culture hasn't yet embraced participatory scholarship (Butler, 2005; Harley, Acord, Earl-Novell, Lawrence, & King, 2010).

The academy structures itself around discipline-based expertise validated by a Ph.D. and research record, but opening up participation in scholarly work to those outside the academy raises fundamental questions about incentives for participation, authority, and trustworthiness (O'Donnell, 2008). Can the contributions of an amateur without disciplinary training have the same value as those of someone who has been working in the field for many years? What kind of quality checks can be put into place? Moreover, the tenure and promotion process typically judges *unique* contributions. Are those contributions devalued if anyone can participate? How can unique contributions be identified and valued?

Such questions remain to be worked out. Kathleen Fitzpatrick (2009), for example, proposes peer-to-peer review, whereby members of an online scholarly community earn credit for commenting on and reviewing works by others. Even initiatives committed to a participatory model of knowledge production and dissemination distinguish between "expert" and "popular" contributions, apparently so that they can persuade scholars to contribute work. For example, THL emphasizes that scholarly work will be reviewed by a prestigious editorial board and that "publication within THL is equivalent in academic worth and prestige to publication in a major journal, academic publishing house, or prestigious reference work" (Tibetan and Himalyan Library, n.d.). Even as HyperCities serves as a "participatory platform," it facilitates the peer review and publication of scholarly "geo-temporal arguments" that meet criteria such as the originality of the argument, the effective use of hypermedia, and success in engaging diverse audiences and enabling them to develop new insights (Presner, 2010).

In my interviews with humanities researchers, I heard skepticism toward interdisciplinary as a buzzword and suspicion that work identified as interdisciplinary doesn't represent a convergence of methods, but rather an awkward yoking together of different approaches. However, interviewees testified to how effective *their* interdisciplinary projects were, in part because they made a serious effort to understand the other discipline. Cathy Davidson argues that collaboration by difference—collaborations involving people with different expertise and perspectives—creates new knowledge, since participants don't get stuck in the rut of shared assumptions but can engage in exchanges that lead to new understanding (gtd. in Bass & Schlafly, 2009). Likewise, Matthew Jockers reported that one of the joys of his collaboration on the Book of Mormon project was learning how other fields operate and getting what amounted to a seminar in statistics. Those with experience in interdisciplinary collaboration emphasize the importance of having a "translator" who can rephrase technical discussions and ensure that there is common understanding. Through interdisciplinary collaboration, new ideas are generated as participants explain their own methods and assumptions and are exposed to others. Collaboration recognizes and values the social nature of knowledge, as understanding is built through conversation and sorting through different perspectives.

Not all work should be collaborative, and we need to continue to value the small, individual, and idiosyncratic. Sometimes collaboration can result in research being diluted as participants work toward consensus and overlook challenging ideas, aiming for "the lowest common denominator" (Nentwich, 2003, p. 449).
One interviewee who asked to remain anonymous described the frustrations of working on an article with two research collaborators who had opposing perspectives. The interviewee was put into the awkward position of having to negotiate between the two, and the resulting article took longer to write and was watered down. She suspects that the two collaborators will publish their own interpretations of the data separately. Yet the interviewee described another experience where collaborating with someone with different but complementary skills enabled both to see the data in new ways. One raised questions that the other, immersed in her own disciplinary expertise and assumptions, hadn't considered. As a result, they were each challenged more and spent more time thinking about the questions, opening up new perspectives and resulting in better research. Collaboration "brought up a whole bunch of new ideas I hadn't thought of before, so I could say a lot more than what I could say on my own."

Despite the challenges of performing collaborative research in the humanities, many digital humanities scholars pursue collaboration because it is central to their goals. A single scholar is limited by both time and expertise in what he or she can accomplish. Teams of researchers, on the other hand, can complete large-scale, ambitious projects by dividing up responsibilities (Blackwell & Crane, 2009). The availability of data and collaborative technologies has lowered the barriers of entry to participating in research. Open source software development provides a model for collaborative scholarly work, as it makes knowledge production modular and provides access to a range of expertise. Such approaches may lead to a greater "economy of scale," reducing the duplication of effort and providing a check on guality (Fanderclai, 2004, p. 318). Given the new research possibilities opened up by access to vast databases and collaborative networks, we may be seeing the rise of "big humanities," large-scale projects that aim for a "big picture" view of significant research problems. Just as massive initiatives to produce and analyze astronomical and genetic data required collaboration, so interpreting huge collections of cultural data necessitates a collaborative effort. Excited by the possibilities of collaborative digital humanities to make the work of the humanities participatory and visible, Cathy Davidson (2008) calls for "big humanities" (p. 714). Several digital humanities centers explicitly identify themselves as practicing "big humanities," including UC San Diego's Software Studies Initiative Cultural Analytics project and, formerly, the Stanford Humanities Lab (Franklin & Rodriguez, 2008).

CONCLUSION

What difference has collaboration made in the digital humanities? To some extent, collaboration is a hallmark of the digital humanities because this broadly defined field weaves together at least two strands crucial to the contemporary culture of information: networked communities and data-driven research. By building digital collections, humanities scholars develop techniques for making explicit the structure and semantics of texts; make information available to be used for research, education, and personal enrichment; and enable users to interact with information in dynamic ways. Participatory knowledge initiatives such as HyperCities and THL democratize knowledge by engaging people in documenting their own communities. By devising methods for detecting and analyzing patterns in collections of cultural data, scholars are examining their own disciplinary assumptions and beginning to ask questions that it would be difficult to answer without the aid of a computer. All of these collaborative projects engage the fundamental humanities problem of representation, both how scholars represent information and how citizens represent themselves through the production of media.

Perhaps the digital humanities point to a future for the humanities in general to be more open, engaged, and transdisciplinary. While not every scholar will build a digital collection or define new text-mining algorithms in collaboration with a computer scientist, all are facing the data deluge, and all are part of a knowledge society that is transitioning rapidly to the digital. Thus digital humanities scholars are at the leading edge of a transformation that will affect everyone, but ultimately I believe that the digital humanities will simply be the humanities. Most of the research sources will be digital, as will the publishing environments. Scholars will need to devise methods to harness abundant information, explore new questions, and represent their ideas in electronic publications. In the face of skepticism of the value of the humanities, many digital humanities projects demonstrate how the humanities can be more interactive, interdisciplinary, and engaged, enabling scholars and the public alike to create and share knowledge (Davidson, 2008).

REFERENCES

- Abbott, Andrew. (2008). The traditional future: A computational theory of library research. *College and Research Libraries*, *69*, 524-545.
- About. (2009). *Digital Humanities Quarterly*. Retrieved from http://www.digitalhumanities.org/dhg/about/about.html

Ayers, Edward. (2009). Where the humanities live. *Daedalus*, 138(1), 24-34.

- Bass, Randy, & Schlafly, Theresa. (2009). Participatory learning and the new humanities: An interview with Cathy Davidson. Academic Commons. Retrieved from <u>http://www.academiccommons.org/commons/essay/participatory-learningand-new-humanities-interview-cathy-davidson</u>
- Blackwell, Christopher, & Crane, Gregory. (2009). Conclusion: Cyberinfrastructure, the Scaife Digital Library and classics in a digital age. *Digital Humanities Quarterly*, *3*(1). Retrieved from <u>http://www.digitalhumanities.org/dhq/vol/3/1/000035.html</u>
- Bobley, Brett. (2009, June 25). *Funding the digital humanities*. Paper presented at the Digital Humanities conference, College Park, Maryland.
- Borgman, Christine L. (2008). Supporting the "scholarship" in e-scholarship. *EDUCAUSE Review*, *43*(6). Retrieved from <u>http://www.educause.edu/EDUCAUSE+Review/EDUCAUSEReviewMaga</u> <u>zineVolume43/SupportingtheScholarshipinESch/163260</u>
- Borgman, Christine L. (2009). The digital future is now: A call to action for the humanities. *Digital Humanities Quarterly*, *3*(4). Retrieved from <u>http://digitalhumanities.org/dhq/vol/3/4/000077/000077.html</u>
- Brockman, William, Neumann, Laura, Palmer, Carole L., & Tidline, Tonyia. (2001). Scholarly Work in the Humanities and the Evolving Information Environment. CLIR/DLF. Retrieved from http://www.clir.org/PUBS/reports/pub104/pub104.pdf
- Brown, Susan, & Clements, Patricia. (1998). Tag team: Computing, collaborators, and the history of women's writing in the British Isles.

Computing in the Humanities Working Papers, A.8. Retrieved from <u>http://www.chass.utoronto.ca/epc/chwp/orlando/index.html</u>

- Brown, Susan, Clements, Patricia, & Grundy, Isobel. (2006). Sorting things in: Feminist knowledge representation and changing modes of scholarly production. *Women's Studies International Forum*, *29*(3), 317-325.
- Brown, Susan, Clements, Patricia, Grundy, Isobel, Balazs, Sharon, & Antoniuk, Jeffrey. (2007). The story of the Orlando Project: Personal reflections. *Tulsa Studies in Women's Literature*, *26*(1), 135-143.
- Brown, Susan, Clements, Patricia, Grundy, Isobel, Ruecker, Stan, Antoniuk, Jeffrey, & Balazs, Sharon. (2009). Published yet never done: The tension between projection and completion in digital humanities research. *Digital Humanities Quarterly*, *3*(2). Retrieved from http://digitalhumanities.org/dhq/vol/3/2/000040.html
- Brown, Susan, Ruecker, Stan, Radzikowska, Milena, Patey, Matt, Sinclair, Stéfan, Antoniuk, Jeffery, Farnel, Sharon, & Grundy, Isobel (2009).
 Visualizing varieties of association in Orlando. *Proceedings of the Chicago Colloquium on Digital Humanities and Computer Science*, 1(1). Retrieved from <u>https://letterpress.uchicago.edu/index.php/jdhcs/article/view/7</u>
- Bryant, John. (2008). *Melville, revision, and collaborative editing: Toward a critical archive*. Retrieved from <u>http://people.hofstra.edu/John_L_Bryant/Melville/NEHMELProposal.pdf</u>
- Butler, Declan. (2005). Science in the Web age: Joint efforts. *Nature*, *438*(7068), 548-549.
- Choudhury, Sayeed, & Stinson, Timothy. (2007). The virtual observatory and the Roman de la Rose: Unexpected relationships and the collaborative imperative. *Academic Commons*. Retrieved from <u>http://www.academiccommons.org/commons/essay/VO-and-roman-de-larose-collaborative-imperative/</u>
- Clement, Tanya. (2010, January 11). Comment on Be online or be irrelevant. *AcademHack*. [Web log comment]. Retrieved from <u>http://academhack.outsidethetext.com/home/2010/be-online-or-be-</u> <u>irrelevant/</u>

- Collaboration. (2009). In Oxford English Dictionary. Retrieved from http://www.oed.com/
- Crane, Gregory. What do you do with a million books? *D-Lib Magazine*, *12*(3). Retrieved from <u>http://www.dlib.org/dlib/march06/crane/03crane.html</u>
- Cronin, Blaise, & La Barre, Kathryn. (2004). Mickey Mouse and Milton: Book publishing in the humanities. *Learned Publishing*, *17*, 85-98.
- D-Grid Initiative. (n.d.). TextGrid. Retrieved from <u>http://www.d-grid.de/index.php?id=167&L=1</u>
- Davidson, Cathy N. (2008). Humanities 2.0: Promise, perils, predictions. *PMLA*, *123*(3), 707-717.
- Davidson, Cathy N., & Goldberg, David Theo. (2004). A manifesto for the humanities in a technological age. *The Chronicle of Higher Education*, *50*, 23.
- Davidson, Cathy N., & Goldberg, David Theo. (2009). *The future of learning institutions in a digital age*. Cambridge, MA: MIT Press.
- Eaves, Morris. (1997). Behind the scenes at the William Blake Archive: Collaboration takes more than e-mail. *The Journal of Electronic Publishing*, *3*(2). Retrieved from <u>http://quod.lib.umich.edu/cgi/t/text/text-idx?c=jep;view=text;rgn=main;idno=3336451.0003.202</u>
- Ede, Lisa, & Lunsford, Andrea. (2001). Collaboration and concepts of authorship. *PMLA*, *116*(2), 354-369.
- Fanderclai, Tari. (2004). Collaborative research, collaborative thinking: Lessons from the Linux community. In James A. Inman, Cheryl Reed, & Peter Sands (Eds.), *Electronic Collaboration in the Humanities* (pp. 311-320). Mahwah, NJ: Lawrence Erlbaum.
- Fitzpatrick, Kathleen. (2009). *Planned obsolescence: Publishing, technology, and the future of the academy*. New York, NY: NYU Press. Retrieved from <u>http://mediacommons.futureofthebook.org/mcpress/plannedobsolescence/</u>

- Flanders, Julia. (2009). Dissent and collaboration. In *Digital Humanities 2009 Conference Abstracts* (pp. 108-109). College Park, MD: Maryland Institute for Technology in the Humanities. Retrieved from <u>http://www.mith2.umd.edu/dh09/wp-</u> <u>content/uploads/dh09_conferencepreceedings_final.pdf</u>
- Franklin, Kevin, & Rodriguez, Karen. (2008, July 29). The next big thing in humanities, arts and social science computing: Cultural analytics. *HPCwire*. Retrieved from <u>http://www.hpcwire.com/features/The_Next_Big_Thing_in_Humanities_Art</u> <u>s_and_Social_Science_Computing_Cultural_Analytics.html?viewAll=y</u>
- Friedlander, Amy. (2009). Asking questions and building a research agenda for digital scholarship. In Working Together or Apart: Promoting the Next Generation of Digital Scholarship: Report of a Workshop Cosponsored by the Council on Library and Information Resources and The National Endowment for the Humanities. Washington, DC: Council on Library and Information Resources. Retrieved from http://www.clir.org/pubs/abstract/pub145abst.html
- Gilman, Sander L. (2004). Collaboration, the economy, and the future of the humanities. *Critical Inquiry*, *30*(2), 384-390.
- Goldenberg-Hart, Diane. (2004). Libraries and changing research practices: A report of the ARL/CNI forum on e-research and cyberinfrastructure (No. 237). ARL Bimonthly Report. Association of Research Libraries. Retrieved from http://dlist.sir.arizona.edu/770/01/ARL237_3.htm
- Green, David, & Roy, Michael. (2008). Things to do while waiting for the future to happen: Building cyberinfrastructure for the liberal arts. *EDUCAUSE Review*, 43(4). Retrieved from <u>http://www.educause.edu/EDUCAUSE+Review/</u> <u>EDUCAUSEReviewMagazineVolume43/ThingstoDoWhileWaitingfortheFu/</u> <u>163060</u>
- Harley, Diane, Acord, Sophia Kyzys, Earl-Novell, Sarah, Lawrence, Shannon, & King, C. Judson. (2010). Assessing the future landscape of scholarly communication. Berkeley, CA: UC Berkeley Center for Studies in Higher Education. Retrieved from <u>http://escholarship.org/uc/cshe_fsc</u>

- Hockey, Susan, Butler, Terry, Brown, Susan, & Fisher, Sue. (1997). The Orlando Project: Humanities computing in conversation with literary history. Paper presented at ACH/ALLC conference, Ontario, Canada. Retrieved from <u>http://xml.coverpages.org/hockeyACH97.html</u>
- Horton, Russell, Morrissey, Robert, Olsen, Mark, Roe, Glenn, & Voyer, Robert. Mining eighteenth century ontologies: Machine learning and knowledge classification in the *Encyclopédie*. *Digital Humanities Quarterly, 3*(2). Retrieved from http://digitalhumanities.org/dhg/vol/3/2/000044/000044.html
- Howard, Jeff. (2007). Interpretative quests in theory and pedagogy. *Digital Humanities Quarterly, 1*(1). Retrieved from http://digitalhumanities.org/dhq/vol/1/1/000002/000002.html
- Howard, Jennifer. (2009, December 31). The MLA convention in translation. *Chronicle of Higher Education*. Retrieved from <u>http://chronicle.com/article/The-MLA-Convention-in/63379/</u>
- Huang, Yaoxing, Krasnitz, Michael, Rabadan, Raul, Witten, Daniela M., Song, Yang, Levine, Arnold J., Ho, David D., & Robins, Harlan. (2008). A recoding method to improve the humoral immune response to an HIV DNA vaccine. *PLoS ONE*, *3*(9), e3214.

HyperCities. (n.d.). Retrieved from http://hypercities.com/

- Jaschik, Scott. (2009, May 26). Tenure in a digital era. *Inside Higher Education*. Retrieved from <u>http://www.insidehighered.com/news/2009/05/26/digital</u>
- Jockers, Matthew L. (2010, April 23). Digital humanities: Methodology and questions. [Web log entry.] Retrieved from <u>https://www.stanford.edu/~mjockers/cgi-bin/drupal/node/43</u>
- Jockers, Matthew L., & Witten, Daniela M. (2010). A comparative study of machine learning methods for authorship attribution. *Literary and Linguistic Computing*, 25(2), 215-223.
- Jockers, Matthew L., Witten, Daniela M., & Criddle, C. S. (2008). Reassessing authorship of the Book of Mormon using delta and nearest shrunken centroid classification. *Literary and Linguistic Computing*, 23(4), 465-491.

- JSTOR by the numbers. (2010, April 21). Retrieved from http://about.jstor.org/about-us/jstor-numbers
- Kirschenbaum, Matthew G. (2010). Urban renewal: Some lessons for HyperCities from the Preserving Virtual Worlds Project. In Jerome McGann (Ed.), Online Humanities Scholarship: The Shape of Things to Come. Proceedings of the Mellon Foundation Online Humanities Conference. Houston, TX: Rice University Press. Retrieved from http://cnx.org/content/m34319/latest/
- Kirschenbaum, M., Nowviskie, B., Scheinfeldt, T., & Reside, D. (2011). Collaborators' Bill of Rights. Off The Tracks Workshop. Retrieved January 24, 2011, from <u>http://mith.umd.edu/offthetracks/recommendations/</u>
- Lundin, Rebecca Wilson. (2008). Teaching with wikis: Toward a networked pedagogy. *Computers and Composition*, *25*(4), 432-448.
- Moody, James. (2004). The structure of a social science collaboration network: Disciplinary cohesion from 1963 to 1999. *American Sociological Review*, *69*(2), 213-238.
- Moretti, Franco. (2000). Conjectures on world literature. *New Left Review, 1*. Retrieved from <u>http://www.newleftreview.org/A2094</u>
- National Science Foundation. (2009, June). Congress passes FY09 omnibus bill. Retrieved from <u>http://www.nsf.gov/about/congress/111/highlights/cu09_0310.jsp</u>
- NEH, JISC, NSF, & SSHRC. (2009). Digging into data challenge. Retrieved from http://www.diggingintodata.org/
- Nentwich, Michael. (2003). *Cyberscience: Research in the age of the Internet.* Vienna, Austria: Austrian Academy of Sciences Press.
- Nowviskie, Bethany. (2009, December 30). Monopolies of invention. [Web log entry.] Retrieved from http://nowviskie.org/2009/monopolies-of-invention/
- O'Donnell, Daniel Paul. (2008). Disciplinary impact and technological obsolescence in digital medieval studies. In Susan Schreibman, Ray Siemens, & John Unsworth (Eds.), *A Companion To Digital Humanities*.

Oxford, England: Blackwell. Retrieved from http://www.digitalhumanities.org/companionDLS/

- Oder, Norman. (2010, February 12). Google Book Search by the numbers. *Library Journal*. Retrieved from <u>http://www.libraryjournal.com/article/CA6718929.html</u>
- Olson, Gary M., & Olson, Judith S. (2000). Distance matters. *Human-Computer Interaction*, *15*(2), 139.
- Paepcke, Andreas. (2008, November 8). An often ignored collaboration pitfall: Time phase agenda mismatch. *Stanford InfoBlog*. [Web log entry.] Retrieved from <u>http://infoblog.stanford.edu/2008/11/often-ignored-</u> <u>collaboration-pitfall.html</u>
- Palmer, Carole L., Teffeau, Lauren, & Pirmann, Carrie M. (2009). Scholarly information practices in the online environment: Themes from the literature and implications for library service development. OCLC/RLG. Retrieved from <u>http://www.oclc.org/programs/news/2009-01-23.htm</u>
- Parry, David. (2010, January 11). Be online or be irrelevant. *AcademHack*. [Web log entry.] Retrieved from <u>http://academhack.outsidethetext.com/home/2010/be-online-or-be-irrelevant/</u>
- Participation. (2009). In Oxford English Dictionary. Retrieved from http://www.oed.com/
- Pasanek, Brad, & Sculley, D. (2008). Mining millions of metaphors. *Literary and Linguistic Computing*, *23*(3), 345-360.
- Presner, Todd. (2010). HyperCities: A case study for the future of scholarly publishing. In Jerome McGann (Ed.), *Online Humanities Scholarship: The Shape of Things to Come. Proceedings of the Mellon Foundation Online Humanities Conference.* Houston, TX: Rice University Press. Retrieved from http://cnx.org/content/m34318/latest/
- Ramsay, Stephen. (2010a, January 6). Comment on The MLA, @briancroxall, and the non-rise of the digital humanities. *AcademHack*. [Web log comment.] Retrieved from

http://academhack.outsidethetext.com/home/2010/the-mla-briancroxalland-the-non-rise-of-the-digital-humanities/

- Ramsay, Stephen. (2010b, January 11). Comment on Be online or be irrelevant. *AcademHack*. [Web log comment.] Retrieved from <u>http://academhack.outsidethetext.com/home/2010/be-online-or-be-</u> <u>irrelevant/</u>
- Robinson, Peter. (2005). Where we are with electronic scholarly editions, and where we want to be. *Jahrbuch für Computerphilologie Online*, *1*(1). Retrieved from <u>http://www.computerphilologie.uni-</u> <u>muenchen.de/jg03/robinson.html</u>
- Rosenzweig, Roy. (2003). Scarcity or abundance? Preserving the past in a digital era. *The American Historical Review*, *108*(3). Retrieved from <u>http://www.historycooperative.org/journals/ahr/108.3/rosenzweig.html</u>

Rossetti Archive. (n.d.). Retrieved from http://www.rossettiarchive.org/

- Ruecker, Stan, Radzikowska, Milena, & Sinclair, Stéfan. (2008). Hackfests, designfests, and writingfests: The role of intense periods of face-to-face collaboration in international research teams. In *Digital Humanities 2008 Book of Abstracts* (pp. 16-18). Oulu, Finland: University of Oulu.
- Ruggill, Judd Ethan, & McAlister, Ken S. (2004, October 6). Game for anything. *Chronicle of Higher Education*. Retrieved from <u>http://chronicle.com/article/Game-for-Anything/44600/</u>
- Ruggill, Judd Ethan, & McAlister, Ken S. (2005, June 21). Game over. *Chronicle* of Higher Education. Retrieved from <u>http://chronicle.com/article/Game-</u> <u>Over/45010/</u>
- Sample, Mark. (2010, March 26). On the death of the digital humanities center. Sample Reality. [Web log entry.] Retrieved from <u>http://www.samplereality.com/2010/03/ 26/on-the-death-of-the-digital-</u> <u>humanities-center/</u>
- Schroeder, Ralph, & Den Besten, Matthijs. (2008). Literary sleuths online: e Research collaboration on the Pynchon wiki. *Information, Communication* & Society, 11(2), 167-187.

- Shanks, Michael. (n.d.). Collaboration and cocreation. Retrieved from http://documents.stanford.edu/michaelshanks/188
- A Short History of the Tibetan and Himalayan Library. (n.d.). *Tibetan and Himalayan Library*. Retrieved from <u>http://www.thlib.org/#wiki=/access/wiki/site/0b308aa3-d044-469b-009a-d34c7841413d/thl%20history.html</u>
- Siemens, Lynne. (2009). "Able to develop much larger and more ambitious projects": An exploration of digital projects teams. In Helen R. Tibbo, Carolyn Hank, Christopher A. Lee, & Rachael Clemens (Eds.), *Digital Curation: Practice, Promise and Prospects* (pp. 119-124). Proceedings of Digital Curation conference, Chapel Hill, NC.
- The Size of the World Wide Web. (2010, May). *WorldWideWebSize.com*. Retrieved from <u>http://www.worldwidewebsize.com/</u>
- Smith, Sidonie. (2010). An agenda for the new dissertation. Retrieved from http://www.mla.org/fromthepres
- Spiro, Lisa. (2009a, April 21). Collaborative authorship in the humanities. [Web log entry.] Retrieved from http://digitalscholarship.wordpress.com/2009/04/21/collaborative-authorship-in-the-humanities/
- Spiro, Lisa. (2009b, June 1). Examples of collaborative digital humanities projects. [Web log entry.] Retrieved from <u>http://digitalscholarship.wordpress.com/2009/06/01/examples-of-collaborative-digital-humanities-projects/</u>
- Stanford Humanities Lab. (n.d.). *HASTAC*. Retrieved from <u>http://www.hastac.org/centers-and-institutions/stanford-humanities-lab</u>
- Thomson Reuters. (2009, February 17). Web of Science Help. Web of Science. Retrieved from <u>http://images.isiknowledge.com/WOK46/help/WOS/h_database.html</u>

Tibetan and Himalayan Library. (n.d.). Copyrights in THL. Retrieved from http://www.thlib.org/tools/opllicense.php/#wiki=/access/wiki/site/0b308aa3-d044-469b-009ad34c7841413d/copyrights.html

- Tibetan and Himalayan Library. (2010). The THL Tibetan and Himalayan Community Portal. Retrieved from <u>http://www.thlib.org/community/#wiki=/access/wiki/site/ 0b308aa3-d044-</u> 469b-009a-d34c7841413d/thdl%20community%20overview.html
- Tibetan and Himalayan Library. (n.d.). THL Peer Review. Retrieved from <u>http://www.thlib.org/#wiki=/access/wiki/site/0b308aa3-d044-469b-009a-d34c7841413d/thdl peer review.html</u>
- Toms, Elaine G., & O'Brien, Heather L. (2008). Understanding the information and communication technology needs of the e-humanist. *Journal of Documentation*, *64*(1), 102-130.
- UCLA Mellon Seminar in Digital Humanities. (2009, May). The digital humanities manifesto 2.0. Retrieved from <u>http://manifesto.humanities.ucla.edu/2008/12/15/digital-humanities-</u> <u>manifesto/</u>
- The UVA Tibet Center. (2008). The Tibetan and Himalayan Library. Retrieved from http://www.uvatibetcenter.org/?page_id=1655
- Walsh, John A. (2008). Multimedia and multitasking: A survey of digital resources for nineteenth-century literary studies. In Ray Siemens & Susan Schreibman (Eds.), *Companion to Digital Literary Studies* (pp. 121-138).
 Malden, MA: Blackwell Publishing. Retrieved from <u>http://www.digitalhumanities.org/companionDLS/</u>
- The Walt Whitman Archive. (1995). Retrieved from http://www.whitmanarchive.org/
- Web 2.0. (2010). In *Wikipedia*. Retrieved from http://en.wikipedia.org/wiki/Web_2.0
- Wilkens, Matthew. (2009, December 8). My MLA talk: "Critical text mining, or reading differently." [Web log entry.] Retrieved from <u>http://workproduct.wordpress.com/ 2009/12/08/my-mla-talk-critical-textmining-or-reading-differently/</u>

- Wuchty, Stefan, Jones, Benjamin F., & Uzzi, Brian. (2007). The increasing dominance of teams in production of knowledge. *Science*, *316*(5827), 1036-1039.
- Zorich, Diane. (2008). A survey of digital humanities centers in the United States. Washington, DC: Council on Library and Information Resources.

ACKNOWLEDGMENTS

I would like to thank Leah Krevit for her help with this chapter, as well as the interviewees for contributing their insights and expertise.

Technology-Focused Collaborative Research Initiatives in English Studies: The Possibilities of Team-Based Approaches

Laura McGrath

This kind of work really requires a major rethinking of the whole profession in so many fundamental ways. – Faculty interviewee, UCSB

The subdisciplines of English studies have been investigating for several decades now the teaching and scholarship applications of digital tools and the relationship between technological developments and our objects of study. Promising scholarly research methods in the digital age, however, have not been explored as thoroughly. This chapter examines the possibilities of collaborative, team-based research initiatives, focusing particular attention on three examples led by faculty working in departments of rhetoric and writing or English. Unlike digitization or digital archive projects in which collaboration is focused almost exclusively on building resources, the team-based initiatives I will discuss involve participants in the exploration of technology-related research questions (e.g., questions about the processes of digital writing or about online reading practices) and lead to a variety of outcomes (e.g., blogs, white papers, software, workshops).

As I will argue, collaborative research initiatives that bring together teams of investigators to focus on technology-related questions of shared interest—teams that involve faculty, students, and possibly other stakeholders—deserve attention for the following reasons:

- Team-based initiatives offer flexible work models that can be adapted to various institutional situations, research interests, and emerging objects of study.
- They demonstrate productive ways of engaging students in research and contributing to their professionalization.
- They show how team-based initiatives—whether the collaboration takes place virtually or in a center, lab, or studio—can provide testbeds for theories and sites for examining practices (what Zorich [2009] refers to as "sandboxes" and "idea incubators" [p. 72]).
- They create assemblages of expertise, perspectives, and resources that make it possible to accomplish together what a lone scholar could not.

• They suggest new ways of disseminating research—in new contexts and for an audience that includes but also potentially goes beyond the department, the field, and the academy.

Despite these potential advantages, team-based approaches are associated with logistical, professional, and funding- and sustainability-related challenges that I will also discuss.

The quotations that I include throughout the chapter come from transcriptions of recorded interviews I conducted with students, faculty, and staff at the <u>Writing in</u> <u>Digital Environments Research Center</u> (Michigan State University), the <u>Digital</u> <u>Writing and Research Lab</u> (University of Texas, Austin), and the <u>University of</u> <u>California, Santa Barbara English department</u> during my visits to those sites. Naturally, the initiatives I observed have evolved and changed since my visits. For example, what was then the Computer Writing and Research Lab under the direction of Clay Spinuzzi is now the Digital Writing and Research Lab (DWRL) under the direction of Diane Davis. Nonetheless, the information I gathered from interviewees during those visits offers valuable perspectives on collaborative work and on the missions, outcomes, professional impact, and significance of the projects on which the interviewees worked.

In the context of this chapter, my field research provides a starting point for thinking about the ways in which, as the epigraph suggests, collaborative research initiatives in English studies challenge us to rethink fundamental aspects of our professional work. Examining my findings alongside literature about collaborative research, I explore the following questions:

- What might collaborative research look like and do in English studies?
- Who might team-based research involve and bring together?
- What might the outcomes of such initiatives be in terms of scholarly production as well as impact on participants?
- How is such work understood, valued, and evaluated/assessed in the profession?

CONTEXT

Generally speaking, collaboration is a necessary or particularly productive approach

• when the topic under investigation calls for a wide range of expertise,

- when the project is large in scale,
- when it is desirable to form partnerships in order to share resources (which might include time and intellectual resources as well as material resources), and/or
- when it is desirable to form partnerships with stakeholders from other disciplines, divisions, or campuses; from the community; and/or from industry.

Literature on digital resource development (i.e., digital libraries, archives, and data repositories) provides one perspective on collaborative partnerships in the humanities. In Marta Mestrovic Deyrup's (2009) *Digital Scholarship*, for example, John Straw argues that, to ensure success, collaborators must address "issues such as ownership, copyright, branding, access, [and] costs" and draw up formal contracts or letters of agreement (p. 105). In the same collection, Shawn Martin writes about sustainability and infrastructure as they relate to large-scale collaborative projects.

Within English studies, and writing studies in particular, the majority of scholarship on technology-related collaboration focuses on pedagogy or collaborative professional writing rather than team-based research initiatives (e.g., Reiss, Selfe, & Young, 1998; Hewett & Robidoux, 2010). James Porter (2009), formerly a Writing in Digital Environments (WIDE) research center codirector, does focus attention on research centers in an essay on sustainability that asks, "What role can a research center play in helping to support and enhance the profile of a writing program?" (p. 1). And, although only a handful of chapters address team-based projects, English studies scholars are represented in James Inman, Cheryl Reed, and Peter Sand's (2004) *Electronic Collaboration in the Humanities*, a collection that draws attention to theoretical perspectives, to collaborative pedagogical and scholarly projects, and to "the specific way that information technologies impact collaboration in the humanities" (p. xx).

Recently, most of the dialogue about team-based collaboration in English studies has focused on digital humanities research projects. For example, Lynne Siemens (2009) writes,

Given that the nature of research work involves computers and a variety of skills and expertise, Digital Humanities researchers are working collaboratively within their institutions and with others nationally and internationally to undertake this research. This research typically involves the need to coordinate efforts between academics, undergraduate and

graduate students, research assistants, computer programmers/developers, librarians, and other individuals as well as the need to manage financial and other resources. (p. 225)

Siemens notes that "there has been little formal research on team development within this community with few protocols in place to prepare individuals to work within these research teams" (pp. 225-226), and her research focuses on identifying the components and working methods of successful teams.

Collaboration and the digital humanities has also been the focus of, for example, threads on the HUMANIST discussion list and a 2009 MLA panel entitled "Links and Kinks in the Chain: Collaboration in the Digital Humanities," wherein panelist <u>Bethany Nowviskie</u> drew attention to "status inequalities among collaborators and . . . some of the vexing intellectual-property issues collaborative work raises" (Howard, 2010, A10). And, finally, Diane Zorich's (2008) <u>Survey of Digital Humanities Centers in the United States</u>¹, commissioned by the Council on Library and Information Resources, presents general information about the attributes, missions, governance, administration, and operations of digital humanities centers based on her survey of thirty-two centers, including the DWRL and WIDE. I will incorporate some of Zorich's findings into the current chapter.

BACKGROUND AND METHODS

Initially, I became interested in the <u>Writing in Digital Environments Research</u> <u>Center</u> (WIDE), the <u>Digital Writing and Research Lab</u> (DWRL), and the <u>University</u> <u>of California, Santa Barbara (UCSB) English department</u> because of the research being conducted there on digital writing (WIDE, DWRL), online reading (UCSB), and information culture (all three). Using funds awarded to me by my home institution's Center for Excellence in Teaching and Learning, I planned research trips to each site with the idea that I might be able to adapt some of their methods and implement them. I work in a technology-rich English department. All classrooms feature an instructor console with projection capabilities, there is a computer for every student in our writing classes, and we have an enviable collection of camcorders, voice recorders, and other tools that can be checked out for classroom use. What is more, the department includes a diverse group of faculty (and some students) who are interested in technology. It is an

¹ Unlike my research, which included interviews with researchers/collaborators and staff as well as directors, Zorich's survey "was conducted through interviews with senior management" (p. 1). Though my study was much more limited in scope than hers, I do believe it is important to obtain a wider variety of perspectives in order to better understand the work of a center.

environment that seems ideal for exploring points of intersection between reading, writing, and emerging technologies and user practices. But what, I wondered, was the best way to proceed with such investigations? What began in this way as a search for pragmatic collaborative research methods soon grew in scope.

My research into the initiatives began with the study of their Web sites (see links above) and associated publications. In order to gather more detailed information about the initiatives, I visited each site and conducted a total of forty-two interviews with directors, affiliated researchers, graduate and undergraduate students, and staff (see <u>Appendix A</u> for interview questions). While at the sites, I also toured and photographed the spaces associated with the initiatives (labs, studios, conference rooms, server rooms, etc.) and, when possible, attended project meetings (see <u>Appendix B</u> for slideshows of photographs from all three sites).

As I will discuss, I discovered common threads that I had not anticipated. These commonalities raise questions about the process and products of scholarly research, the way research is disseminated, the way our graduate students are professionalized, and so forth. My field research prompted me to conduct additional secondary research into collaborative initiatives in the humanities, and I have incorporated some of those findings into the current chapter, bringing them into conversation with the voices from WIDE, DWRL, and UCSB.

COLLABORATIVE, TEAM-BASED RESEARCH INITIATIVES: THREE EXAMPLES

Before drawing conclusions about collaborative, team-based research based on my interviews and observations as well as my secondary research, I'd like to offer an overview of each of the three sites that I visited. As Zurich (2008) says of the digital humanities centers that she surveyed, these initiatives create "zone[s] of experimentation and innovation for humanists" (p. 5).

Writing in Digital Environments (WIDE) Research Center

WIDE's official <u>mission statement</u> can be found on the center's Web site, which also serves a forum for news updates and the dissemination of research. One interviewee described the WIDE Center as "a professional and intellectual network—a community," which is fitting given the center's emphasis on collaborative professional inquiry. Additional interviewee perspectives on WIDE's mission flesh out the official statement (emphasis mine):

The main purpose, as I understand it, is to find out **how digital writing works in people's lives** at this point because [writing is] becoming increasingly technology-oriented . . . I think the research side is figuring out how all that works and then . . . a lot of the outreach stuff is helping people figure that out, helping them understand this so they can know how to do these things that they are increasingly needing to do. – *Undergraduate research assistant*

I see [the mission] as primarily focused on research and how it is that writing in digital environments unfolds . . . and all the ways in which community members need various access to resources and need capacities built and the like. [In some cases they produce a product], but in other cases it's capacity building [and] they're always studying how it is that people need that work done and how writing unfolds in those contexts. . . . They've done such a terrific job of **bridging their research and their service and their community initiatives**. They've done asset surveys of the communities and seen what kinds of capacities are there and what kinds of knowledge bases and what kind of social resources and structural resources are there and they develop initiatives from that and develop initiatives around the kinds of problems that community members identify. – *Faculty researcher*

We know very little about digital composing practices and WIDE, to me, is a space that's doing really amazing, inventive, smart work in **helping us better understand how composing happens in digital spaces**. – *Faculty researcher*

We have a particular take on writing in digital environments that defines our research trajectory and it tends to be a focus on the shape of knowledge work generally, and what that means is that we look at the writing that people do on a day-to-day sort of basis We're more interested in where digital writing sort of crops up and becomes mission critical to people. We go there and we study it and we try to make it easier to do. – *Bill Hart-Davidson, Co-director*

In sum, WIDE's projects focus on real-world digital writing and knowledge work. They are often tied to community needs and serve community stakeholders. And, in addition to disseminating research outcomes through traditional scholarly venues, WIDE researchers build and improve communication tools.

Although the WIDE <u>co-directors</u> have faculty appointments in the Department of Writing, Rhetoric, and American Cultures, the center itself exists independent of the department. The center is unique in that it is not charged with supporting students or faculty in their work with technology; as its name suggests, it is purely a research center. WIDE's physical space includes offices, meeting and planning spaces, and a server room. Since WIDE is a research center rather than a teaching-with-technology support unit, there are no labs. This means that budget can be spent on people rather than machine maintenance and upgrades.

WIDE began its work of "[supporting] faculty research focused on understanding how writing works in online environments" in 2003, and the center was "[i]nitially funded by the Michigan State University Research Foundation" (Grabill, 2005, p. 100). As one of the directors explained during an interview, WIDE generally engages "in research for money, either by contract or by grant." WIDE's codirectors identify the center's research trajectories, manage multiple projects at any given time, and put together teams that include students. The projects that WIDE takes on provide the center not only with research opportunities but also with professionalization opportunities for student workers—project management, grant writing, involvement in all aspects of research. In other words, undergraduate and graduate students who work on WIDE projects become coresearchers under the guidance of a faculty member and, as Jeff Grabill explained, learn how to "coordinate and manage a research project to produce an outcome for a client."

Outcomes of research projects include reports and recommendations, white papers published on the Web site, traditional scholarship, and, more recently, software. Co-director Hart-Davidson sums up the center's ultimate goal: "we want to try to make a difference for the better by changing the writing environments in which people work, building new tools, improving existing tools, and generally applying this knowledge that we're creating to making the conditions for communicating better."

Digital Writing and Research Lab

Unlike WIDE, the Computer Writing and Research Lab (now <u>Digital Writing and</u> <u>Research Lab</u>) at UT Austin is a unit of the Department of Rhetoric and Writing, it is funded by the College of Liberal Arts, and it has clearly defined responsibilities for supporting teaching and learning. A <u>history of the Lab</u> and the official <u>mission</u> <u>statement</u> can be found on the DWRL Web site. The Lab has a dual focus on teaching and research, and it is charged with supporting the writing courses that are taught in its computer classrooms and the people who teach those courses. In terms of physical space, the Lab includes several computer classrooms, an office, open labs for students, and a server room.

Clay Spinuzzi had this to say about the lab he was then directing:

Basically, we are really interested in how technology is changing how people write, how people argue, how they see themselves as workers and citizens and scholars and students. . . . we are trying to figure out, when you throw these new technologies in the mix, how does it change the task? How does it change the way people do the sort of things they need to do? So we wanted to go beyond individuals sitting in front of computers and we wanted to see how this is changing their work, their culture, their society.

Number one we are trying to discover these new uses that are occurring for writing and technology. We try to find ways to study those systematically through formal research projects, through research and development, through blue-sky trial and error. The things we find out we pull into our classrooms and use that to help students become better leaders, better citizens, [and] better workers.

Other interviewees addressed the Lab's goals, focusing particular attention on its pedagogical mission (emphasis mine):

[The lab is] supposed to facilitate not only theoretical approaches to technology and emerging technologies but facilitate participation in these technologies.... So it's supposed to **support pedagogy that's technologically enhanced** and also it's supposed to allow both faculty and students to develop [digital material and projects] ... It's really a hands-on practical environment. ... [And a guiding question for the Lab is] how can we facilitate good pedagogy in rhetoric and writing, writ large, with the use of technology? – *Faculty affiliate*

Students are coming in with very different media exposures than I had . . . I think that the [DWRL] is . . . in some sense a reaction to that and a recognition that we need **new pedagogical strategies** to connect with the

type of students who are coming in. – *Graduate student (assistant instructor; workgroup member)*

We empower our teachers to teach in our labs . . . on the one hand we are helping out people teaching in those classrooms by providing the resources—the actual **computer resources**—and also a lot of instructors have not been given a lot of instruction on how to teach before they have actually been pushed into those roles, so we try to help them figure out how to actually use that technology in their classrooms. [One of the goals] is **to help teachers teach effectively** in these spaces. [The other goal is to have the lab] producing research through the developers and the workgroup projects led by the developers. – *Graduate student (assistant director)*

Like WIDE, the Lab follows a collaborative, team-based research model (see Figure 1). Diane Davis has assumed directorship of the Lab, but, as I've mentioned, the director at the time of my visit was Clay Spinuzzi, and Clay had three assistant directors working with him: John Jones, Jim Brown, and Woo Yeom. Assistant directors are graduate students who are in charge of managing lab proctors, leading workshops on new technologies, running orientations for assistant instructors, distributing work to the lab's developers—other graduate students who lead research teams called workgroups in investigating topics such as visual rhetoric or gaming.



Figure 1. DWRL work model.

Assistant directors meet with developers on a regular basis, making sure, to use the words of one assistant director, that "everyone is producing significant work" in the form of some concrete deliverable—for example, a white paper, a blog, a game. These deliverables are then disseminated by way of the Lab's Web site. An assistant director comments, "we're contributing both pedagogically and . . . research-wise to our field and to the university." Another interviewee provided the following example:

<u>Viz</u> is a visual rhetoric Web site where we're attempting to build an archive of theoretical perspectives, pedagogical tools, all related to visual rhetoric. And we also have a visual rhetoric blog to which we contribute . . . people from my workgroup and actually some people, now that we're getting it going, from other institutions as well. . . . And so that's a really nice example of how somebody goes in the classroom, does something, informs the rest of the community about it, the community comments on it, and then the broader community can come here and read about it. So there you have a really nice picture of . . . how the [DWRL] can serve students and can serve instructors and can serve a broader community. – *Graduate student (Workgroup member)*

So, while the Lab has a unique pedagogy-focused mission, like the WIDE Center, it does collaborative team-based research in a way that results in concrete, disseminated outcomes and provides professionalization opportunities for students.

The University of California, Santa Barbara, English Department

The UC Santa Barbara English department might seem out of place next to WIDE and the DWRL, but its collaborative, team-based digital humanities initiatives and centers make it a very relevant research model to study. During my visit, I learned about <u>The Early Modern Center</u>, <u>Transcriptions</u>, <u>Transliteracies</u>, and several other projects. A graduate student interviewee who had been active in a number of the department's collaborative projects described the initiatives in this way:

What you're seeing in part is various ways of people saying, well, how can we use new communications and information technologies to do what we do? And then the second and more exciting question is how can we use them to do things that we don't do yet but should be doing? ... So

Transcriptions, Transliteracies . . . over and over again you see people asking very broad questions and letting people come together to sort of sit with them.

The teams of researchers who "come together" around the problems, topics, and tasks demonstrate that collaboration has intellectual as well as practical benefits, as the diversity of perspectives enriches the research process as it shapes the trajectories and supports the outcomes of this work.

For the sake of space, I will focus on one initiative in particular: Transliteracies. As its Web site suggests, the purpose of Transliteracies is to research "the Technological, Social, and Cultural Practices of Online Reading." Professor Alan Liu is the project's principal investigator. Transliteracies brings together scholars from a variety of UC campuses and departments—English, Computer Science, Media Studies, Education—in addition to graduate research assistants who sometimes serve as project coordinators, facilitating communication among researchers and updating the Web site. Research assistants come from a variety of departments and are recruited through their advisors.

Participants join one of three interdisciplinary workgroups: History of Reading, New Reading Interfaces, or Social Computing. The research, as it was described to me, has focused on identifying objects for study and on researching the topics mentioned above. Outcomes, almost all of which are available on the <u>Transliteracies Web site</u>, include reports and bibliographies. More recently, the RoSE project has launched: RoSE, "currently a demonstration project in early development by the UC Transliteracies Project," is "a research-oriented social environment for tracking and integrating relations between authors and documents" ("RoSE").

As is the case at WIDE and the DWRL, UCSB graduate students play an integral role in the workgroups. A project coordinator explains: "all the research assistants work toward helping Transliteracies . . . build an archive of artifacts related to online reading. And that would entail both identifying interesting objects for study and [creating] longer research reports about select interesting objects." In addition to the explicit research goals of the project, the importance of the collaborative project work is described by another interviewee in terms of "thinking of new ways of producing knowledge and . . . learning from other disciplines."

FINDINGS: COMMON CHARACTERISTICS

Though WIDE, the DWRL, and the UCSB centers and projects have unique missions and structures, the collaborative, team-based, and technology-focused research that they enact shares common characteristics. First, again and again in my interviews at all three sites, people referenced research and work models from outside of English studies: models that come from the sciences or from managed projects like software development. The result in each case is a "workgroup" model for English studies. Further, models from the sciences and engineering were discussed in terms of their dependence on grants, and questions were raised about funding, sustainability, and influence as they relate to collaborative research in English studies.

Second, at each site, interviewees raised similar professional concerns that can be phrased as questions:

- What is the ultimate goal of research and who are the audiences for our research outcomes?
- When dissemination goes beyond the scholarly essay and conference presentation and outcomes are made available on the Web in the form of, for example, white papers, blog entries, and multimedia texts, what do we need to know about scholarly publication, authorship, authority, and copyright?
- How will collaborative, technology-focused work and collaborative outcomes be evaluated in terms of tenure and promotion, course loads/releases, and so forth?

Third, all three sites take seriously their role in preparing students for their future professional work. In fact, professionalization was a subject that came up quite frequently in my interviews. In "Messy Contexts," Rebecca Rickly (2007) critiques the standard research methods course, arguing that "students should be given the opportunity . . . to conduct actual research studies" and suggesting that "support for conducting research should be offered frequently, throughout a graduate student's career" (p. 395). The ways in which WIDE, the DWRL, and the USCB initiatives involve students in research certainly address this issue. The students are given significant responsibilities, involved in the intellectual work of the projects as co-researchers or leaders, and encouraged to gain experience in a variety of practical areas such as project management, grant writing, and technical work.

These commonalities give shape to the discussion that follows:

Humanities Work and Models from Other Fields of Endeavor

(a) From Science, Engineering, and the Tech Industry to the Humanities

Interviewees at all three sites referenced work models from science, engineering, and technical industries. For example, during our interview, a WIDE co-director explained, "We didn't really have any models, certainly not within our own field, so we were trying to take a look at social science and natural science models for how these centers typically operated at a fairly high level of abstraction [because of the differences in capabilities and missions]." A DWRL assistant director noted, "Our work group model is not specific to us . . . , as I understand it, it is how a lot of software companies and tech industries work." And, at UCSB, an interviewee discussed "big humanities," "an analogy to big science . . . [that points to efforts] to follow engineering or other sorts of lab cultures." The relationship between humanities work and models from scientific or technical disciplines calls to mind literature about humanities "labs" and "collaboratories." Writing about thematic research collections in the digital humanities, Carole Palmer (2004) discusses "The Humanities Laboratory" and references collaboratories in the sciences:

In the sciences the virtual laboratory, or collaboratory, concept has been around for some time. Traditional laboratories that are physically located encourage interaction and cooperation within teams, and collaboratories extend that dimension of research to distributed groups that may be as small as a work group or as large as an international research community. Collaboratories are designed as media-rich networks that link people to information, facilities, and other people . . . They are places where scientists can obtain resources, do work, interact, share data, results, and other information, and collaborate. (p. 356)

A "successful" humanities laboratory (physical) or collaboratory (virtual), Palmer notes, will provide researchers with the materials, tools, and "activity support" they need and will facilitate resource and information sharing as well as other forms of collaboration (p. 356). And within the field of English studies, Karen Lunsford and Bertram Bruce (2001) identify the following attributes of a collaboratory (see their article for detailed descriptions): "shared inquiry," "intentionality," "active participation and contribution," "access to shared resources," "technologies," and "boundary-crossings" (referring to the bridging of "gaps and distances" of "geography," "time," "institutions," and "disciplines") (p. 55). The initiatives that I observed at WIDE, the DWRL, and UCSB are more closely aligned with the "traditional" laboratory model than the "collaboratory" model, with the possible exception of the Transliteracies project. In all cases, however, the initiatives share the characteristics set forth by Palmer (2004) and Lunsford and Bruce (2001) and demonstrate how a model from non-humanities fields has been productively adapted within English studies research contexts.

An interview with a UCSB graduate student, however, problematizes the laboratory metaphor and calls its appropriateness and long-term applicability into question. The interviewee's comments are worth quoting at length (emphasis mine):

My sense is that for myself and for the community of people that I worked with, one of the functions of the centers was to build a community around some shared concepts. . . . [but] is the concept of a lab, a place with shared material resources like in the sciences or like in a computer lab which then becomes the locus for a professional community to do research and be socially organized around shared equipment . . . a good model for the digital humanities? Or **should we ditch the metaphor and start talking about arranging conceptual investigative communities** and conversations around other metaphors? My suspicion is that maybe we're really in a one-researcher-multiple-personal-computers (laptop and PDA) state now and that the lab idea is long in the tooth. . . . **the idea of the center is really something we need to emphasize as a conceptual community and not as a room**.

People just don't get together in a computer lab to work. They work on their own computers. [So] the idea of what we were going to use these places for and why they were important to set up . . . my sense is it shifted pretty quickly. . . . My laptop is an invaluable center of hundreds of software tools that I've carefully collected and arranged over time and thousands of documents and when I want to do serious work with someone that I'm collaborating with on something that I consider research, I'm not going to go sit down in front of a vanilla computer in the middle of a center somewhere. You know? I want to be at the locus of my own library, and everyone is building their own.

The key point here is that today's humanities research diverges from scientific research that requires brick-and-mortar laboratories and the expensive, non-

portable tools they house. In light of the UCSB interviewee's points, it is prudent to consider what models and metaphors will shape the future of "conceptual investigative communities" in English studies. This will be especially important in planning and allocating funds for any physical spaces and equipment associated with collaborative projects.

(b) Funding and Sustainability

Funding, Sustainability, and the Influence of Context and Grant-Making Agencies

Interviewees with whom I spoke made connections between science and engineering models and the issues of funding and sustainability facing collaborative humanities projects. Take, for example, this statement from a WIDE interviewee (emphasis mine):

Universities . . . especially research universities, are starting more and more to push on the liberal arts the models we see in science and engineering where there's **an expectation that you will be grant seeking**, you will be bringing in money, you will be sustaining yourself. Boy, if we don't start looking in these directions we're in big trouble. . . . being forced to bring in your own money can be painful . . . but it can also be positive because it allows you different spaces to share your message and validate in different ways what you do. But I don't think it can happen well in a sustainable way unless there's something like this, a center where there are people who workshop grants and a center where people can pull together materials and a center to do all of the really hard **intellectual and detail-oriented work of funding your research**. – *Faculty researcher*

The terms *entrepreneurial* and *grant-seeking* came up in a number of interviews, and these terms also appear in associated literature. A UCSB interviewee explained that initiatives have to be somewhat "entrepreneurial," actively seeking external grants (e.g., NEH) and internal grants, such as instructional development/improvement grants. A DWRL assistant director noted that by making contributions to both the department and beyond (e.g., to the field or to the community), the Lab was "ultimately . . . trying to get outside funding. Those smaller projects should hopefully ultimately result in production of something that can be part of a grant proposal." And a report entitled "The Impact of the Writing in Digital Environments (WIDE) Research Center" (2007) explains that WIDE "pursues research contracts [and] other entrepreneurial opportunities" (p. 1). For

example, the center has "launched a major new entrepreneurial initiative with the Eli Broad College of Business and interested outside investors focused on improving business writing and communication" (p. 4). The report also notes that WIDE had "[doubled] the number of grant-active faculty and [grown] considerably the value of grants sought and received" (p. 2). During an interview with a WIDE co-director, I learned that, with the center's initial grant funds running out, "from this point on the research center is only the projects that it has going, and it can only have projects going that it can afford to do, so projects that people pay us to work on. And so that's the sustainability model for a center like this."

If the sustainability of collaborative research initiatives headed by English studies scholars is, in large part, dependent upon grants, then this raises a number of issues. Grants for collaborative research in the humanities are smaller in amount and quantity than what is available in the sciences or engineering; there are currently a limited number of places to turn to for funding. And, importantly, some English studies scholars lack experience in grant writing or in building the sort of multidisciplinary, interdisciplinary, or academy-and-industry or academy-and-community partnerships that might provide access to a wider variety of funding sources.

Another issue to consider is that, if grant funding is essential to the life of a project, the agendas and preferences of grant-making agencies inevitably shape what gets studied. Here again, English studies has something to learn from the sciences. Writing about "Big Science" research, historian Bruce Hevly (1992) states, "Sponsor relationships . . . became part of the intellectual and social context of big science, and came to influence plans for further research" (p. 359). In the same chapter, Hevly shifts his focus to the humanities and writes, "the financial and political realities of academic life support the movement toward more sponsored research. . . . Scholars engaged in [collaborative research] projects should remain sensitive to the impact of these arrangements on our own work—arrangements that could influence the choice of topics, modes of presentation, and training of students" (p. 363). And, so, being entrepreneurial and grant-seeking also means being influenced by funding sources—a reality that deserves further attention from English studies scholars and their collaborators.

Hevly (1992) also notes that "institutional context affects the intellectual content of science" (p. 360). The influence of context was particularly evident at Michigan State University, with its land-grant history and outreach mission, and at UCSB, where interdisciplinary work is emphasized and supported, both philosophically and monetarily, by administrators (a UCSB interviewee notes, "the campus hallmark is interdisciplinarity and it gets a lot of financial support."). In the same way that the agendas of grant-making agencies may shape the work of collaborative teams, so to do institutional agendas-or departmental agendasshape research. Some scholars question whether institutional agendas lead to "boutique projects" (Friedlander, 2009, p. 6) with limited scope and relevance. Reiterating points made in her 2008 report, Zorich (2009) notes that there are "concerns that the proliferation of independent centers is creating silos of activity and redundant resources. There are worries about the prodigious amounts of digital production created by DHCs that remain unterhered to larger, communitywide resources and preservation efforts. And there is a sense that center-based research agendas are at odds with digital scholarship's increasing need for large-scale collaborative endeavors and resource integration across departmental, disciplinary, and geographic lines" (p. 71). Overall, the initiatives I studied appear to benefit collaborators and, through their dissemination methods, other researchers in the field. But are initiatives like the ones undertaken by WIDE, the DWRL, and the UCSB English department "boutique projects"? Are these sites "silos of activity" when they might more productively focus on joining resources and pursuing larger-scale endeavors that address "communitywide" needs?

Sustainability Is Also About People

Sustainability, of course, has to do with people too. A DWRL assistant director explained, "It is not like a business where if someone is not producing we can fire them. So a lot of it has to do with how well we can motivate people and how well they can motivate themselves." And, indeed, the success of the initiatives I studied seemed to be predicated on the enthusiasm of those involved and the ability of directors and project leaders to motivate collaborators, make connections between the right people and stakeholders, and so forth.

Noting that "[w]e need a clearer model of a process for conducting large-scale collaborative projects, and we need to learn more about the essential elements and the kinds of attitudes that make large volunteer efforts work," Tari Fanderclai (2004) turns to the Linux development community as a model of "successful volunteer collaboration" (p. 312). As a result of her research, Fanderclai argues that "a large collaboration needs a coordinator who will be driven by his or her fascination with the subject matter to follow through and who knows how to attract interested and talented people to the project" (p. 315).

During my UCSB research trip, interviewee comments revealed that UCSB's Alan Liu is just this kind of coordinator. In my own interview with him, Liu talked about his team-building efforts and explained that his "style of running these programs is to be part of the working group" and to lead "working meetings, development meetings." Liu also noted that "you need the right kind of spider in the middle of the web to hold things together." Like the directors of the other initiatives I studied, Liu's enthusiasm, vision, and ability to connect people, ideas, and resources artfully and efficiently are essential to the initiatives he manages. Notably, there is some danger associated with such dependence on an individual, especially in terms of sustainability. Zurich's (2008) research reveals that projects sometimes fail when an "evangelist' whose energy and enthusiasm provided much of the project momentum" leaves (p. 35).

Professional Concerns

(a) Rethinking Dissemination

During a DWRL interview, an assistant director explained that the workgroup model is "product-oriented so we can say at the end of the semester that this group actually produced something. . . . It can be as small as a white paper or as big as a Web site." A goal, he explained, is "to put everything out there for public consumption" and the Lab emphasizes openness: "everything we do is licensed under some sort of Creative Commons license." All three sites, in fact, put material "out there for public consumption" on their project Web sites. The Transliteracies Web site features a wealth of information that includes a detailed project description, planning documents, a "research clearinghouse," and participant information. And "featured news," a Twitter stream, and an aggregation of posts from affiliated blogs appear on the WIDE home page, and the site lists project descriptions and publications².

These initiatives, and WIDE in particular, still emphasize traditional scholarly dissemination through presentations and publications. The digital dissemination practices of the initiatives, however, raise questions about research and publication: When it comes to collaborative, technology-focused research, what should be shared, with whom, when, and where? Fanderclai's (2004) observations about lessons learned from the Linux developer community provide additional questions to consider. What would happen if English studies

² The WIDE Web site is perhaps the least resource rich of the three initiative's sites, but it is still an interesting model of digital dissemination and of how humanities researchers are using social media tools (e.g., blogs and Twitter).

researchers released "early" and "often," sharing "all of the source materials—the methods, the raw data, the rough drafts, and the tentative conclusions . . . via the Internet as soon as they are created" (pp. 316-317)? What if "[r]esearchers could get feedback at every stage of the process, rather than working in isolation with no responses until a final publication comes out," viewing research audiences as potential "collaborators" and "coresearchers" (p. 317)?

Though the sites I studied are, to varying extents, putting information and resources "out there for public consumption," I did not get a clear sense of what the future goals of these initiatives might be with regard to digital dissemination and issues such as openness and collaboration with audiences. Openness tends to be valued by digital humanities initiatives "in the form of the free flow of ideas; transparency in work and practice; a progressive intellectual property system; and greater access to source material for the study of the humanities" (Zorich, 2008, p. 11). But true openness requires a more radical shift; openness that embraces social media and the inclusiveness and interactivity it supports "challenges the borders between disciplines as well as between professionals and amateurs, between scholars and knowledge enthusiasts. It raises questions of privilege and authority as well as ethical issues of credibility and responsibility. privacy and security, neutrality and freedom of expression" (Davidson, 2008, p. 711). Adopting open social models would mean, Fanderclai (2004) suggests, that "we need to share the work and the credit, recognizing the value of every contribution and every contributor" (p. 319). Addressing the implications of Davidson's (2008) and Fanderclai's (2004) claims is no simple task because it requires a rethinking of so many of the academy's long-standing assumptions. Although further exploration of this important topic is beyond the scope of the current chapter, Davidson's (2008) "Humanities 2.0" provides an informative overview of what trends toward collaboration and openness-along with "hybridity, exchange, flow, and cultural transaction" (p. 710)—might mean for writing, teaching, research, and gate-keeping traditions such as academic peer review. These subjects are also taken up compellingly by Alan Liu (2009).

(b) Fairness, Recognition, and Promotion & Tenure within a "Culture of Isolation"

During our interview, a UCSB faculty member, speaking about highly collaborative archival work undertaken with graduate students, made the following comments:

One of the problems is that the profession has to acknowledge this kind of work as equal to publication. . . . It's along the science model. But the humanities have not accepted the science model. It wants us to work on the science model, but it doesn't know how to incorporate that into its ageold structures [such as tenure and promotion]. Is this a book? Is this an article? What is this? It wants us to do these [projects], but it doesn't want to give [proper credit]. So you have to fight like the dickens. Whereas in the sciences, it's automatic!

The same interviewee points out that leading a collaborative research project that involves students is "a different kind of teaching. . . . When you are heading these projects, you are actually teaching as well as doing research. So the lines between teaching and research really blur." These ideas lead to a conclusion that I heard stated in a variety of interviews at the sites I studied: traditional structures within our departments and colleges are often not prepared or flexible enough to evaluate alternative models of scholarship, dissemination, and instruction represented by collaborative research.

Quoting <u>National Initiative for a Networked Cultural Heritage</u> surveys, Randall Bass (2004) notes that "the 'lack of institutional commitment to collaborative work [and] general culture of isolation in scholarly work in humanties' were identified as serious obstacles to collaborative work" (p. 368). This is echoed by Fanderclai (2004): "[O]ur research traditions and reward systems can be barriers to collaboration. Humanists tend to value individual products Establishing oneself in the field requires carving out a territory of one's own and building up a store of personal intellectual property" (p. 314).

Zorich (2008) suggests that "[a] shift toward [an] evaluative framework—one that invests a level of trust in the work of the center and reflects that onto individuals—is needed in the humanities if scholars are to put significant efforts into the collaborative activities of regional and national centers" (p. 44). Success, of course, builds trust. In the case of WIDE, the center's successful work (measured, in part, by number of grants and publications) has "helped distinguish Michigan State University as an international leader in the areas of digital writing and literacy research" ("The Impact," 2007, p. 3).

In "Digital Texts and the Future of Scholarly Writing and Publication," Nicholas Burbules (1998) predicted that

There will be new needs, needs to reassess what counts for tenure, salary or promotion purposes as a legitimate "publication"; who gets credit for certain kinds of collaborative work; how to judge the quality and originality of work that at least partly, if not largely, consists of the recombination and cross-linking of materials gathered from elsewhere on the Web... and so on. (p. 122).

Though the profession has made strides in the right direction thanks to the work of committees and task forces within our professional organizations (see Figure 2), my research suggests that satisfactory solutions have not been implemented equitably and consistently across institutions. Over a decade after Burbules made his comments, there is still more work to be done.³

CCCC Guidelines/Statements	MLA Guidelines/Statements
<u>Committee on Computers (7Cs)</u>	<u>Authors of Web Pages</u>
 Evaluating Work with Technology 	 Evaluating Scholarship for T&P
<u>Scholarship in Composition</u>	Evaluating Work with Digital Media
<u>T&P Case Studies</u>	<u>Evaluation Wiki</u>
	Publication in E-Journals

Figure 2. Guidelines and statements from professional organizations. Source: <u>Ball, 2010</u>.

Student Professionalization

As noted previously, students, and graduate students in particular, play an integral role in the initiatives I studied. Interviews with both faculty and students at the sites emphasized that this involvement offers a uniquely valuable professionalization opportunity; students are involved in the intellectual, practical, and community-building work of collaborative research, and they learn skills and methods that will serve them well in the future. A WIDE interviewee explains,

If you look at research centers in other fields and other disciplines, they play a key role in graduate education. They provide on-the-job training for academics. That almost never exists in our field people can graduate with a Ph.D. in our field and never write a grant proposal . . . never

³ Isolated evidence of progress exists. For example, a University of Southern California's "Creativity and Collaboration in the Academy" Web page described efforts to revise "tenure and promotion to reward collaborative research," provide "financial support through the collaboration fund, enabling groups of faculty to work together on interdisciplinary research topics," and develop "resources to support sharing of data and information" (Office of Research, 2011).

understand what it's like to be part of a large research team, a collaborative project.

The professionalization experiences the field offers its students shape future researchers and thereby the future of research. Alongside comments about the practical benefits of involving student researchers in collaborative, technology-focused work emerged an argument about what faculty hope these future professionals (and possibly our future colleagues) will value and be able to do.

Professionalizing students is a clear priority at WIDE. A co-director noted, "despite the fact that we don't have an explicit curricular connection . . . one of our biggest successes might be the impact that we've had on the graduate program." As the following comments reveal, teaching and learning is interwoven with research at WIDE (emphasis mine):

[The center teaches] students how to do research. Now it's not that they don't do research in their courses. They do. But it tends to be mainly textual research. [Working with WIDE they get] a really good sense of how you manage, coordinate and manage, a research project to produce an outcome for a client. I think students come out of their experience with **a** really pragmatic, clear understanding of what it means to do research in writing and how it relates to rhetoric. – *Faculty affiliate*

We'll put together a team to conduct the actual inquiry and that team has almost always been a combination of graduate students and undergraduate students and sometimes the reason for that combination is to give some of our graduate students at both the master's and the Ph.D. level some **project management experience**. – *Co-director*

As a matter of policy, we engage [students] as **co-researchers**.... My goal is to have everyone who comes through WIDE leave with the real possibility that they now understand how to do a project, how to get it funded, how to write a proposal, how to carry out the research, how to publish the results, and to understand that as **a trajectory of intellectual work**. – *Co-director*

Graduate student researchers whom I interviewed talked about gaining grant and project management experience, participating in "research that really helps change people's perception of the field and what the field can do and where the field really has a mission outside of academia," and discovering that "not only can
we make [digital writing practices] visible, we can do them better. And we can do them better through research and figuring out what's actually going on."

Undergraduates are also involved, though to a lesser extent than graduate students, in some WIDE projects. I was able to interview an undergraduate who worked for WIDE. The interviewee, who said that the experience had helped her learn about workplace writing, explained that she had written press releases and news items, made a brochure, advertised workshops, helped to update a Web site, and worked on a grant. In terms of research, she was preparing to interview people in the Lansing area as part of a WIDE-related project. An advisor explained, "we posed this question and gave her mentors and supported her in her development and she took it from there."

Like WIDE student researchers, graduate students at UCSB have opportunities to participate actively in research and to develop practical skills. Colloquia offer opportunities for students to present research, and some initiatives enable students to pursue projects that interest them. The Transliteracies project involves graduate students in a number of ways. A student project manager explains her "practical" and "research" work:

I've been responsible for regulating a lot of the communication between the researchers, updating the Web site, handling [site] traffic. I do a lot of production stuff to archive our events. And in terms of research: All the research assistants work toward helping Translitercies build an archive of artifacts related to online reading. And that would entail both identifying interesting objects for study and longer research reports about select interesting objects.

Another graduate student affiliated with Transliteracies mentioned getting "to experience what it is like to be published in an online environment" and noted that her work on the project "was actually a really good professional experience." Alan Liu, the same interviewee explains, "involves us in the dinners with the [guest] speakers and the stuff that graduate students don't usually get to be involved with." "I was just thinking," she stated, "how involved everybody was, and excited, and interested in sharing their ideas. And I just thought how it is he inspires such an enthusiasm. And I really think it was just the way he created the program . . . instead of just giving maybe three grad students full stipends he did these smaller stipends. But they were still significant enough to inspire us to work."

Finally, the DWRL work model is also a professionalization model. My DWRL interviews revealed some of the ways that graduate students believe they benefit from their workgroup participation. For example, one interviewee explained, "We're doing research on [a] topic that we're also actively using in the classroom, so I think it's a really interesting way to make your [graduate student] instructors who are interested in this area . . . actively investigate the things they're interested in." Within the workgroups, the developer position is a good way to "incubate" leaders who can then apply to be assistant directors. After serving as developers, Spinuzzi explained, graduate students "have project management skills, now can plan these projects and think strategically as well as practically, and have a track record of working with other people."

These examples show how collaborative, technology-focused research initiatives can be excellent alternatives to problematic research methods courses (see Rickly, 2007) and can provide valuable professionalization opportunities for knowledge workers, whether or not they continue on to positions within the academy. Further, they emphasize what one of my UCSB interviewees pointed out: Working with students in these ways is a form of teaching.

CONCLUSION

Although space does not allow me to discuss the full range of ideas and issues my research uncovered, I have identified important commonalities, highlighted some of the most salient messages for English studies researchers, and connected those findings to perspectives from relevant literature. Collaborative, team-based, technology-focused research presents opportunities and challenges, as I have described and as Zorich (2008) details in her report about digital humanities centers.

On one hand, although interviewees at WIDE, the DWRL, and UCSB were generally positive about the efficacy of their work models, collaborative work is never easy. In order to remain sustainable, English studies research collaborations depend on funding that can be hard to come by and on the enthusiasm and community-building talents of a few key leaders. And it does take talent to assemble, manage, and motivate collaborators who bring diverse abilities, ambitions, goals, and levels of commitment to the partnership.

Such centers and initiatives also raise questions that are not easily answered. For example, are these initiatives "silos" and "boutique projects" that, for all their emphasis on collaboration, fail to join the larger humanities community in addressing "marquee questions" and building needed resources (Friedlander, 2009, p. 2, 6, 5)? In adapting models from scientific and technical fields, do they somehow devalue the epistemological traditions of the humanities? Do they, despite a commitment to openness when it comes to dissemination, not go far enough in light of the interactivity and inclusiveness that social media support? Do they not do enough to seek the sort of institutional change that would more equitably acknowledge, evaluate, and support collaborative, digital, and alternative forms of scholarship and teaching?

On the other hand, centers and initiatives like the ones I studied offer distinct advantages to researchers. They provide critical mass, activity support, and other essential resources. Importantly, they sustain professional and intellectual networks that, as one interviewee explained, can serve as "intellectual catalyst[s]." A WIDE interviewee made the following statement: "Could we be doing this [research] in our separate little offices? I think we could. But it wouldn't happen in the same way with, I think, the same velocity that it does because WIDE exists and we can come here and talk about these issues and link into other projects that are going on." Collaborative approaches have intellectual and practical value, creating research communities that promote and accelerate inquiry and that are able to produce outcomes that are richer for the variety of perspectives that shape them.

The work of such initiatives can impact the field by demonstrating new ways of producing knowledge, by sharing resources, and by disseminating the results and products of their research through a variety of venues. Through outreach, initiatives can also impact communities beyond the academy. And, finally, as so many of my interviews revealed, initiatives like the ones I studied can professionalize the students affiliated with them, involving them in work that benefits them as knowledge workers and scholars and enabling them to learn about research from the inside out.

REFERENCES

- Bass, Randall. (2004). Response. In James A. Inman, Cheryl Reed, & Peter Sands (Eds.), *Electronic collaboration in the humanities: Issues and options*, pp. 363-375. Mahwah, NJ: Lawrence Erlbaum.
- Burbles, Nicholas C. (1998). Digital texts and the future of scholarly writing and publication. *Journal of Curriculum Studies*, *30*(1), 105-124.
- Davidson, Cathy N. (2008). Humanities 2.0: Promise, perils, predictions. *PMLA*, *123*(3), 707-717.
- Fanderclai, Tari. Collaborative research, collaborative thinking: Lessons from the Linux community. In James A. Inman, Cheryl Reed, & Peter Sands (Eds.), *Electronic collaboration in the humanities: Issues and options*, pp. 311-320. Mahwah, NJ: Lawrence Erlbaum.
- Friedlander, Amy. (2009). Asking questions and building a research agenda for digital scholarship. In Working together or apart: Promoting the next generation of digital scholarship (pp. 1-15). Washington, DC: Council on Library and Information Resources.
- Grabill, Jeff. (2005). Electronic writing, research, and teaching. *Clearing House,* 78(3), 100-101.
- Hevly, Bruce. (1992). Reflections on big science and big history. In Peter Galison & Bruce Hevly (Eds.), *Big science: The growth of large-scale research* (pp. 356-363). Stanford, CA: Stanford University Press.
- Hewett, Beth L., & Robidoux, Charlotte. (2010). Virtual collaborative writing in the workplace: Computer-mediated communication technologies and processes. Hershey, PA: Information Science Reference.
- Howard, Jennifer. (2010). At language scholars' convention, social media amplify the discourse. *Chronicle of Higher Education*, *56*(18), A10. Retrieved from <u>http://chronicle.com/article/The-MLA-Convention-Meets/63465/</u>
- Inman, James A., Reed, Cheryl, & Sands, Peter. (2004). *Electronic collaboration in the humanities: Issues and options*. Mahwah, NJ: Lawrence Erlbaum.

- Liu, Alan. (2009). Digital humanities and academic change. *English Language Notes, 47*(1), 17-35.
- Lunsford, Karen J., & Bruce, Bertram C. (2001). Collaboratories: Working together on the Web. *Journal of Adolescent & Adult Literacy, 45*(1), 52-58.
- Martin, Shawn. A universal humanities digital library: Pipe dream or prospective future? In Marta Mestrovic Deyrup (Ed.), *Digital scholarship* (pp. 1-12). New York, NY: Routledge.
- Office of Research. University of Southern California. (2011). Creativity and collaboration in the academy. Retrieved from http://www.usc.edu/research/for_researchers/creativity_and_collaboration _in_the_academy/index.html
- Palmer, Carole L. (2004). Thematic research collections. In Susan Schreibman, Ray Siemens, & John Unsworth (Eds.), *A companion to digital humanities*, (pp. 348-365). Malden, MA: Blackwell.
- Porter, James E. (2009). Sustaining a research center: Building the research and outreach profile for a writing program. In Danielle Nicole DeVoss, Heidi A. McKee, & Dickie Selfe (Eds.), *Technological ecologies & sustainability*. Logan, UT: Computers and Composition Digital Press. Retrieved from http://ccdigitalpress.org/tes/index2.html
- Reiss, Donna, Selfe, Dickie, & Young, Art. (1998). *Electronic communication across the curriculum*. Urbana, IL: NCTE.
- Rickly, Rebecca. (2007). Messy contexts: Research as rhetorical situation. In Heidi McKee and Nicole Devoss (Eds.), *Digital writing research: Technologies, methodologies, and ethical issues* (pp. 377-397). Cresskill, NJ: Hampton.
- RoSE (Research-oriented social environment). *Transliteracies*. Retrieved from <u>http://transliteracies.english.ucsb.edu/category/research-project/rose</u>
- Siemens, Lynne. (2009). "It's a team if you use 'reply all'": An exploration of research teams in digital humanities environments. *Literary and Linguistic Computing*, 24(2), 225-233.

- Straw, John B. (2009). Digital partners: Collaborating to build digital resources. In Marta Mestrovic Deyrup (Ed.), *Digital scholarship* (pp. 105-116). New York, NY: Routledge.
- The impact of the Writing in Digital Environments (WIDE) Research Center. (2007). Unpublished report. WIDE, Michigan State University, East Lansing, MI.
- Zorich, Diane M. (2008). A survey of digital humanities centers in the United States. Washington, DC: Council on Library and Information Resources
- Zorich, Diane M. (2009). Digital humanities centers: Loci for digital scholarship. In Working together or apart: Promoting the next generation of digital scholarship (pp. 70-78). Washington, DC: Council on Library and Information Resources.

APPENDIX A: INTERVIEW QUESTIONS

The goal of the research trips and the interviews was to discover what there was to know about the collaborative research initiatives and to learn as much as I could from project participants, directors, and staff. I went to each site knowing that I would not have all the right questions, and so I set aside time for open discussion and encouraged each interviewee to suggest additional topics and questions. The following list represents the questions that I used to begin interviews:

- 1. Please tell me your name, title/position, and your relationship to the initiative/project/center.
- 2. How would you describe the mission or goals of the initiative/project/center?
- 3. Did you face any challenges while working on the initiative/project?
- 4. What were the outcomes of the initiative/project? (Or, if the project is ongoing, what are the intended outcomes?)
- 5. How would you describe the value, impact, or significance of the initiative/project/center?
- 6. What else should I know about the initiative/project/center?

Prior to each interview, participants signed an IRB-approved consent form.

APPENDIX B: SLIDESHOW

During my site visits, I took photographs of the campuses and work environments I toured. The following slideshow presents some of those images, revealing my perspective on each place's *genius loci*. I regret that my tours generally happened when these spaces were empty of the very people whose work was the inspiration for this project, but I believe that my chapter captures what is missing from the photographs.



Collaboration and Graduate Student Professionalization in a Digital Humanities Research Center

Jim Ridolfo Martine Courant Rife Kendall Leon Amy Diehl Jeffery Grabill Doug Walls Stacey Pigg

My own view is that our graduate programs generally don't do enough to professionalize students, in the sense of socializing them into the confusing and intimidating mysteries about how you get ahead in this business. – Gerald Graff, 2000, p.192

The directors, graduate assistants, senior researchers, and affiliates of Michigan State University's Writing in Digital Environments Research Center (WIDE) work on a diverse range of collaborative, externally funded projects, ranging from grant projects funded by entities such as the National Endowment for the Humanities and the Institute for Museum and Library Studies to contract work for units and organizations both inside and outside of the university. In this chapter, we explore how the work of a digital humanities research center relates to graduate student professionalization, addressing questions such as

- What does a research center add to the total offerings of a graduate program?
- What do graduate students learn from being a part of or leading a research team?
- How might research centers like WIDE prepare graduate students for various professional roles?
- What can graduate students learn about their professional lives as academics—and how can they develop professional identities and capacities—from the work possible in a research center?

Additionally, while issues of graduate student professionalization in rhetoric and composition studies have been addressed in terms of writing centers and teaching assistants (Hattenhauer, 1982; Hoberk, 2002; Horner, 2000; Miller, 1997; North, 1984), none of these scholars have examined the multifaceted role of research centers, largely, we suspect, because there have been so few

research centers in rhetoric and composition and relatively few in the humanities. Our approach will center on narratives of graduate student experience, framed by the history, purposes, and collaborative research goals of the WIDE Research Center. We argue that these narratives provide English studies professionals with a unique view of how a research center can contribute to graduate student professionalization. The research center model, adapted to fit other contexts, can offer graduate students valuable collaborative learning experiences, especially when students participate in community-driven research projects.

While for some collaboration may simply mean team members working together, in a digital writing research center like WIDE, collaboration is woven together with community engagement and outreach in essential ways. We think that the narratives we present in this chapter are indicative of an increasing trend toward collaboration and infrastructure development in the digital humanities (see for example the global collaboration that is part of our recently funded NEH Digital Humanities Start-Up Grant work: Archive 2.0: Imagining The Michigan State University Israelite Samaritan Scroll Collection as the Foundation for a Thriving Social Network). We argue that these collaborative community-outreach experiences all share a common thread: the cultivation of long-term, intensive working relationships and concern for shared infrastructure development and management. In light of the sort of knowledge work students will perform after graduation, it is increasingly important for rhetoric and composition and digital humanities graduate programs to provide students with opportunities to engage in collaborative endeavors and to develop experience in project management and infrastructure development.

THE WRITING IN DIGITAL ENVIRONMENTS (WIDE) RESEARCH CENTER

The WIDE Research Center is rooted in the larger discipline of rhetoric and composition. It investigates how digital technologies change the processes, products, and contexts for writing, particularly in organizational and collaborative composing contexts. As an organization, it works to support research on digital writing and writing-intensive knowledge work in a range of community and organizational settings and with attention to issues of culture (see Figure 1 below).

MICHIGAN STATE UNIVERSITY WIDE Research Center Writing in Digital Environments		
Home About the Research Center Collaborate People Projects Publications		
Two Faculty Positions for Innovators in Digital Humanities, Cultural Informatics, & Multimedia Writing	Search	
Posted on February 16, 2011 by hartdav2	Recent Posts Two Faculty Positions for Innovators in Digital Humanities, Cultural Informatics, & Multimedia Writing ATTW 2011 Research Methods Workshops! WIDE Crew Travels to Fargo, Headlines Conference New Research: Measuring Helpfulness in Online Peer Review Stacey Pigg & Jeff Grabill to Lead New IML5-funded Project on Science Learning in Digital Musems	
Michigan State University, College of Arts and Letters Technology, Culture, and Creativity Cluster		
For our growing dynamic initiatives at the intersections of technology, culture and creativity, the College of Arts and Letters invites applications for a multidisciplinary team that embraces a design thinking approach dedicated to a common sense of values: creativity, teamwork, end-user focus, and curiosity.		
Successful candidates should be committed to engaging students in real-world problems within the larger cultural shift from a consumer culture to a creative society increasingly defined by mediated experiences. The ideal candidates will excel in their disciplinary fields. They will also analyze and theorize the larger		
participation and positive social change. We are committed to embedding the creative disciplinary questions of how we author, design, and perform cutting-edge new media experiences within a larger	Recent Comments	
social and cultural context. Those hired will support the College of Arts and Letters in its focus on shaping students who go out into the world and have an impact.	Archives February 2011 October 2010	

Figure 1. WIDE Web site.

WIDE partners with business, industry, government, education, and community organizations to identify projects of mutual interest and concern. The center is affiliated with but not governed by any one academic department; supportive of academic programs but not embedded in any graduate or undergraduate program; and most importantly, flexible, fast, and entrepreneurial in operation. WIDE pursues grant-funded research in collaboration with colleagues across campus, seeks research contracts and entrepreneurial opportunities, contributes significantly to scholarly literature in various fields, and supports undergraduate-and graduate-student research. Therefore, WIDE's relationship with its local partners—departments, programs, majors, and the like—makes it unique within the field of rhetoric and composition and within the humanities more generally.

WIDE's role is to move faster than programs and departments are capable of moving, take risks that faculty members operating individually cannot easily take, and create spaces within the academy and within departments and programs for new forms of inquiry, learning, and professionalization. Conceptually, the center has taken up the problem of how to study writing given new and changing digital and networked information technology tools and environments. Fundamental to our approach is the development of information and software tools as a research deliverable. This development work is conceptual because it is a function of (and feeds into) our theory-building work. It is relevant to this chapter as well because development activity is central to graduate student experiences with the center. We see the development of software, therefore, as a way to test our developing theories of writing, as well as a way to address the needs we see emerging from our collaborative research efforts.

We orient to writing in particular ways as well. We study writing as a verb, which means that we are interested in the *activity* of writing. Studying writing as an activity entails asking how we can best do it and how we can help others to do it better. We understand the activity of writing to be carried by a broad semiotic (multiple media), and we understand the activity of writing to be epistemologically productive—that is, we situate ourselves within a rhetorical tradition that understands writers as producers of new knowledge. We are interested, in other words, in what writing does, not in what it means, and in the social and organizational functions and impacts of writing, not in the meaning and interpretation of the texts themselves.

This contextual information provides a brief overview of WIDE's unique structure and mission; additional information can be found on <u>WIDE's "About" page</u>. Now we will shift our focus to how the center functions as a space for a certain kind of graduate student professionalization. We argue that the research center provides a distinctive set of professionalization experiences for graduate students. From the establishment of content management systems for university-community collaboration (Kendall) to the acquisition of independent servers (Jim), these professional experiences share common elements: collaboration and attention to infrastructure and space.

BUILDING COLLABORATION: PROFESSIONALIZATION IN EVERYDAY INTERACTIONS

Kendall Leon

My tenure at WIDE officially began in spring 2005 when I worked as an hourly research assistant on the <u>Teachers for a New Era</u> information modeling project, a research initiative of WIDE's that studied the writing practices of teachers and teacher educators in order to build writing platforms to support such work. I eventually became the WIDE graduate research assistant in the summer of 2006. After my research assistantship ended the following year, I continued to work on an hourly basis as a graduate assistant with WIDE, developing and delivering community media workshops to nonprofit organizations up until spring 2009. At that point, my dissertation research and writing took me into a different

area of inquiry: a historiographic project that investigates the rhetorical strategies of a Chicana feminist organization.

To most, the connection between my research on Chicana rhetoric and my work at the WIDE Research Center may seem tenuous. There is, however, a common binding thread that exists at the less visible level of *practice*. From observing and participating in day-to-day interactions among the people I encountered while working at the research center, I learned the practice of community building. For me, the most profound take-away from my WIDE experience was not explicitly taught; instead, it was modeled by the co-directors in their interactions with our collaborators from the university and the local community. In order to effectively and responsibly develop sustainable research projects, WIDE always started with and focused on the people involved. The work of any project, then, included not only surveying relevant literature or developing technology but also participating in the meetings, phone calls, and face-to-face conversations that helped these projects come to fruition. This knowledge has shaped my own practices as a scholar.

It was, in fact, my interest in the practice of building communities that led me to become a WIDE research assistant in the first place. In spring 2006, I took a course called Community Literacies, which Jeff Grabill co-taught with Ellen Cushman. After the course, knowing that I desired practical research experience in communities and technologies. Grabill invited me to assist with a research initiative that WIDE was undertaking: the Capital Area Community Information initiative (CACI). WIDE had been tasked with the redesign of a community Web site called CACVoices (see Figure 2 below). The purpose of CACVoices was to serve as a community portal of sorts, where community members could access information about and for the greater Lansing area, including health statistics and programs, neighborhood information, and community events. The site also functioned as a Web hosting space for community organizations, most of which lacked either the technical expertise or money to run their own sites. The initial home page and site design were fairly clunky and jumbled, and as a result the Web site was not user friendly. The site design also allowed for little visitor interaction aside from the few organizational representatives who knew how to work on their sites. Part of the vision of the redesign was to support the work of community organizations and to allow for some visitor interactivity: registered members would be able to post comments, contribute to forums on community issues, and add event items.

CACVoices.org Find YOUR Voice!	
home about cacvoices	contact.
you are here: home	tog in tigon
navigation	
Capital Area Community	Capital Area Community Voices 🔤 🔿
Voices	Welcome to the Capital Area Community Voices website. This website provides access to data and technology in an effort to serve the people and organizations working to improve well-being in Mid-Michigan.
Data & Maps	Our mission is to encourage and assist such people and organizations by providing a portal in which users can network, share information, tell stories and work toward building a stronger Mid-Michigan.
Healthy Lifestyles	On this site you can:
Community Resources	Learn about community and neighborhood organizations
Get Involved	 Find resources to help you maintain a healthy lifestyle
Contact	Use data and @maps to help you improve your community
Forums	Find community resources that match your needs
Нер	Learn how to make a website on CACVoices
CACVoices Survey	 Get involved
Previous Version of CACVoices	Suggest changes that would make this site more useful to you
Fitness Logs	Featured sites
Compassion Capital Fund: Information and	OThe Power of We
Materials	Learn about the unique, sustainable model for capacity building and community improvement that is transforming Michigan's Capital Area.



The site's first iteration was hosted and maintained by a staff member at the Ingham County Health Department. The administrative responsibilities for maintaining the site, running usability testing, and implementing a redesign were too big for one individual to handle, which is where WIDE came in. As a first step, WIDE conducted a study that investigated what the work of community organizations actually looks like. Specifically, three researchers conducted a summer-long qualitative study of two community-based organizations in Lansing, Michigan, charting their writing projects, infrastructure, and technology. I joined the WIDE team through this research experience. Subsequently, I was hired as the part-time research assistant for the 2006-2007 academic year and as an hourly employee for 2007-2008.

At times, my job at WIDE was frustrating. Some of what I encountered was completely foreign to me, and I felt like I had taken a fast-moving jump into technological literacy. I also felt as though I was unable to contribute to the center's technological knowledge, and, at the end of the experience, I cannot say that I consider myself a technology expert. What I did learn, and what I will focus on for the remainder of my section, are the ways in which research centers like WIDE give graduate students opportunities for professionalization that have less to do with technology than with building relationships through teaching and collaboration. Although I will focus on my experience working on the community media project, I had ample opportunities to work on other collaborative projects with other students and faculty, including one project that entailed developing a digital electronic resource hub for K-12 teachers. I also co-authored several collaborative documents including grant proposals, an article, and a technical specification document. Finally, along with other graduate and undergraduate WIDE project team members, I presented at four national conferences.

To return to the CACVoices project, one of WIDE's explicit goals for the CACVoices redesign was to make more visible the relationship between the CACVoices site/project and the <u>Capital Area Community Media Center</u> (CACMC). This in part stemmed from a recognition on the part of a few of CACMC board members that the CACVoices site needed to be seen as a community effort and not as a project supported by institutions like the County Health Department and/or the university. As part of my WIDE research assistantship, I became increasingly involved with the CACMC.

On behalf of the CACMC, another WIDE project I participated in was to coordinate and facilitate free community media workshops throughout the greater Lansing area. In general, these workshops focused on developing the technological capacities of community members and nonprofit organizations and included working with digital imaging software, content management systems, blogs, and <u>vox pop</u> radio broadcasts. To do so required planning the curriculum and managing the publicity for these workshops. It also entailed producing writing associated with forming the organization and creating its public face. Much of this latter work—the writing of the CACMC—necessitated intensive distributive work. The distributive work involved facilitators, board members, community locales where the workshops took place, and, through WIDE, several undergraduate research assistants and myself.

While working on these interrelated projects, I became especially interested in the relationships that comprised these activities. Working closely with Grabill, I noticed that many of the community members involved were ones with whom he had spent years fostering relationships prior to the start of any of these projects. When examined longitudinally, the CACMC and CACVoices projects actually began years ago, when the co-directors developed relationships with the community partners. These relationships were vital to the research center as a whole. As a research assistant, I saw the co-directors work hard to build and keep these connections. They made careful and considerate decisions about what would seem like mundane details: where to hold meetings, how the meetings should be run, which students should work on projects. And they shared resources with their partners in a variety of ways. For example, as the research assistant, I was asked to provide free Web site work to a local non-profit consortium on behalf of WIDE. The consortium was not directly related to the CACMC, but several of the people and the organizations involved in the consortium could be linked in some way to the CACMC. I also helped draft grant proposals for a local women's center and volunteered at a farmer's market and a neighborhood tour for an area neighborhood organization.

What I learned about these relationship-building practices of sharing resources and of doing unacademic work like setting up tables or grabbing drinks is that they actually play an integral role in research projects. Forming relationships takes a significant amount of time and effort and requires the closest care. This invisible work actually builds and maintains research projects and communities, but it is oftentimes left out of the research project descriptions we read. During my tenure working with WIDE, in particular with the CACMC project, I learned that even though the emphasis may be on technologies and digital writing, the true work of such a center is building the infrastructure to enable this work-and this includes, more often than not, the people involved. More so than any other professional behavior, the importance of people-of maintaining relationships, of treating people and the places and things that they value professionally and respectfully—was consistently modeled to me by the WIDE co-directors. I am not just talking about the kind of respect and reciprocity that is debated in many community-based research articles; I am referring to the everyday interactions that help establish sustainable relationships of care and trust. As graduate students, we are often not privy to the small, incremental steps it takes to be good scholars, teachers, and administrators.

ENVISIONING INSTITUTIONAL CHANGE THROUGH COLLABORATION

Martine Courant Rife

I completed my Ph.D. in December 2008 after working at WIDE as a graduate research assistant for about two years. I am now a tenured writing professor at Lansing Community College (LCC) located about three miles away from the Michigan State University (MSU) campus. At LCC I coordinate technical and business writing and teach those same classes, plus courses in the first-year-writing sequence. I am working on three books about issues of composition and copyright, and I am working on a number of other research and writing projects all connected in some way to my dissertation as developed during my employment at WIDE.

I developed my dissertation project while working on a WIDE-supported research project examining the intersection of composition and copyright (see Rife & Hart-Davidson, 2006). This dissertation project turned out to be the foundation for my career's scholarly trajectory. During my time at WIDE, I worked collaboratively with staff and students, participated in the administration of the center, and organized several events for the center. I worked on research projects such as a content audit and analysis of the Web site for the National Council of Teachers of English, and I played a key role in writing a comprehensive recommendation report on the results of that research. I also worked on a study based in social psychology literature that examined how public writing versus private writing impacts one's perception of one's self. During my time at WIDE, I worked on several grant proposals as well, including participation in managing the complex internal and external workflows of high-stakes proposing. Part of my job included developing an awareness of budget and other infrastructural concerns that impact the center's survival. Preparing quarterly and annual administrative reports for the vice provost also gave me increased awareness of infrastructural issues (DeVoss, Cushman, & Grabill, 2005).

I was able to observe research-in-action and saw the results from one of the center's research projects: <u>Visualizing Composition</u>, led by Bill Hart-Davidson, Jeff Grabill, and Julie Lindquist (see Hart-Davidson, Grabill, & Lindquist, 2010). In the project, research participants kept diaries as they completed class assignments. Their work was then transposed into a software application where one could literally see each writing event play out. I was also able to observe the composing process as I learned to use <u>Morae</u>, a screen capturing software, and thereby saw computer-mediated writing processes in action.

Like working in a writing center, when working in a research center one gets to "understand the importance of prioritizing tasks" (Clark, 1988, p. 348). I learned to self-prioritize multiple tasks I was working on simultaneously. For example, when the WIDE Research Center's first conference on digital knowledge was taking place, a major report authored by the center was due. At the same time, I was asked to work on future projects. Meanwhile, student workers had to be organized for the conference, along with program packets, last minute food arrangements, and transportation to and from the airport for conference presenters. I had to work hard to learn to prioritize my work on several parallel projects, alongside my own coursework.

Working at the research center also allowed me to work directly with outside clients with much more control over who I worked with and what that work constituted than I had experienced in service-learning coursework. I had ample

opportunity to develop civic values, improve learning, and become a selfmotivated learner and worker (Matthew & Zimmerman, 1999, p. 385). When I drafted reports and press releases for the center, I understood my audience included not only those in composition studies but also community members and individuals within the MSU community who had no background or training in rhetoric and writing. As I worked at the center, I became adept at sensing where attention was needed, and I had the freedom to work on projects I felt would most benefit the center and promote its mission. Because I quickly realized that the center's success would speak to the more general success of research in writing and composition studies, I felt a deep sense of responsibility to engage in activities that would facilitate the center's success.

The ability to see the infrastructure that supports the teaching of writing through programs, institutional entities, offices of deans and vice provosts, and university relations or "creative marketing" and its control over university-generated press releases was one of the most invaluable aspects of my position at the research center. One of my duties when I began at WIDE was to promote the center's work and make the center visible both within and beyond the MSU community. I learned, however, that the institutional identity is carefully controlled, and approved channels were already in place that filtered and reviewed press releases. I learned to navigate this system carefully, and I admittedly experienced frustration when the dissemination of information was slowed and even sometimes quashed because of institutional policies or selection processes.

Because WIDE is positioned in the humanities, in MSU's <u>College of Arts and</u> <u>Letters</u> (CAL), a number of paradigms were continually challenged by WIDE's business-like mode of operation. WIDE had outside "clients" and received payment from them. Such payments had to go into university-related accounts and be administered within pre-existing infrastructures. WIDE also generated a continual and substantial amount of grant proposals—a new challenge for CAL, which did not have a research budget expert or an expert on forthcoming grant opportunities as did social-science-associated university enterprises. All of this behind-the-scenes work had to be completed by the co-directors and staff, which was not necessarily the best use of their time. I was able to see, however, how institutions can be changed from the inside out as I watched and participated in the making of a new space in CAL where grant proposals could be processed in MSU's existing system.

The key lesson I learned from working at WIDE has to do with institutional change. I think that institutional change is usually very difficult and never achieved in a straightforward fashion. I think back all the time to the kinds of

barriers faced by those at the WIDE Research Center as they moved forward in their mission. Some of their achievements seemed, at the time, small and insignificant, like gaining a single additional office area. Now that I am in the position to create institutional change in a different setting, however, I can see just how challenging and complicated even the smallest change is. I remember events from working there all the time and draw on those experiences as I try to move forward at my current institution.

COLLABORATION, USABILITY, AND USEFULNESS

Amy Diehl

I completed my master's degree in digital rhetoric and professional writing while spending two years as a research assistant for the WIDE Research Center. I currently work as the Web content manager for Hampshire College in Amherst, Massachusetts, where I oversee all content on the <u>Hampshire Web site</u> and associated Web sites. In my duties I work as part usability specialist, information architect, content editor, content management system coach, and Web designer. Much of what I learned from my time at WIDE has deeply influenced my success at my current institution.

I worked on a number of complex projects during my two years at the center. The primary project, Capital Area Community Information (CACI), was a research project studying and redesigning a community resource portal and Web hosting site for community organizations (see Kendall's narrative). The site originated as a collaboration in 2000 between the City of Lansing and the Ingham County Health Department for the purpose of creating Web resources to inform residents about issues vital to community well being. The goal of this effort was to increase the use of data and information in decision making by residents. The belief was that a writing space where community groups and non-profits could also post their own information would further achieve the goals of facilitating community growth and well being. I worked through WIDE to facilitate a three-year research study of (1) how community organizations and community members use information technologies to do knowledge work, and (2) how CACVoices as an information technology can be made both more usable and useful to the communities it serves. I participated in two formal usability evaluations, led the redesign of the CACVoices Web site based on the findings of both usability evaluations, and conducted field work at two community nonprofits to research how these organizations conduct writing and communication work and how information technologies are utilized.

Because I worked so closely with the community members involved in using the CACVoices Web site, I felt a true responsibility and need to work ethically and fairly to ensure that the redesign addressed their needs and was in fact more useful and usable. Because I worked on the project for almost two years, I felt a deep sense of the importance of the work both locally, for those community members, and more globally, with regard to the lessons the team learned about the complexity of designing information technology for diverse community groups in order to promote well being.

I also worked on a geospatial mapping project that was launched in response to a need by these same organizations and citizens regarding the usability of current geo-spatial mapping programs. Grassroots is an asset-based mapping tool designed with the express purpose of creating an information technology that creates complex maps for use in community projects and with a target audience of non-expert users (Diehl, Grabill, Hart-Davidson, & Iyer, 2008). Through my work on this project, I was given the opportunity to learn about and theorize research in ways that might otherwise have remained invisible to me. By talking with other research assistants, as well as the co-directors, I was able to collaborate on research articles, initiate and facilitate projects, and receive invaluable feedback, reassurance, and support from those much more experienced in the business of research than I was.

Finally, I served as a board member of the <u>Capital Area Community Media</u> <u>Center</u> (CACMC), which was also mentioned in Kendall's narrative. The CACMC is a formation of community members in the Lansing Tri-County area as well as Michigan State University faculty and students who are working to "create democracy through media" by forming a regional nonprofit whose mission is to support the media creation of community members and community nonprofits.

In my work with community groups, I also had the opportunity to work with students outside of the institution. I supervised several undergraduates who were assisting with the editing and interface design of the CACVoices Web site. By supervising a collaborative writing project with these students, I was able to both achieve the goals of the project and mentor the students as they found themselves facing the complications of real-world work: deadlines, collaborative differences, troubleshooting, and the balance between theory and reality.

How do these experiences compare with what an English studies graduate student might encounter in the more traditional professionalization context of a writing center? One of the benefits of working at a writing center is to observe and thus reflect on the composing process—to see real "writers in action and to gain insight into how writing actually occurs" (Clark, 1988, p. 347). At the research center, we were able to observe writing in wholly unique ways and "in the wild." In my WIDE-related work at the <u>Usability Center</u>, for example, I was able to observe and research how real users interact and write with information technologies while they perform typical tasks. And my observation research for the CACVoices project exposed me to collaborative writing—such as monthly or annual reports, grants, and newsletters—and a composing process beyond the academic context. The writing processes I observed in my community-based research most closely resembled the very types of writing work I was also being asked to do within the research center, such as collaboratively written usability reports, requirement documents, development blogs, grants, and research articles.

The key lessons I took away from WIDE were related to issues of usability and usefulness. For a content management system to work, for example, it must be usable to the content creators, so they can in fact do the very writing work they have been tasked to do. A primary function of my job is meeting with content creators to assist them in their own writing work and adapting the technology and workflows to better serve their individual needs. The Web site itself also must be usable, and we have begun iterative usability testing to ensure that the end-users also find the Web site meets their expectations. How to make technologies useful is also a primary take-away from my time at WIDE. Useful content, like the mapping tool I worked on at WIDE, must also be born from the end-users' goals. Listening to the users' suggestions and studying what they most often ask of admissions counselors or what they most often enter into the search box have helped in revamping the Hampshire Web site to offer a better experience to the user.

COLLABORATION AND THE NEED FOR DIGITAL INFRASTRUCTURE

Jim Ridolfo

I started working at the WIDE Research Center in the fall of 2003, the first semester of my graduate studies in Rhetoric and Writing at MSU. WIDE had just received startup funding from the MSU Foundation, and so, economically speaking, the center began to exist within the College of Arts and Letters. WIDE existed in 2003 as a university account, two co-directors, one IT staff member (me), and one administrative support person; without physical space the center could not begin to grow and live up to its potential. Without physical space, the center lacked the ability to provide any infrastructure and support for the kind of large-scale, sustained, collaborative digital research projects we wanted to tackle. This became known as "our space problem."

For my part, the directors wanted me to create server infrastructure local to MSU where we could control our own domain name services, utilize static IP addressing, provide a range of customized development environments for our digital research projects, and offer a wide range services for teachers and students at the departmental level such as listservs, blogs, wikis, MySQL access, FTP space, and CGI/PHP-capable Web space. I was tasked with providing support to our unit that went far beyond the level of support available from the college and university IT infrastructure. Having had several years of prior experience working with servers, this task didn't pose specific challenges for me in terms of server technology. For me, the real challenge was the lack of a permanent space to store the servers. We had no space.

In 2003 I approached the chair of the Writing, Rhetoric, and American Cultures department, and I asked him for any closet space he could spare. He was able to provide, for an undetermined amount of time, a windowless closet with a working Ethernet drop, and I spent the next two days sweeping up the peeling paint chips, cleaning out several hundred pounds of Americana, 16mm tape reels, arcane audio/visual equipment, history text books from the 1970s, a framed copy of the Bill of Rights, and other remnants of a department. I transformed two audio-visual carts into a mobile server room on wheels. Heavy uninterruptable power supplies (UPSes) went on the bottom shelf next to oversized CRT monitors for diagnostics; refurbished Sun Sparc and PC servers salvaged from the scrap metal pile at the university surplus store went on the middle and top shelves. When the space transformation was complete, we had a clean, functional server room on wheels, and as it turned out, those wheels proved invaluable.

The following summer the storage closet I spent two days cleaning out was reassigned to an adjunct faculty member, and so the year of musical chairs with servers began. On several occasions, I would, at 2:00 a.m., move the servers to a new location: sometimes the office of a senior faculty member on sabbatical, once another utility closet. MSU's network service provided me with twenty-four static IP addresses so I could move the machines anywhere in the building without needing to get MSU's central IT staff to reroute the network path. Shortly after I moved the machines, the new neighbors would complain about the sound of a "bee nest" in the hall, a complaint that earned our mobile server-room-onwheels a title that stuck: "The Hive."

After two years administering The Hive's servers-on-wheels, the university finally provided WIDE with a more permanent address. Suddenly we had the offices. meeting space, and storage space necessary to help sustain the kind of longterm collaborative research WIDE sought to accomplish. But there was just one major missing component. There was still no room suitable for our servers. The only candidate we had lacked any external windows and vents. Without modifications, the room was an oven for computers, cooking them to a slow death. I looked into modifying the existing space, such as cutting a hole in the door or installing a vent system, and an official from the MSU Office of Physical Plant informed me that any structural modifications we did would be in violation of fire code. To solve this problem Physical Plant wanted WIDE to spend at least \$40,000.00 to upgrade the A/C capability for the entire floor. In other words, to solve our problem, they wanted us to pay to upgrade the antiquated cooling system for the entire building. So for the next four years, from 2005 to 2009, the server room continued to be a semi-official entity. I snaked an A/C tube out into the hall to cool the room down, and every year and a half a Physical Plant official would tell me that we'd need to find a permanent solution to the cooling problem. Or, in other words, they'd tell us that we'd need to eventually pay for a building upgrade.

One might ask at this point, why do the servers need to be local to the university network? Can't they be collocated off site? Technologically speaking, the services our servers provide did not need to be a hundred percent local. However, there is a strong argument to be made that the kind of development work we were doing necessitated the servers being local. This is true, but economically and rhetorically speaking the server room is even more valuable as an institutional argument. From 2003 to 2005, the mobile server room argued that the research center desperately needed a more permanent physical space of its own. The hum of The Hive reminded the department chair that WIDE needed its own space. Because the servers were on the university network, we were able to create over twelve *.wide.msu.edu domain and hostnames such as, http://www.wide.msu.edu, http://kairos.wide.msu.edu, and http://dev.wide.msu.edu.

The result of this dance between the physical and the virtual is that over the course of six years our mobile server room was visible to administrators as a physical space, the migrating server room in four different places, and simultaneously as a series of university-identifiable virtual places. In addition, a research center's control over its own virtual space necessitates that its IT staff engage in IT conversations at a much higher level in the university. Rather than working with the one college-level IT staff member, the research center, from the

beginning, began to engage with the top-level IT staff in the university. We regularly had discussions with them about IP blocks, domains, security issues, and hosting issues. As a result, by 2009 we became the first research center on campus to collocate our machines in the brand new university hosting facility. We no longer needed to have our own server room because the university finally began to provide a facility that met our needs. But, by that time, we had already firmly established our physical and digital reputation on campus. The server room no longer made a necessary institutional argument.

As a graduate student in rhetoric and composition, what I took away from this experience was a greater appreciation for the design and establishment of institutional space, how that space is acquired, and the complex dialectics of building a physical space for the digital age. As a rhetoric and composition scholar, I see this point as essential not only to my own professionalization but also for the field. I learned that there are complex formulas for acquiring a space in which temporary spaces can be leveraged to make institutional arguments, and I learned how virtual spaces can help scaffold toward more permanent physical spaces. But this can't be done alone. Indeed, extensive communication and collaboration among stakeholders is required in order to build such a new infrastructure. This is a type of work that differs from traditional labor in the humanities, but it is essential in order to establish new research models in our field. Furthermore these concerns for new forms of research and infrastructure extend beyond their immediate sphere to questions of how to better prepare graduates in English studies to think about the kind of collaboration needed to create the optimal digital infrastructures for teaching, learning, learner support (e.g., writing centers), and program administration.

UNDERSTANDING GRADUATE PROFESSIONALIZATION AS MOMENTS OF COLLABORATION: THE WHEN OF INFRASTRUCTURE

Doug Walls

I began the second year of my Ph.D. program by applying for a general graduate research assistantship at WIDE. I knew that, as an RA, I would help the center on one or two specific research projects that were already going on and, perhaps, be a part of the development of new research project start up and design. As a researcher, I am interested in how "loose" organizations and networked individuals articulate, assemble, and evaluate what counts as "work." WIDE's interest in supporting writing in loose organizations of people, as opposed to large bureaucratic organizations, is what motivated me to apply for the research assistantship. Both WIDE and I are interested in identifying the best

way to integrate infrastructure, in both the technological sense (tools) and in terms of the aligning of relationships (social/people), in order to accomplish tasks. The project I want to discuss here was a comparative study of research centers focused on writing studies, including WIDE, that was part of an external review of the center.^{1,2}

I gained access through a variety of informal and formal channels to data on how different research centers operate. Frequently, I would have had no access to these accounts without the technological and social access that WIDE provided. I was particularly fascinated by accounts of failures and struggles. Some of the accounts I was given were official; most were not. In the aggregate, the accounts seemed on a surface level to be contradictory. On the one hand, I saw research centers that did well because of their support of individual researchers and separate, autonomous projects; on the other hand, I saw research centers that had failed because of their support of individual researchers and separate, autonomous projects. After conducting my research, I still was not sure what made for a successful research center, but I did know one thing: we were doing something different at WIDE.

My knowledge of WIDE's method of operation and the center's own growing pains (see Jim Ridolfo's narrative) informs my perspective on my research findings. How could some research centers do well supporting individualized/separate projects and some research centers fail at supporting individualized/separate projects? In my mind, success or failure depends on what other organizational, technological, and social infrastructures are in place to sustain research activity. What I understand about how a research center functions is that its goal must be to build the infrastructure of research. How a research center, as an institutional body/location, is organized is not as important as the when of how a research center is organized and created. Research centers are not so much organizational units as they are systems of activity that have to be organized in particular ways (by people, IT infrastructures, deans, etc.) at particular moments (cocktail parties, conferences, budget meetings, NEH grant announcements). Understanding those elements, the *when* of a research center, is understanding the infrastructure of a research center. You might hear the echo of Kendall Leon's narrative here when I say that by *infrastructure* I do not mean only technological tools but also organizational and cultural systems of building, maintaining, and repairing (sustainable) relationships among people that

¹ This project was a continuation of the same task the research assistant before me, Kendall Leon, to whom I am indebted, began. ² Many of the centers I learned about are units that help individual primary investigators obtain

funding for their projects.

allow coordinated activity to occur. In my experience, there is no way to understand the importance of the technological infrastructure as separate from the cultural/social infrastructure. One needs to drive and support the other.

In the case of a software development project I worked on for WIDE, through the course of the project I had to develop the infrastructure to tackle the rich, complicated, and distributed work at key moments. My experience has been that complex and distributed research activity, and the centers that cultivate such activity, must constantly build, maintain, and repair infrastructures, both material (space, computers, economic resources) and social (relationships among people), be that through organizational structuring, data and technological tools, or personal and professional activity at the right time. Additionally, I have learned that building such infrastructure is rhetorically complex, takes a great deal of time, and must evolve over time. I am not sure I would have developed this understanding of how or when research centers work without WIDE.

When I came to WIDE, I was not new at working collaboratively on large-scale research projects, but those projects had been supported by organizational structuring of social elements and resources in ways that I am not sure I understood fully. Frankly, I didn't need to understand them. They worked, so why look under the hood? Those other projects taught me about the importance of personal and research skills but not about building the infrastructure that supports that work the way WIDE did. This knowledge has already proven useful to me in my career, and I am glad to have it.

PROFESSIONALIZATION IN PARTS: COLLABORATIVE RESEARCH CENTER ACTIVITIES AS PROFESSIONALIZING MATERIAL

Stacey Pigg

My work in the WIDE Research Center took place over the course of my graduate work at MSU, where I recently earned a Ph.D. in Rhetoric and Writing. Like most of my co-authors, I did a lot of different things while working in the center. In this narrative, I will focus on the ways in which the diverse context for work in a research center not only prepares graduate students to collaborate with various institutional and community stakeholders but also enables them to participate in different kinds of scholarly and intellectual activity. I will briefly explain how varied my own responsibilities were, and I will reflect briefly on the ways in which graduate students, through this exposure, become agents who can choose to value and assemble these activities into what we in the center

often thought of as a "modular professionalization," in which they choose how to value, reuse, and build on the multiple experiences and activities.

When I wrote this narrative I was still at WIDE, and I was working on two computers. On the WIDE desktop computer, I was running NVivo qualitative textanalysis software to complete inter-rater reliability checks for part of the Take Two project, which is funded by the Institute of Museum and Library Services. Take Two is a two-part research project designed to study the impact of Web 2.0 technologies on museum practice, and I collaborated with a research team on the part of this project that analyzes discourse created on the Science Buzz blog maintained by the Science Museum of Minnesota. In that moment, working on the project meant transferring coded data from an Excel spreadsheet, where our research team had found it most simple to complete and store analytical coding while away from the office, and into the "number crunching" software that is housed in the WIDE office. At the same time, I was on my personal laptop, toggling between revising this piece of writing about research activity and double checking the coding on the desktop computer against the personal files of coding stored on my own computer. This multitasking was typical; completing any given task in my work at WIDE usually meant coordinating multiple activities using a diverse set of tools and resources.

Now that I've established that my work for WIDE often entailed multitasking, let me back up to show how my activity with the research center likewise involved multiple concurrent projects, goals, activities, and purposes. My RA position with the Take Two project was not the first job I had done with WIDE, but it was the one that I contributed to for the longest. Before and while working on Take Two, I conducted interviews with high school science teachers across Michigan as part of a contextual inquiry project to help design a Web 2.0 tool that would enable geographically distributed educators to share ideas, lesson plans, or just conversations; I taught in an after-school community Digital Media Arts program for middle schoolers; and I helped design the curriculum for MSU's first hybrid writing class focused on digital writing and social networks.

I've moved through a snapshot of work and a brief overview of other projects I was a part of at WIDE in order to describe something about the center: The nature of work in a digital humanities research center like WIDE is complex, collaborative, and distributed—interpersonally, cognitively, geographically, disciplinarily, and in terms of tasks. The context for work in WIDE is not singular; it does not take place only in academic settings, use a single methodological approach, involve only certain types of people, or participate in one single set of disciplinary norms. Using my work with Take Two as an example, on a typical

day I might have met my project partner, Katie, in a coffee shop to compare analytical coding for blog threads; another day I might have worked from home on my laptop compiling what I discovered about museum learning facilitation into a literature review; the next, I might have found myself on campus chasing down a signature from a dean to complete a grant proposal. Similarly, the stack of books on my desk for Take Two ranged from theories of collaborative learning from the field of education to focused studies of museum practice to methodological overviews from composition studies.

Participating in work at a center that brings together such a multiplicity of people, interests, and activities has had some specific benefits. First, it helped me think about research and teaching situations rhetorically and contextually. For me, this means that I think about developing approaches to teaching, research, and reporting research on a case-by-case basis, trying to make them responsive to the particular people who will benefit from them in the context of their everyday lives. This often means reading and contributing to discussions outside my field, through scholarship as well as practitioner and community conversations. Further, seeing and taking part in a number of collaborative research projects rather than focusing solely on my dissertation research helped me understand how different kinds of research and teaching projects morph and change shape and purpose over time. Before my experience at WIDE, when I read research reports in journal articles I tended to think of research projects as neatly bound and simple: an individual researcher notices a problem, thinks up a methodology, carries it out, writes it up, and voilà. Following multiple projects through different stages of their development and implementation gave me a richer sense of how research and teaching must be dynamic and malleable in response to institutional, intellectual, and collaborative constraints.

Overall, research center activities provide material for professionalization, as graduate students have the unique opportunity to seek out and participate in the particular activities that are most useful to their own development and to choose the extent of their own participation in terms of time and intellectual investment. In contrast to a situation in which all graduate student participants begin as the same kind of novices and are initiated into becoming the same kind of professional experts, I would suggest that the professionalization that happens at WIDE is much more diverse and flexible. Graduate students choose their individual levels of participation in collaborative work and tailor what they do to their own developing needs and interests as they change over time. Graduate professionalization through WIDE is less a linear movement along a single, predetermined trajectory than it is a modular, contextualized, and dynamic set of activities that graduate students can use toward their own professional ends.

CONCLUSION: COLLABORATION, RESEARCH CENTERS, AND GRADUATE STUDENT PROFESSIONALIZATION

In "Tales of Neglect and Sadism': Disciplinarity and the Figuring of the Graduate Student in Composition," Marcy Taylor and Jennifer Holberg (1999) critique Darryl Hattenhauer's 1982 CCC's article that figured the teaching assistant/graduate student as an "apprentice." Tracing the often self-constructed master narratives of graduate students as "'drudges,' 'slaves,' 'adolescents,' 'schizophrenics,' and 'lab rats'" from 1950 onward (p. 608), Taylor and Holberg argue that the metaphor of graduate student as apprentice emphasizes the need for graduate student "training" and creates an irony: "The irony for the field of composition . . . is that by emphasizing the need for training as a means toward professionalization and improved status, we continue to exploit a view of graduate assistants as subordinate" (p. 614). They state that the field of composition has made a small move toward a "brighter tomorrow" (p. 622) since graduate students are increasingly authoring their own tales (as we do in this article). But, according to their research, there is still room for improvement, as advanced graduate students continued to express "disillusionment, concern, and ignorance regarding 'the broader professional realm of rhetoric and composition . . . professional development issues, job market difficulties, or the transition from graduate school into the professoriate" (Miller gtd. in Taylor & Holberg, 1999, p. 623). Over ten years later, issues raised by Taylor and Holberg remain relevant and unresolved, but a center like WIDE offers a response to the problems that they pose.

Crisco, Gallagher, Minter, Stahlnecker, and Talbird (2003) also critique the view of graduate students as "apprentices" (p. 359). They argue instead that approaches to graduate student professionalization should recognize students as "teachers and scholars interested in studying the contexts that shape our collective work" (p. 360). Crisco and co-authors offer an experience in a class where they "examined various institutional structures and arrangements" as a move toward the ideal professionalization of which they speak (p. 363). We propose the digital humanities research center model of WIDE as an answer to Crisco and co-authors (2003) and Taylor and Holberg (1999).

We argue that the digital humanities writing research center, a relatively new and unique institutional entity, is important for the field of rhetoric and composition studies and for the future of graduate student professionalization within this field. While the field's most typical professionalization activities historically have been situated around the first-year composition classroom, the writing center, assistantships in writing program administration, or research assistantships that partner one student with one professor, we argue that a digital writing research center offers valuable opportunities for professionalization and for the development of skills that knowledge workers—including scholar-teachers—need in the twenty-first century. While working at WIDE, each one of us has had the opportunity to work collaboratively and serve in leadership roles. We've been able to engage in what Stacey Pigg calls "complex, distributed work" and to develop what Amy Diehl calls a concern for "collaboration, usefulness, and usability" in communities within and outside the university.

Like the parable in which an elephant is described as a very different object depending on which part the narrator is touching, we observe that our narratives do not offer identical perspectives on WIDE. Indeed, each of us has had a very different professionalization experience shaped by our project assignments, the needs of the center at particular moments in time, and our own professional interests. Nonetheless, there are some important commonalities that emerge from our narratives—elements that could serve as starting points for future conversations about digital humanities research and graduate student professionalization.

Infrastructure

The first common element is recognition of the necessity of infrastructure. In Stacey Pigg's, Jim Ridolfo's, Doug Walls's, and Martine Courant Rife's stories, the development of a professional orientation toward infrastructure figures as prominently as it does for Jeff Grabill, co-director of WIDE, in the audio interview below.

Interview with WIDE Co-Director Jeffrey Grabill



Jim Ridolfo talks with Jeffrey Grabill about WIDE's growth, infrastructure, institutional relationships, and space. (For transcript, see <u>Appendix A</u>.)

We cannot do twenty-first-century digital humanities work without the correct digital infrastructure. What Jim Ridolfo's narrative shows, however, is that infrastructure is not simply machines and technology. As is the case with the center as a whole, the capacity to build infrastructure is as much about people and collaboration as it is about the acquisition of new hardware.

Space

Related to infrastructure concerns are the politics of space (see <u>Martine Courant</u> <u>Rife's</u>, <u>Jim Ridolfo's</u>, <u>Kendall Leon's</u>, and <u>Doug Walls's</u> narratives). As WIDE Co-Directors Jeff Grabill and Bill Hart-Davidson knew—and we learned—space is one of the most contested and valuable aspects of educational institutions. The equation that space equals power is too simplistic, but it is true that without space, it is difficult to centralize work in ways that are essential for programs to thrive. Digital and physical space not only provides a physical sense of community but also helps to aggregate an ensemble of projects (see WIDE's <u>Current Projects</u>) around a common institutional identity. Space is an important base for advancing infrastructure, relationships, and research.

Relationships

A theme running through each of our narratives is the importance of collaborative relationships. This is most visible in the narratives of Kendall Leon, Amy Diehl, and Stacey Pigg, and we argue that they provide an important question mark for the future of the field. Collaborative digital humanities research cannot thrive within the confines of the sixteen-week seminar or traditional (single-author) models of scholarship and research. Stacey, Kendall, and Amy each show how the ability to build and maintain good relationships is essential for collaborative twenty-first-century projects.

Research

Finally, we all learned how to conduct and support collaborative research, especially in technology-mediated or technology-focused contexts and contexts that bring academic researchers into contact with community stakeholders and clients (within and beyond the university). For most English studies graduate students, learning about research happens only in the classroom. When one gets to the dissertation, one has to learn on the job how to do research. Research is messy, and as Jeff and Bill say, always feels as if one is doing it wrong. In the center, we were given lots of opportunities to learn what research feels like, to make mistakes within a supportive group of peers and mentors, and to make significant, meaningful contributions to research projects.

REFERENCES

- Capital Area Community Media Center. (2006). Retrieved from http://www.cacvoices.org/organizations/cacmc
- CACVoices.org/Capital Area Community Voices. (2006). http://www.cacvoices.org
- Clark, Irene Lurkis. (1988). Preparing future composition teachers in the writing center. *College Composition and Communication, 39*(3), 347-350.
- Crisco, Virginia, Gallagher, Chris W., Minter, Deborah, Stahlnecker, Katie Hupp,
 & Talbird, John. (2003). Graduate education as education: The pedagogical arts of institutional critique. *Pedagogy, 3*(3), 359-376.
- Diehl, Amy, Grabill, Jeffrey T., Hart-Davidson, William, & Iyer, Vishal. (2008). Grassroots: Supporting the knowledge work of everyday life. *Technical Communication Quarterly*, *17*(4), 413-434.
- DeVoss, Danielle N., Cushman, Ellen, & Grabill, Jeffrey T. (2005). Infrastructure and composing: The when of new-media writing. *College Composition and Communication, 57*(1), 14-44.
- Graff, Gerald. (2000). Two cheers for professionalizing graduate students. *PMLA, 115*(5), 1192-1193.
- Hattenhauer, Darryl. (1982). The teaching assistant as apprentice. *College Composition and Communication, 33*(4), 452-454.
- Hoberek, Andrew. (2002). Professionalism: What graduate students need. *Pedagogy, 10*(1-2), 52-70.
- Horner, Bruce. (2000). Traditions and professionalization: Reconceiving work in composition. *College Composition and Communication*, *51*(3), 366-398.
- Lindquist, Julie, Hart-Davidson, William, & Grabill, Jeffrey T. (2010). Making composition visible: A study of first-year college writers' distributed invention practices. In Gary A. Troia, Rebecca K. Shankland, & Anne Heintz (Eds.), *Putting writing research into practice: Applications for teacher professional development* (pp. 206-228). New York, NY: Guilford.

- Matthews, Catherine, & Zimmerman, Beverly B. (1999). Integrating service learning and technical communication: Benefits and challenges. *Technical Communication Quarterly*, 8(4), 383-404.
- Miller, Scott L., Brueggenmann, Brenda Jo, Blue, Dennis, & Shepard, Deneen M. (1997). Present perfect and future imperfect: Results of a national survey of graduate students in rhetoric and composition programs. *College Composition and Communication, 48*(3), 392-409.
- North, Stephen M. (1984). The idea of a writing center. *College English, 46*(5), 433-446.
- Rife, Martine Courant, & Hart-Davidson, William. (2006). Is there a chilling of digital communication? Exploring how knowledge and understanding of the fair use doctrine may influence web composing. Pilot study report. SSRN Working Paper Series. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=918822
- Taylor, Marcy, & Holberg, Jennifer L. (1999). 'Tales of neglect and sadism': Disciplinarity and the figuring of the graduate student in composition. *College Composition and Communication, 50*(4), 607-625.

Usability & Accessibility Center. (2010). http://usability.msu.edu

WIDE Research Center. (2010). http://wide.msu.edu

APPENDIX A: TRANSCRIPT OF AUDIO INTERVIEW WITH WIDE CO-DIRECTOR JEFFREY GRABILL

Ridolfo: Do you want to talk a little bit about what the connections are between infrastructure and relationships? How do you see those two things unfolding?

Grabill: Well, let me say this, and I don't know whether this will make any sense, but, and Bill Hart-Davidson and I both told this story a number of times that having a research center on this campus almost instantaneously transformed the relationships we had with other people on campus and made new relationships possible. Here's what I mean by that: once we had a research center and could describe what the research center did in ways which were intelligible to anyone else on this campus, they understood a couple things immediately, A) that writing was a research area, that it wasn't just a pedagogical area, that you could actually research writing and that B) you could actually have a center that did that. And so the fact of the infrastructure as a piece of infrastructure meant that we instantaneously got different reactions from relationships we already had and were able to be part of conversations on campus that would have been unavailable to us or very difficult for us as individual English or writing department faculty members. The other part of that is that is the relationship connectivity and a piece of that is that we could actually leverage infrastructure on grant proposals, so we brought capacity to teams that makes relationships possible. And so those are ways that infrastructure makes relationships possible, I think.

Ridolfo: So do you see this now [November 2009] six years later from the start of the research center [2003] as happening in stages? So do you think there was a first stage where there were certain institutional resources you needed in terms of infrastructure that makes certain relationships possible and then after achieving that sort of milestone you were able to move on to what we might think now of as a next step?

Grabill: Yes. So here's, sort of, so this isn't precisely what you're asking but here's the way it worked at least initially for us. In the first phase of the research center we distributed the infrastructure. So we gave a lot of time and money and expertise away to individuals and small teams and said, go out, do great work, publish it, write grant proposals, and try and build WIDE into your work as best we can help you as you develop that work over the next couple of years.

That turned out to be for the most part to be a failure. Most of the people we gave those resources to didn't deliver at all. But, it was something that we had to do for a number of reasons. And so, we had to do it and we learned a lot from it. But then we pulled the infrastructure back. In a phase two we stopped giving infrastructure out to people and we kept it internal to the center. And then we just invited people to work with us. And so we would say hey, we've got this project and it's great for you, do you want to work with WIDE on this project? You be the lead, we'll support you, but we kept all the infrastructure in house and only spent it fairly frugally as things played out over time.

Ridolfo: Did you see that first round of giving seed money to projects that didn't really have maybe a unilateral focus in terms of the goals of the research center and the directors as doing a sort of work in terms of representing [WIDE] to the university community?

<Recording error>

Grabill: Here's where we pick up. So you asked me about was it necessary to give it away like that?

Ridolfo: Yeah, I asked you basically if putting the seed money out there and putting the WIDE resources out there to collaborate with folks in English and WRAC, Writing, Rhetoric and American Cultures [Formerly Department of American Thought and Languages]...

Grabill: Psychology...

Ridolfo: Psychology...

Grabill: Communication Arts and Sciences...

Ridolfo: Communication Arts and Sciences... that did a sort of institutional work in terms of representation that was necessary at that moment.

Grabill: Absolutely. I mean that was explicitly one of the things that went on. One of the arguments that we made to get the Center to begin with was that MSU had tremendous capacity in this area. That it just needed to be aggregated and collected and pointed in particular directions, and that one of the things that a center does is *center* things. And so, yeah one of the things we were able to say was gee look at all of this digital writing and digital rhetoric research that's now getting done on this campus. And we seeded a lot of activity very early and that activity helped us make institutional arguments. So you look around the Center at all the posters on the walls, almost all of those posters come from that first phase where we distributed infrastructure. And again it wasn't ultimately productive in the ways that we wanted to be productive over time, but it certainly had utility in the immediate phase of the startup.

Ridolfo: So talk a little bit about the second phase. The consolidation of projects and resources, what work did that do then for the Center?

Grabill: Well, we just got better at our jobs. So what happened was about every eighteen months we revisit the Center and sort of retask it. And what we decided to do was when I say pull things in house, what I mean by that is we tightened up our mission and our focus. And we began to only take on projects that were research based, that is weren't principally outreach or principally pedagogical – they could have pedagogical tie-ins and often did but they had to be research. They focus on a key set of issues, so for instance, you know, one of the key focuses of this research center for two years now has been understanding knowledge-work, understanding knowledge-work. Boom. That's a classic example of what we did in those follow up phases is we identified a key concept and we said look, we're going to study this key concept for the next couple of years. And we're going to study it. The Center will study it. We're going to try and find people who are doing that work and try to help them and invite them to collaborate, the Center's going to study it. And on some of those projects Bill Hart-Davidson was the lead, and on some projects I was the lead, and on some projects graduate students were the lead, other faculty members were the lead but it was the Center's work as opposed to Jeff's work supported by the Center. There's a huge difference between those two things.
Playful Affinity: A Case Study of the Digital Writing and Research Lab as a Collaborative Graduate Student Research Network

Sean McCarthy Lauren Mitchell Nahas

In "Developing Sustainable Research Networks in Graduate Education," Douglas Eyman, Stephanie Sheffield, and Danielle Nicole DeVoss (2009) acknowledge a core contradiction that faces any graduate student invested in digital rhetoric:

At the graduate level . . . there is a kind of schizophrenic practice enacted—we see, acknowledge, and even study (and research) the innately collaborative process of knowledge construction while simultaneously being assessed as singular authors whose work must maintain the fiction of the originary genius. Explicit collaboration is acceptable in small doses, but the milestones of the graduate educational process—the primary coursework, the portfolio, the comprehensive exam, the dissertation—must always be completed by the individual. (p. 49)

To counteract this irritating state of affairs, Eyman, Sheffield, and DeVoss (2009) suggest balancing newer knowledge practices made possible by digital interfaces with traditional research methods by developing research networks that utilize online collaborative spaces such as blogs. Eyman, Sheffield, and DeVoss present as their case study DigiRhet.net, a research network that grew out of a Digital Rhetorics course at Michigan State University. In their analysis of the practices of DigiRhet.net, the authors argue that collaborative research networks are forged through the development of a community of practice that engages critically with research methods, digital interfaces, and the practical application of research and technological skills. Comprised of professors and graduate students, these networks capitalize on the affordances of both digital and social networks to prepare students of digital rhetoric for the kinds of educational and social practices that are enabled by Web 2.0 technologies. Such practices, Eyman, Sheffield, and DeVoss argue, offer graduate students a working knowledge of digital technologies and collaborative research methodologies that promote productive, critical encounters with technology in digital rhetoric scholarship (pp. 54-55).

In this article, we wish to contribute to the understanding of how collaborative research networks function by presenting a case study of the <u>Digital Writing and Research Lab</u> (DWRL) at the University of Texas, Austin, a long-standing research-and-teaching unit

dedicated to new media and writing.¹ After spending several years as graduate students teaching and researching at the DWRL, we have experienced how play—what Henry Jenkins (2009) calls, "the capacity to experiment with one's surroundings as a form of problem-solving" (p. 4)—is a crucial aspect of research into digital media and writing. Play has already become a significant conversation in composition studies (Sirc, 2002; Rouzie, 2005). Focusing specifically on one of our research groups from the 2009-2010 academic year, we wish to extend that conversation to think about play as a structuring principle, or metaphor, that guides collaborative research practices in digital rhetoric. James Paul Gee's theory of affinity spaces and groups (Gee, 2007; Gee & Hayes, 2010) helps us to model how play and gaming principles can be applied to a collective that congregates around a common theme or interest. Since the Lab's research is largely designed and carried out by graduate students, our case study also describes a model of graduate research and professionalization that may be useful to those thinking about the relationship between graduate education, collaboration, and new media.

PLAY AS A METAPHOR FOR COLLABORATIVE RESEARCH

I'm offering the flowzone as a model for creative production and collaboration. And I'm suggesting that a space as charged with collaboration and innovation as the CWRL is a flowzone. It says yes to tools. Yes to play. Yes to ideas. It mixes materials. It fixes connections. Trust flows through its circuits. It's a performance space. A creative space. And the zone doesn't happen necessarily. It is tuned into being by the blending of its materials, things, projects, and people. And it continues, its currents ongoing, its people swaying and coursing through its collaborations and ideas, even as they flow now. – Daniel Anderson, 2009

According to its <u>mission statement</u>, the DWRL is "positioned at the intersection of rhetoric, writing, and technology" and "dedicates itself—practically, pedagogically, and theoretically—to the identification and promotion of twenty-first century literacies." The Lab's spaces, management practices, research group formations, technological support, hardware and software, and staffing protocols all coalesce to produce the identity of the Lab. Later in this chapter, we will provide a more detailed description of the Lab through a series of videos that offer a sense of the component parts of the Lab and how they are intricately interwoven to support the research and teaching that occurs in the physical and online spaces that we use daily. Even though the research we undertake is dependent on these structures, it is important to emphasize that these structures do not *determine* either our research or our teaching practices. Rather these

¹ Formerly the Computer Writing and Research Lab (CWRL), "Computer" was replaced with "Digital" to reflect changes in the field and to include Web 2.0 interfaces and digital hand-held devices in the Lab's research. The Lab's current director, Diane Davis, explained the name change at the Lab's <u>re-christening</u> in the fall of 2009.

structures *support* research and teaching, as we have stated, and they contribute to the professionalization of the graduate students who work in the Lab.

Over the nearly three decades of its existence, the DWRL has honed its structure, teaching methods, and research practices to adapt to a rapidly changing technological environment.² In *A New Culture of Learning* (2011), Douglas Thomas and John Seely Brown argue that "play reveals a structure of learning that is radically different from the one that most schools or other forms of learning environments provide, and which is well-suited to the notion of a world in flux" (p. 97). From our experience in the DWRL, we have found that play permeates our work culture precisely because a playful attitude enables us to deal with such a "world in flux": technologies are constantly changing, and we have to adapt our teaching and scholarly practices to keep up.

As Daniel Anderson (2009) claims in the quote at the beginning of this section, the CWRL/DWRL is a creative space that says yes to tools, to ideas, and to play. Play is a partner of work, as Stuart Brown (2009) has suggested:

Though we have been taught that play and work are each the other's enemy, what I have found is that neither one can thrive without the other. We need [sic] newness of play, its sense of flow, and being in the moment. We need the sense of discovery and liveliness that it provides. We also need the purpose of work, the economic stability it offers, the sense that we are doing service for others, that we are needed and integrated into our world. (p. 126)

Mapping the relationship between work and play is important to our inquiry because while we certainly play in the Lab, our primary reason to be there is most definitely the work of teaching and researching. Before we discuss that work further, we will explore the theoretical foundations of play, which we believe offer insight into how collaborative digital rhetoric research can be productively playful.

John Law (2004) suggests in *After Method*, his masterful re-appraisal of traditional social science research methods, that capturing a social science in research is a slippery and messy business. If we need to rethink methodological certainty and the possibility of capturing plural realities in single, definitive answers, then, Law suggests, "we're going to have to train ourselves to think, to practice, to relate, and to know in new ways" (p. 2). Law's call is apposite for those who study digital technologies, as they constantly have to practice, relate, and know in new ways because of the rapidly changing nature

² For a more complete understanding of how the Lab evolved, see Slatin, John. (1998). The Computer Writing and Research Lab: A brief institutional history. In Janet Swaffer, Susan Romano, Phillip Markley, & Katherine Arens (Eds.), *Language Learning Online*, (pp. 19-38). Austin, TX: The Daedalus Group.

of the field. Building on Law's idea that research is a complex process, Kristie S. Fleckenstein, Clay Spinuzzi, Rebecca J. Rickly, and Carole Clark Papper (2008) propose that using an ecological metaphor for research enables us to identify metaphors as intrinsic to research because they "influence our conceptualization of a phenomenon of study and the methods by which we might plan a project to better understand that phenomenon" (p. 4). They argue that an ecological metaphor for writing research creates a harmonious account of "the phenomenon of study, an orientation to research, and an enactment of that orientation in concrete practices" (Fleckenstein et al., 2008, p. 5).

We agree that an ecological metaphor is deeply applicable to the research situation. and ecologies in general have been a very productive lens through which to view the writing process and multimedia writing in particular. But we have found that play is complementary to Fleckenstein and co-authors' (2008) ecological metaphor. What draws us to play as a metaphor for a situated research network such as the DWRL is that, despite the many changes we put into effect each year, we use the same spaces and adhere to similar organizational structures year in and year out. As many gaming and play theorists indicate, a basic characteristic of play is the emergent action that happens around, because of, and even in spite of a structure that enables that play to happen. Our analysis of the Lab indicates that much of the work we produce follows similar patterns: it is highly dependent on the physical and organizational structure of the Lab, but much of the work we develop naturally happens outside of that structure. Although not a methodology in itself, play functions as a useful metaphor by which we can analyze the work in a situated research unit such as the DWRL, and perhaps other kinds of networks as well. Before we discuss how research works in the Lab, we need to take a more careful look at what we mean by play, which Ian Bogost (2007) notes is a tricky concept that is used by many disciplines in many different ways (p. 42).³ To make sense of such a diverse field of study, we are going to focus on two prominent play theorists, James Paul Gee and Eric Zimmerman, whose different approaches to the topic help us to capture how play circulates in the Lab, while also doing justice to the somewhat indefinable, emergent property that play necessarily includes.

In "Learning and Games," James Paul Gee (2008) suggests that cognitive theories of learning are similar to the principles of game design, such that "good video games recruit good learning and that a game's design is inherently connected to designing

³ Composition and rhetoric scholars have long valued the role of play in the writing classroom, and more recently they have been considering what new media can add to writing pedagogy (Huizinga, 2003; Deemer, 1967; Sirc, 2002; Rouzie, 2005). In business, play has been promoted by many as a way to foster creativity and innovation, which are critical to business development (T. Brown, 2008; Robinson, 2006). And in psychology, researchers have found play to be critical for both social and psychological development (S. Brown, 2008; Csikzsentmihalyi, 1975).

good learning for players" (p. 21). Gee draws on current learning theory to argue that well-designed games reinforce key learning principles through identity formation, modeling, and feedback. Ultimately, Gee marshals game design and learning theory to propose that deep learning—learning that is successfully transferred to long-term memory—can be facilitated by games because they are virtual experiences that focus on problem-solving, learning, and mastery as forms of pleasure (p. 37).

Gee devises what he calls a "situated learning matrix" to provide a broad set of parameters that enable deep learning to occur through game play. In a situated learning matrix, learning occurs indirectly within a game structure rather than directly, as taught content. To use one of Gee's examples from his essay "Game-Like Learning" (2008), the computer game *Supercharged!* teaches the principles of electromagnetism "indirectly" by using a simulation where the path of a ship is manipulated by charged particles. This simulation replaces teaching these principles "directly," using a physics textbook. In a situated learning matrix, players "access" the content of the game by contending with a number of interlocking concepts, which are

- The development of player identity. Players learn how to act and interpret actions within the value system of the game to gain
- *Mastery of core skills*. These are the core procedures, and discourses, which players learn by
- *Gaining competency with tools and technologies.* Players choose the tools they need to solve the problem, and these tools mediate player identity and the content of the game in a
- *Goal-driven, problem-solving space*. A play space forms the boundary between the outside world and the game world where players can model different versions of the problem to be solved in a low-stakes environment.

We find much of Gee's interpretation of game-play and learning principles to be very practical when thinking about how a situated, collaborative teaching-and-research facility like the DWRL operates. Members become part of the Lab by taking on specific identities: teachers in our wired classrooms and project members or leaders. We learn skills and develop research questions using the many digital tools at our disposal. And we model pedagogical uses of technology in workshops and informal tinkering sessions. Finally, all of that work occurs in a number of physical and electronic spaces that enable or constrain the work we do in various ways. Much of our collaborative work happens online in wikis or Google Docs, for example, and our physical classrooms are spaces where we turn our research into teaching practice. These classrooms are also where we run workshops, talks, and other collaborative activities when classes are not in session.

Traditional research in the humanities generally favors work that is performed on one's own using primarily textual sources. Theoretical paradigms that elucidate the workings of collaborative research are important because digital networks provide us with rich opportunities to depart from the traditional humanities model. Gee's "situated learning matrix" is useful for illuminating how identity formation and the interaction between people, tools, and spaces help us to understand how collaborative research using digital tools can work. However, for two reasons, we find that we need to build upon Gee's work to give a full account of how research works in the DWRL.

First, collaborative research in the DWRL does not conform to classic game structure. Certainly, the work we do in the Lab is guided by rules and goals, and players interact in particular online and physical spaces. It is even possible to argue that there is a form of win state, when a project team or individual member successfully completes the goals of a project or teaching assignment. But what we do strays from a classic game structure because it is not always a low-stakes learning activity. Lab members develop tools that they use in the relatively high-stakes environment of the classroom, and they have a responsibility to their team members, to the Lab, and often to collaborating partners outside of the department to deliver a final end-product.

Second, much of our work moves out of what Gee calls modeling toward simulation. Modeling presents the learner or gamer with an opportunity to manipulate a concept without serious real-life consequences.⁴ Simulation, on the other hand, has broader implications. A simulation may contain many different models and responds to input from an outside source. For example, in a workshop we may model how to use Google Maps as a writing tool. Instructors then successfully simulate that concept with a class of students, who may have to complete a Google Maps exercise as a graded assignment. Simulations are less controlled and thus raise the expectations of what we do in the modeling phase. Simulations are still somewhat playful in that they are experimental, but they are more serious because there are real consequences at stake for both the instructor, who has to make the exercise pedagogically fruitful, and the students, who are graded on their performance. Since so much of our research occurs in this higher-stakes situation, our work in the Lab breaches the boundaries of modeling and, consequently, the boundaries of low-stakes game activity.

Despite the ways that the work we do departs from a classic game structure, Gee's theory of learning through games is extremely generative because it helps us to theorize a complex research network such as the DWRL. While we acknowledge that

⁴ Play theorist and psychologist Stuart Brown (2008) explains that low-stakes activities are a basic characteristic of play (p. 17). This is also supported by the research of psychologist Mihaly Csikszentmihalyi (1975), who studies play activities that require considerable time and effort.

such a frame cannot fully encapsulate the Lab's work, game theory can help us to think about how groups of people can work together creatively and productively, and Gee provides researchers from any discipline an excellent grounding to tie those dynamics into solid, applied learning principles. But we would like to push beyond Gee's game structure to think more broadly about play. To do so we turn to Eric Zimmerman. For our purposes, Zimmerman's theory of play is a useful companion to Gee's, as Zimmerman focuses on how play is built upon relationships.

Writing in *First Person* (2004), an influential gaming anthology, Zimmerman argues that, far from being an absolute, definable concept, play can shift depending on context. Three types of play exist, according to Zimmerman: game play, or the formal play of games, which is Gee's focus; ludic or informal play, such as friends tossing around a Frisbee or dogs chasing each other (in other words, activity that is play without a winstate formation); and, finally, being playful, which Zimmerman glosses as "a state where you are not necessarily playing," but rather "injecting a spirit of play into some other action" (p. 158). From these three categories, Zimmerman theorizes play as "the free space of movement within a more rigid structure. Play exists both because of and despite the more rigid structures of a system" (p. 158). By Zimmerman's reckoning, the products of play within a system happen because the system is in place, but also, in what seems like a paradox, in spite of it. Zimmerman's definition of play complements Gee's discussion in that play operates within a system by having actors following rules, collaborating, and interacting in a structured or formal manner. But where Gee sees the structure of the game determining the productive outcomes of play, Zimmerman suggests that those outcomes also exceed that structure. As Zimmerman explains,

even though play only occurs because of these structures, the play is also exactly the thing that exists despite the system, the free movement within it, in the interstitial spaces between and among its components. Play exists in opposition to the structures it inhabits, at odds with the utilitarian functioning of the system. (p. 159)

This formulation shifts from the game to focus on the network where elements of that system interact with each other. Play is thus determined by a structure *and* the relationships that develop within that structure. It is both guided by predetermined goals *and* the emergent goals that are produced by the network; it is necessarily structured *and* fluid.

By using a definition of play that describes its relationship to structure as oppositional, we are not suggesting that the DWRL administration willfully lets the project groups ignore the parameters of either the goals of the projects or the structure of the Lab. Quite the opposite: Those structures are the conditions of possibility for research to

occur in the first place. Beyond the formal structures of the Lab, however, we suggest that an important function of the research undertaken in the DWRL is a consequence of the playful, emergent relationships among the elements that constitute our research network. It is part of the function of the Lab to both preserve the structures that enable and ensure the continuation of the network, while also being sensitive to emergent patterns and trends, taking them into account, and adjusting accordingly. This is why we find play to be such a useful metaphor for describing the Lab's work; under Zimmerman's definition, play values both structure and change.

To accurately take into account how research is produced in the DWRL, our definition of play agrees with much of Gee's game-based research, with its focus on deep learning through the cultivation of player identity within the ecology of the game, using tools to mediate between players and content, and modeling scenarios in order to solve problems. Such a lens offers us a way to describe how a collaborative structure works to create a strong learning (and researching and teaching) environment. However, our definition also acknowledges that a research network is not an out-of-the-box structure like a video game. It depends and thrives on goals that are negotiated and renegotiated through the relationships among participants, the tools they use, the spaces they frequent, and the discourses that circulate within their disciplinary parameters. As Zimmerman (2004) advises, "the real trick is that the designed structure can guide and engender play, but never completely script it in advance" (p. 160).

AFFINITY SPACES

Of all of Gee's models of game-based learning, we find his theory of affinity spaces to be the most applicable to a research collective such as the DWRL. Gee characterizes affinity spaces as places of learning where people interested in or "passionate" about learning particular topics congregate. An affinity space may be physical or virtual, or a mixture of the two. Gee draws largely from gaming culture to build his theory of affinity: he uses studies of gamers in the online multiplayer games *Age of Mythology* and more recently *The Sims* to explain the structures of affinity. Affinity spaces tend to occur in informal spaces, outside traditional learning institutions, but their structure can be applied to educational settings (Gee, 2007, p. 90).

As Gee suggests, affinity as an organizing principle focuses on "the idea of a space in which people interact, rather than on membership in a community" (2007, p. 87). People who populate affinity spaces are drawn to them by a desire to pursue the kind of knowledge that organizes that affinity space. Participation in affinity spaces is thus fluid, as people will move in and out of the space according to their level of interest in the topic. Gee postulates that there are problems with structuring collaborative activity around groups of people, such as a community. He argues that community as an

organizing principle carries with it connotations of "belongingness" and "membership" that make it difficult to parse what may constitute a community and what may not. Consequently, thinking of collectives in terms of the content that brings them together is a more revealing way of theorizing how people organize and collaborate.

There are several defining characteristics of an affinity space. First, it requires some sort of space—physical, virtual, or a mixture of both—where members can participate. It requires content, what Gee calls "generators" that produce the content, and "portals" through which that content is accessed. Beyond these three basic requirements, Gee outlines a series of attributes that may also define an affinity space:

- People gather around an affinity space in order to pursue a common endeavor;
- Novices and experts share the space;
- Portals can be generators—or producers—of content;
- Content organization is transformed by interactional organization;
- The space requires intensive and extensive knowledge;
- The space enables people to use dispersed knowledge;
- Using tacit knowledge, knowledge that is brought to the topic from experience, is encouraged;
- There are many different forms and routes of participation in an affinity space;
- Leadership in the affinity space is porous.

PLAYFUL AFFINITY IN CONTEXT, PART 1: SPACES, PEOPLE, AND TOOLS IN THE DWRL

In the DWRL, up to forty graduate students from a number of disciplines teach in our five networked classrooms and contribute to an average of four research projects that we run every year. The Lab is overseen by a faculty member (currently Diane Davis) and we have two full-time staff members: a program coordinator (Stephanie Stickney) who coordinates staffing and research, and a systems administrator (Hampton Finger) who manages the dual-boot Macs that populate our classrooms, the software we use, and our own servers, upon which we can test beta software and house projects separately from the main UT servers.

The staffing structure of the Lab is one of its unique features. Unlike many research collectives (which tend to be voluntary), graduate students at the DWRL are paid for their efforts as part of a twenty-hour work week. Instructors are apportioned thirteen hours of their time to dedicate to their teaching, and a further seven hours to work in the Lab. Within those seven hours, instructors divide their time between proctoring for our various classrooms, facilitating open labs, and contributing to research projects. Staffing consists of maintaining the equipment in the classrooms and being available for

technical consultation for professors and students who are having difficulty with the equipment. This workload can change depending on the role assigned to the instructor. For example, as a project leader, the seven hours dedicated to Lab work per week are aimed at making the project run and managing the various project members. We also have specialists exterior to the project groups who are "go-to" people for various important services such as accessibility issues or consulting on how to use Drupal (our content management system). Also, three students fill assistant director positions, where they work closely with the program coordinator, faculty advisor, and systems administrator. In this short, informal video, people who work in the Lab describe their duties and the staffing structure that supports both our classroom activities and our collaborative research agendas:

According to Gee, affinity spaces have several characteristics...

Gee tells us that in an affinity space, people bond "first and foremost around an endeavor or interest" (2007, p. 98). Experience, skill level, and even disciplinary focus are all secondary to the affinity to a particular inquiry, which in the case of the DWRL is the broad interdisciplinary potential of digital literacies. In the video that follows, Lab members describe their backgrounds and investments in the DWRL and how the space both structures the work they do and presents them opportunities to extend their own research:

Let's continue by thinking about what roles different types of knowledge play in the Lab.



As collaborative digital technologies become more firmly embedded in the culture that surrounds us, our work becomes increasingly invested in collaborative endeavors that are enhanced by digital writing environments. The Web sites, blogs, wikis, and media sharing sites become, to use Gee's affinity space theory, portals through which we access content and generators of new research. Here are some of the ways that digital environments are both a point of access and generators of graduate student research in the DWRL:



See <u>Appendix A</u> for transcripts of all videos included in this chapter.

PLAYFUL AFFINITY IN CONTEXT, PART 2: THE ROLE OF PLAY AND TINKERING IN A COLLABORATIVE RESEARCH PROJECT

Viewing the DWRL as an affinity space gives us a snapshot of how the spaces, people, and tools in the Lab interact on a daily basis. But how do these interactions lead to specific research questions and projects? To answer this, we will focus on one of our more recent research groups, <u>Geo-Everything</u>.

The video below tracks how geotechnologies circulated around the Lab and in particular how various members tinkered with GoogleMaps in their classroom practices. Playful tinkering is a core aspect of how a technology is introduced and developed in the DWRL research culture.



John Seely Brown clip used with permission from producer Stephen Brown, The Pearson Foundation. Music by <u>duckett</u>.

If we look carefully at how geotechnologies have circulated in the Lab in this video, we can discern playful patterns of engagement, teaching, and research. The Geo-Everything project demonstrates how a research agenda can develop and change over time in the DWRL. The wired classrooms and project groups that the Lab supports provide a context for individual instructors to tinker with various technologies, model how they may work in a class, apply them to the various types of content they teach, and simulate exercises using those technologies in their classes. If a classroom experiment proves fruitful, the Lab provides spaces and administrative support for workshops to take place around that technology and equipment to record the workshops. Instructors have the opportunity to write up their findings in the form of blog posts, lesson plans, white papers, and video recordings that are published to the DWRL Web site and blogs. The Lab carefully monitors the success of particular technologies through word of mouth and end-of-year interviews with all Lab participants. Based on these findings, the Lab administration may choose to form a more formal research group around that technology, buy the technological requirements that will enable further research, and support collaborative research around that tool, including funding for conferences. Collaborative work is encouraged through structured meetings and access to Lab spaces, equipment, and funds to push understanding of that tool or concept even further.

All the principles of learning through game play that Gee advocates are also evident in the video. Lab members variously adopt the identities of teachers, team members, and researchers; they model concepts that are structured around the goals and expectations

of their classes and projects; they learn how to use new tools and apply their emerging conceptual understanding and skills to various types of content that are congruent with their pedagogical and research aims. What happens in the Lab can be read across all of the elements of Gee's situated learning matrix that supports deep learning through games. Yet, what happens at the Lab also departs from Gee's conceptual model. The strict order of work that Gee advocates is scrambled by the Lab's inherently emergent processes and goals and leans toward Zimmerman's more fluid concept of play in action. All of the above processes are not determined by the rules of a game per se, but instead emerge through an intricate web of negotiations and relationships. Instructors play with tools on their own, try them out in their classes, and communicate with their peers and the Lab administration in a variety of ways: online, in informal interactions around the Lab, in workshop presentations, at happy hours at local watering holes, and in formal white papers and publications. The Lab responds by creating the formal structure of a project group where further sustained research takes place. There is play even within that formal structure. Project groups are encouraged to negotiate between the broad aims of the project and the specific identities and needs of the individual group members. In other words, the structure is there to support the emerging character of the research, not to define it. The research produced at the DWRL is a negotiation among the structure put in place to support the research; the interactions among the people involved, the tools they use, and the research strategies they employ; and the Lab's physical and virtual spaces they frequent.

Tinkering has so inhabited the methods of the Lab that is has begun to colonize space too. During the spring of 2010, Lab members began to meet informally in one of the five DWRL classrooms on Friday afternoons, when classes were finished for the week. Graduate instructors used this time to play with new software and share ideas. We coined the term "<u>Open Lab Fridays</u>" to describe this phenomenon, and the explicitly playful space and time that characterizes Open Lab has taken firm root within the overall week-to-week operations of the collective. Building upon feedback from instructors who enjoyed having the time to experiment, the administration has since formalized play time and space in the Lab by hosting Open Lab Fridays at least twice a month. The Open Lab helps sow the seeds of new collaborative research opportunities, introduce new concepts and tools into our work/play flow, and enhance what we see as the generative, exciting, and above all fun dynamic of our collective work.

The emergence of the physical play space of Open Lab Fridays is complemented by our increasingly intensive use of wikis to coordinate projects and share ideas and resources. All of the project groups share a wiki space to upload resources, publish meeting minutes, coordinate projects with greater ease, and keep up to date on the progress of other groups. We are also using this wiki to develop a bibliography of materials related to what we consider "core conversations" in digital rhetoric and

humanities research. This crowd-sourced bibliography will help Lab members augment research they are already doing in their classes and dissertation work and help them become conversant in key areas of digital scholarship that may not be the primary focus of their own research. Such collaborative resource building via wiki-tinkering strengthens the connection between the playful research techniques being used in the Lab and the structure that is there to both facilitate and solidify those approaches.

CONCLUSION

We acknowledge that the constant negotiation between play and structure in the Lab does not always translate directly into what is traditionally accepted by the academy as research—the solo-authored, print-based journal articles and book chapters favored by humanities disciplines. We do agree, however, with Selfe, Hawisher, and Berry (2009) that collaborative techniques can create a sense of continuity so that English departments can retain the value they place "on scholarship that is original, innovative, intellectual, and sustained, peer-reviewed and published, while acknowledging that scholarly fields, forms, and values change" (p. 2). The Lab is experimenting with the change in fields, forms, and values that we see going on around us every day. As Selfe, Hawisher, and Berry argue, scholarly modes of production are not fixed; they are "technologically shaped and contingent" and can "increasingly employ multiple semiotic modalities (words, still and moving images, video, audio) to convey meaning in increasingly effective and robust ways" (p. 2). These multiple semiotic modalities require a restructuring of not only the texts we write but also of the entire process of research. The playful methodologies we support in the Lab correspond to the larger project of rethinking how we research and publish in the field of digital rhetoric.

Such changes do not occur overnight, of course, and they are not possible without both careful and playful exploration. This is the work a graduate research unit can contribute to the rapidly shifting terrain of academic research. We believe that our model at the DWRL responds quickly and effectively to emerging techniques, that it is research that is firmly rooted in both theory and practice, and, above all, that the Lab carefully attends to the messy playfulness that characterizes collaborative work. Because a research collective is influenced so heavily by particular institutional patterns and constraints, we do not suggest that the model we have at the Lab will perfectly fit in every instance. But by focusing so tightly on play as a structuring principle in this chapter, we hope to have clearly articulated the generative potential it holds for the collaborative work.

These snapshots of the DWRL's research culture reveal that playful experimentation is absolutely central to our development as scholar-teachers. The work we do in DWRL classrooms and on collaborative research projects enhances other aspects of our

graduate training, offering in-depth and applied experience with writing and research in digital environments. What we do in our graduate courses and during the dissertation writing process is certainly vital to our entry into the field of rhetoric and composition. But the playful experimentation that we undertake in the DWRL is equally important because it prepares us to deal with the pervasive digital culture that will shape our careers as educators and researchers. Some sort of collaborative student research network is both a desirable and necessary component of graduate education and professionalization in a digital age. It is our hope that other programs—and the emerging scholars who will sustain those programs in the future—will use playful affinity as a tool to imaginatively remix their own work, if not the discipline itself.

REFERENCES

- Anderson, Daniel. (2009). Yes and yes-and: Time in the compshop. *Currents in Electronic Literacy*. Retrieved from http://currents.dwrl.utexas.edu/2009/Anderson
- Bogost, Ian. (2007). *Persuasive games: The expressive power of videogames*. Cambridge, MA: MIT Press.
- Brown, Stuart L. (2009). *Play: How it shapes the brain, opens the imagination, and invigorates the soul.* New York, NY: Avery.
- Brown, Tim (Speaker). (2008, May). Tim Brown on creativity and play [Video file]. Retrieved from <u>http://www.ted.com/talks/lang/eng/tim_brown_on_creativity_and_play.html</u>
- Csikszentmihalyi, Mihaly. (2000). *Beyond boredom and anxiety*. San Francisco, CA: Jossey-Bass Publishers.
- Deemer, Charles. (1967). English composition as a happening. *College English*, 29(2), 121-126.
- Eyman, Douglas, Sheffield, Stephanie, & DeVoss, Danielle N. (2009). Developing sustainable research networks in graduate education. *Computers and Composition*, *26*(1), 49-57.
- Fleckenstein, Kristie S., Spinuzzi, Clay, Rickly, Rebecca J., & Papper, Carol C. (2008). The importance of harmony: An ecological metaphor for writing research. *College Composition and Communication*, *60*(2), 388-420.
- Gee, James Paul. (2007). Good video games and good learning: collected essays on video games, learning, and literacy. New York, NY: Peter Lang.
- Gee, James Paul. (2008). Learning and games. In Katie Salen (Ed.), *The ecology of games: Connecting youth, games, and learning* (pp. 21-40). Cambridge, MA: The MIT Press.
- Gee, James Paul. (2008). Game-like learning: An example of situated learning and implications for opportunity to learn. In Pamela A Moss, Diane C. Pullin, James Paul Gee, Edward H. Haertel, & Lauren J. Young (Eds.), *Assessment, equity,*

and opportunity to learn (pp. 200-221). New York, NY: Cambridge University Press.

- Gee, James Paul, & Hayes, Elisabeth R. (2010). *Women and gaming: The Sims and* 21st century learning. New York, NY: Palgrave Macmillan. Retrieved from <u>http://books.google.com/</u>
- Huizinga, Johan. (2003). *Homo ludens: A study of the play-element in culture*. London, England: Routledge. (Original work published 1949)
- Jenkins, Henry. (2009). Confronting the challenges of participatory culture: Media education for the 21st century. Boston, MA: MIT Press. Retrieved from http://scholar.google.com/
- Law, John. (2004). *After method: Mess in social science research*. London, England: Routledge.
- Robinson, Ken (Speaker). (2006, February). Ken Robinson says schools kill creativity [Video file]. Retrieved from <u>http://www.ted.com/talks/lang/eng/ken_robinson_says_schools_kill_creativity.html</u>
- Rouzie, Albert (2005). *At play in the fields of writing: A serio-ludic rhetoric*. Cresskill, NJ: Hampton Press.
- Selfe, Cynthia L., Hawisher, Gail E., & Berry, Paul W. (2009). Sustaining scholarly efforts: The challenge of digital media. In Danielle Nicole DeVoss, Heidi A. McKee, & Dickie Selfe (Eds.), *Technological ecologies & sustainability* (pp. 350-366). Logan, UT: Computers and Writing Digital Press. Retrieved from <u>http://ccdigitalpress.org/tes/index2.html</u>
- Sirc, Geoffrey M. (2002). *English composition as a happening*. Logan, UT: Utah State University Press.
- Thomas, Douglas, & Brown, John Seely. (2011). A new culture of learning: Cultivating the imagination for a world of constant change. CreateSpace/Amazon.com.
- Zimmerman, Eric (2004). Narrative, interactivity, play, and games: Four naughty concepts in need of discipline. In Noah Wardrip-Fruin & Pat Harrigan (Eds.), *First person: New media as story, performance, and game* (pp. 154-163). Cambridge, MA: MIT Press.

APPENDIX A: VIDEO TRANSCRIPTS

Video 1

Stephanie: Because I am a member of the lab, I get to teach in one of the lab classrooms. Those classrooms have a computer for every student, scanner, printer, projector. They are very high tech. Students are very engaged in technology.

Pearl: Mostly everyone is both an instructor in the English or Rhetoric departments but then also have a joint appointment in the DWRL. Through that appointment they both get to teach that class they are the instructor for in the computer classroom and then also work on research teams in the DWRL on various topics.

Stephanie: Everyone who works in the lab is either a specialist or a project member or an AD.

Pearl: There are various roles that one can have in the lab. You can be a project leader, in which case one would be proctoring the lab but one would have a more managerial role in terms of organizing the project, deciding the direction of the project, and organizing the group's members and things like that, which is the role that I had last year. Then one can also be a member of a project group in which one basically contributes to the group as well as proctoring in the lab and teaching your own class.

Unidentified speaker: I am proctoring. As a proctor I oversee the needs of DWRL's computer labs and their classrooms. I help instructors with technology issues. I help students who need help in the lab.

Molly: The whole idea is that when you are an instructor in the lab classroom, you want your time to be spent with the students, not with the technology. So if there are any glitches or anything that is puzzling you just come to the proctor.

Stephanie: Instead of being a member of one of our ongoing research projects this year, I chose to be an accessibility specialist. So that means that I don't dedicate my extra hours to a research project instead I dedicate it to my own research on accessibility and making that information available to the rest of us.

Unidentified speaker: We have a bunch of assistant directors, ADs, whose job it is I guess to sort of manage all projects that go on in the lab.

Unidentified speaker: They are a support system for us. As project members and project leaders, they're helping to direct the sort of overall trajectory of what the lab wants to do in the coming years. Things like planning orientations, deciding where we can have a presence, what the new research groups will be.

Video 2

Chris: This is my first year working in the lab.

Trevor: This is the end of my second year in the lab.

Molly: This is my fourth year.

Unidentified speaker: This is my second year.

Molly: I study the eighteenth-century transatlantic book trade.

Unidentified speaker: I am interested in the intersection of audio recording and writing.

Unidentified speaker: Imperialism and the British literary canon.

Unidentified speaker: Environmental rhetoric and space and place rhetorics.

Unidentified speaker: So the lab has affected my research in that I do now social studies research which I did not do before working in the lab.

I'm project leader for VIZ or the Visual Rhetoric workgroup and I now I do research studies about visual literacy and then that connects back to my research for my dissertation which is Renaissance poetry and I also talk about the relation of poetry and visual culture in the sixteenth century. So it has kind of reversed back to my primary research for my dissertation.

Stephanie: Thinking through issues of accessibility is interesting for me. Like thinking about ways in which texts were distributed and articles and books were published in the nineteenth century, but I am not quite sure yet how that all adds up though. But certainly, the work that I've done here has made me think about my own work differently.

Chris: And so contributing to the immersive environments has been a big . . . has been a resource for me to learn more about games and game design and games and pedagogy and I have done a lot of research, more research than I would have done otherwise, to be a part of that group. I think I may have been able to contribute as well because I like games and . . . have ideas about how to use games. And also this semester I got a chance to develop a lesson plan in which I used a game called Mass Effect in the classroom to teach some rhetorical skills. Then I was asked to give a workshop for the other AIs in the department about how my lesson plan worked and how they might want to use video games in the classroom too. So that was really exciting because I had never given a workshop presentation on how to use video games in the classroom and that was a great opportunity for me to do that amongst my peers who could give me constructive feedback on the presentation and my ideas.

Molly: I mean one way that I can think about my research because I study the book trade in the eighteenth century is to think about the history of writing technology. So, I think a lot about the rhetoric around the print trade and the metaphors used to describe print in the eighteenth century. So in some sense the real resonance is with the conversations going on in the lab because people are studying the rhetoric of the current media revolution or whatever you want to call it, the moment that we are in.

Trevor: I work at the intersections of rhetorical theory and continental philosophy. As such I am also interested in writing theory and things like that but my dissertation itself is on the rhetoric of memory and forgetting. It's definitely is a very theory heavy . . . I don't know how to put it. It's a huge, philosophically laden project, I guess.

Video 3

Unidentified speaker: Hello.

Interviewer: How's it going?

Unidentified speaker: It's going well and yourself?

Interviewer: What do you guys usually do in here?

Unidentified speaker: I usually prep for class. And I love this computer; you can get so many screens on the page at once. I work on papers in here. I work with my immersive environments group in here because it's got Photoshop and stuff that I've used for that.

Interviewer: Okay. Cool.

Unidentified speaker: We are in one of the lab classrooms for an open lab. It's a Friday afternoon.

Interviewer: And what do we do in open lab?

Unidentified speaker: Well people can work on various projects. I'm going to work on my 4Cs presentation, which was about social tagging and visual literacy. I'm going to host it on the Viz page as a three-page.

Kevin: I've been thinking a lot about the geography of the lab and how it operates as a space. And I especially like that in the same space you are teaching and then you are also developing skills sets . . . I talk to the ADs. I talk to Hampton. I brainstorm about kinds of technologies I'd like to bring into the classroom. So the support and the pedagogical training are happening in the same location which has been really, really helpful.

Amanda: I am in the stage of my research writing where I am studying for the field exam. So I am reading a lot of books, but honestly I feel like more of my knowledge of the digital humanities, and that's my field, basically has come from being in the DWRL than it has from reading books.

Molly: They come from kind of all spaces. They come from just interests that people have. People in the lab start getting interested in Google Maps or something like that. At the end of the year a number of us nominate ourselves for the Slatin Award, which is a mastery of technology in the classroom, electronic media in the classroom, award . . . but anyhow at that time often ADs will get ideas for, gee, this is a really cool thing that someone is doing in their classroom and we should all be doing that.

Molly: You know another example would be that the Blanton Museum comes and says . . . we start making connections with them and they kind of have an idea for a project. So then we kind of form a project group. I mean we have Viz already, but the nature of what Viz does has changed a lot because of that connection with the Blanton. Sometimes there within the lab, people will come up with groups with what people are doing, what people are getting involved in, and sometimes groups are formed by outside connections. All this kind of gets consolidated in the summer by the assistant directors who work during the summer.

Video 4

John Seely Brown: I think the construct that has been most overlooked now in the twenty-first century and maybe the twentieth century, as well, is the power and importance of play. That is to say, how do I take an idea and how do I kind of play with it? How do I tinker with it? How do I come to make it personal? How do I come to own it? How do I dwell in the idea itself?

Lauren: In order to help visualize both how tinkering with Google Maps happened in the lab, and how it eventually led to the formulation of the GeoEverything project group, I've created a timeline of the research on Google Maps in the DWRL.

The map begins in early 2007 and continues through when the project occurred during the 2009-2010 school year and up to the present day. Each event in the timeline is linked to a lesson plan, blog-post, map—some evidence of the research that was happening. I'd also like to point out that this timeline is by no means exhaustive, but it gives us a glimpse of our research in this particular area.

So let's zoom in and take a closer look at the timeline. Research on pedagogical uses of Google Maps in the writing classrooms in the DWRL was pioneered by Jim Brown, a former assistant director of the lab, so the timeline begins in early 2007 with two of his Blogging Pedagogy posts on how Google Maps might be useful in helping students map

ideas or novels. The ideas in Jim's blog posts eventually developed into the workshop that he gave at the 2007 DWRL orientation on using Google Maps in the classroom. We consider this workshop to be pivotal in the lab's research on Google Maps because it sparked interest in the tool amongst lab members and caused many different people to begin thinking about and experimenting with the tool.

So returning to the timeline, looking at the fall and spring semesters after Jim's workshop, here's a map that a lab member created for use as an in-class teaching tool. Here's a lesson plan about having students build arguments into maps. Here's an example of a student-created argumentative map that resulted from that lesson plan. This is a blog post where I began to think about Google Maps theoretically in terms of surveillance. And here's another lesson plan by Jim Brown that he did in the fall of 2008, where he uses Google Maps to help students map home based on Gregory Ulner's *Internet Invention*.

So, returning to the timeline again, we come to the publication of the 2009 *Horizon Report,* which bolstered all this work on Google Maps. The report included a section called "GeoEverything" and this section became both the name and the inspiration for the project group.

That spring, my co-author, Sean McCarthy, gave a second workshop on Google Maps, which built upon Jim's workshop and Sean's experiments in the classroom and argued that Google Maps could be used as a writing tool to help students build arguments. Sean's work with Google Maps continued in his classroom that semester where he had his students create maps for local Austin non-profits. This is a map of social services available in Austin that Sean's students made for the Austin homeless resource, Front Steps.

In the summer of 2009, based upon all this tinkering with Google Maps, and the *Horizon Report*, the GeoEverything project was created. The next several events represent the work that the group did throughout the 2009-2010 school year, which included various lesson plans, blog posts, maps created by both students and instructors, a workshop about using Google Earth in the classroom and, finally, a white paper that consolidated the results of their research.

The last few events in my timeline represent how the work of GeoEverything has continued beyond the project group as instructors have adapted Google Maps and Google Earth to their particular courses and to consider the theoretical or cultural implications of Google Maps on the blogs.

Collaborative research in the DWRL happens through interactions that are represented by these kinds of publications that live on the lab's Web site, blogs, and outside resources. As John Seely Brown says, lab members remix, reuse, and build upon previous ideas and lesson plans and make the tool their own. This is how we tinker.

Across Disciplines: Establishing a New Media Program

Matt Barton Kevin Moberly

New media is an inherently interdisciplinary subject. A complex mode of production that, as Jay David Bolter and Richard Grusin (2000) have argued, produces ostensibly "new" forms of media by remediating traditional forms of expression (p. 65), it is one of the principle manifestations of a culture in which once rigid and carefully policed boundaries between genres, disciplines, and forms of production and participation are becoming increasingly blurred. New media is, in this sense, the product of what Henry Jenkins (2006) has characterized as an ongoing and pervasive process of media convergence—a process that is manifested not only in the multimedia capability of technologies like cell phones, personal computers, and video game consoles, but also in the underlying political and socioeconomic relationships that define the communities that embrace these technologies. As Jenkins explains, "Media convergence is more than simply a technological shift. Convergence alters the relationship between existing technologies, industries, markets, genres, and audiences. Convergence alters the logic by which media industries operate and by which media consumers process news and entertainment" (pp. 15-16).

The interdisciplinary nature of new media, however, can pose significant challenges to the university, requiring scholars to collaborate with each other across disciplinary boundaries and, to some degree, against disciplinary expectations-to study texts that, as works of popular culture, often challenge traditional notions of what should and should not be studied. Take computer games for example. One of the most popular and recognizable forms of new media, computer games epitomize media convergence and participatory culture, often incorporating visual, audio, narrative, and cinematic elements in ways that are designed to inspire and reward complex interactions. Although it is possible to study computer games by focusing solely on any one of these elements, such approaches are problematic in that they tend to devalue the complex artistic, social, political, and cultural interactions through which computer games produce meaning. Computer games instead require the sort of multiperspectival approach that Ken McAllister (2001) advocated in Game Work: Language, Power and Computer Game Culture. Citing the work of David Kellner, McAllister has argued that scholars who wish to study computer games "must take into account the variety of agents who exert meaning making power on [computer games], including developers, marketers, pundits, players, and politicians, and must accommodate the different ways that ideologies intervene in all these relationships" (p. 42).

Yet given the degree to which the university is segregated into decentralized confederations of colleges, departments, and disciplines, it is difficult to imagine how a multiperspectival, interdisciplinary program designed to study computer games or any other form of new media might be established. Indeed, faculty who are interested in collaborating on such projects oftentimes face the challenge of working together in an academic climate that is invested in maintaining strict separations, often through competition, between various disciplines and communities of scholars. Although many of these divisions are ideological in nature, they are manifested through material practices that determine how resources such as funding, technology, classroom space, and course-release time are allocated. Thus, while scholars who wish to collaborate with colleagues in different disciplines face the difficulties inherent in integrating often disparate approaches and methodologies, scholars who wish to cross disciplinary boundaries in order to produce works of new media face larger, more systemic challenges. Since much of the hardware and software required to produce a work of new media such as a computer game can be relatively expensive, these scholars must not only negotiate the purchase of this equipment within and between their departments but also work out time-sharing agreements and secure the physical space to house the equipment and the requisite personnel to maintain it. In an academic climate that is characterized by interlocking economies of scarcity, the financial and logistical challenges of establishing a new media project that exists between rather than within academic disciplines are oftentimes enough to guarantee the failure of the project in its planning phase.

Despite these challenges, interdisciplinary programs designed to undertake such projects have much to offer the university. They can help students make sense of what, to Jenkins (2006), is one of the central contradictions of the contemporary media landscape: the fact that while control of the mass media has become increasingly concentrated in a relatively small number of media conglomerates, the proliferation of inexpensive media technologies has radically expanded the ability of nonspecialists to produce and disseminate works of media to equally large audiences (pp. 18-19). Positioned between these poles, interdisciplinary new media programs can teach students a variety of interpretive strategies through which to approach and understand the complex textual, audio, visual, and spatial rhetoric that characterizes many works of mass culture. These programs also have the potential to teach students to respond to these productions in kind. By showing students how to take advantage of the proliferation of inexpensive media technologies that Jenkins references, programs that focus on producing new media can teach students a number of authorial and creative strategies through which they can confront and respond to the mass media in venues over which mass media outlets once enjoyed exclusive control and with materials that these outlets originally produced. New media programs can thus help remedy the digital divide between those who have the ability and the knowledge to produce media and those who do not.

This chapter is an outgrowth of our experiences while attempting to establish a collaborative new media program at <u>St. Cloud State University</u> (SCSU). A medium-sized university of approximately 16,000 students, SCSU was founded in 1866 as a "Normal" school tasked with producing teachers for the State of Minnesota. Although the mission of SCSU has expanded considerably since then, the university nevertheless retains many of the disciplinary structures that marked eighteenth- and nineteenth-century approaches to education. In detailing the lessons we learned while working with a group of SCSU new media faculty to accommodate and overcome these structures, this chapter will address what is perhaps one of the central questions that all such collaborative, interdisciplinary endeavors raise: not how to dismantle the traditional disciplinary structures in a way that makes new approaches and new modes of knowledge possible.

THE CELL THAT CONTAINS YOU

Many scholars who study the history of American higher education mark the decision to adopt the German university model as one of the pivotal moments in the formation of the university. In *American Higher Education: A History*, Christopher J. Lucas (2006) has argued that the distinction between American colleges and universities did not become concrete until scholars like Daniel Gilman, who had studied at German institutions, adopted the model. Noting the exponential increase in Ph.D.-granting institutions from 1860 (when Yale offered the first doctorate) to 1918, Lucas wrote,

What had changed was the rise to administrative power of men . . . who had first-hand experience with German universities. Most who returned after studying or visiting Heidelburg, Berlin, Tübingen, or Liepzig had come back with glowing reports of great academic institutions in Germany where specialized graduate seminars and lectures were offered in abundance to advanced students, and in an astonishing variety of specialized disciplines. (pp. 177-178)

What impressed Gilman and others about the German institutions they visited was that their curricula did not emphasize the type of practical knowledge or teaching that defined American institutions of higher learning in the first half of the nineteenth century. Instead, these institutions advocated advanced study and pure learning and knowledge, which they defined at the intersection of two principles: *lernfreiheit*, or the freedom of

students to learn (Lucas, 2006, p. 178), and *lehrfreiheit*, or the freedom of scholars to teach what they wanted: "to pursue his investigations wherever they might lead, to draw from his research whatever conclusions were warranted, and to disseminate the results through teaching or publication without hindrance or interference from external authorities" (Lucas, 2006, p. 178).

Prussian educational reformer Wilhelm von Humboldt first articulated these complementary principles. Inspired by the philosophy of the French Revolution, Humboldt saw the individual as an antidote to the totalitarian state structures and sought to establish a national Prussian educational system that was designed to produce individuals as sovereign subjects who had the ability to critique and therefore reform the state. As he wrote, "Education of the individual must everywhere be as free as possible, taking the least possible account of civic circumstances. Man educated in that way must then join state and, as it were, test the constitution of the state against his individuality" (qtd. in Hohendorf, 1993, p. 617). Humboldt's notion of how *bildungs*, or the development of the individual, takes place was central to his vision of how such a state-sponsored, though otherwise unconstrained, system of education should function. As Christopher Wulf (2003) has explained, Humboldt conceived of *bildungs* as an essentially mimetic process through which the individual discovers the fundamental nature of his or her internal being by attempting to come to terms with the outer world:

Bildung is mimetic in so far as it strives not to control, but to form individual strengths in a control-free encounter with outer worlds. In taking on outer worlds mimesis leads to assimilation of the foreign. . . Outer world thus becomes inner world. This transformation, which constitutes the education process, is accomplished through transmitting the outer world in pictures and in adopting it into the inner, image world of the individual . . . In this mimetic association, the world is disclosed to the individual, and vice versa. (p. 246)

To Humboldt, the role that the university played in this process was unique. As the last tier of the educational system, its purpose was to continue the regimen of general education imparted by the elementary and secondary schools, but to do so in a way that inspired students to continue the process of *bildungs* independent of teachers or any other structures, state-mandated or otherwise, that might color or constrain the development of the individual. Humboldt thus conceived of the university as an institution in which the "university teacher is therefore no longer a teacher and the student no longer someone merely engaged in the learning process but a person who undertakes his own research, while the professor directs his research and supports him in it" (qtd. in Hohendorf, 2003, p. 621).

Although Humboldt's insistence on the freedom of both teachers and advanced students to determine their own courses of study is often cited as the foundation of the concept of academic freedom, these principles are also implicated in the disciplinary structures that characterize many institutions of higher learning. This apparent contradiction is rooted in what, to Michel Foucault (1970), is one of the central paradoxes of the disciplinary model of individuality that arose during the Enlightenment—the fact that it is impossible to define what constitutes the individual as a unique and sovereign entity without first defining the larger societal structures without which notions of uniqueness or individually cannot be defined. As Foucault (1979) has explained,

In organizing "cells," "places" and "ranks," the disciplines create complex spaces that are at once architectural, functional and hierarchical. It is spaces that provide fixed positions and permit circulations; they carve out individual segments and establish operational links; they mark places and indicate values; they guarantee the obedience of individuals, but also a better economy of time and gesture. (p.148)

This is the case with the process of *bildungs* that Humboldt championed. In order for individuals to discover the characteristics that make them unique, they must first discover the universal structures of which the outer world is composed. It is only by doing so that they are able to position themselves as sovereign entities in relationship to the external world. What Humboldt advocated, in this sense, is not that individuals should be free to do as they want at advanced levels of study, but free to determine where they fit within a larger societal schema demarcated by classes, disciplines, specialties, and sub-specialties—individuals should be free, in other words, to chose the cell that best contains them.

Thus, while Humboldt's educational reforms encouraged the autonomy and specialization that he and other Enlightenment thinkers regarded as "natural" for the production of knowledge, they are predicated on a disciplinary model of individuality that empowers its subjects only to the degree that they agree to reproduce, through their behavior, the social, political, and economic structures through which their status as an individual is guaranteed. The result is an inverse, coercive relationship in which academic freedom is secured through a disciplinary framework that ultimately functions to impose boundaries—and therefore limits—on scholarship. As Foucault (1979) has written about Enlightenment attempts to reform the military,

Discipline increases the forces of the body (in economic terms of utility) and diminishes these same forces (in political terms of obedience). In

short, it disassociates power from the body; on the one hand, it turns it into an "aptitude," a capacity it seeks to increase; on the other hand, it reverses the course of the energy, the power that might result from it, and turns it into a relation of strict subjection. (p. 138)

In valorizing a model of scholarship that promotes individualism as the best way to produce knowledge, the American university simultaneously valorizes disciplinary structures that encourage scholars to differentiate and segregate themselves from one another. The disciplinary boundaries that result from this invariably competitive, compartmentalized activity not only function to constrain and police the academic conversations that take place in the university, but also function to restrict the opportunities that scholars have for pursuing new conversations and thereby new approaches to producing knowledge.

THE DISCIPLINARY TRADITION OF EDUCATION

Walking among the buildings that comprise the St. Cloud State University campus, it is tempting to argue that such disciplinarity is a thing of the past. For better or worse, the picturesque Victorian buildings that stood along the river like regimented soldiers have been torn down or otherwise displaced as the campus has pushed its boundaries outward from Second to Fourth Avenue. As with many university campuses, the buildings that fill this space are not uniform and do not seem to follow a formal design plan. In fact, the newest buildings on campus seem constructed specifically to contradict such notions. The James W. Miller Learning Resources Center, for instance, presents an eclectic, postmodern mixture of architectural styles that is reminiscent of Frank Gehry's work. Its architectural rhetoric underscores the fact that the label "library," with its enlightenment and modernist connotations, is no longer sufficient to contain the mixed and often blurred purposes that define the library. Much of the same can be said for the Atwood Memorial Student Union, the newly remodeled Centennial Hall, or the Robert H. Wick Science Building—structures that, in their illogical, often contradictory architecture, seem to embody a distrust of rigid structures and careful mappings.

Yet for all of this, the disciplinary tradition of education is still very much in evidence at St. Cloud State. A historical exhibit that testifies to the continuing influence of this tradition, for example, dominates the upper floor of the Atwood Memorial Student Union. Constructed around a Wooton desk decorated with memorabilia from various eras of the university's history (Figure 1), the exhibit suggests that if there is a continuum that unites the past, present, and future of the university (as embodied by the memorabilia), it is the carefully regimented, measured, and divided compartments of the desk.



Figure 1. St. Cloud State historical exhibit constructed around a Wooton desk.

A video history of the university posted on its alumni Web page conveys a similar message. Entitled *St. Cloud State University: A History of Excellence*, the six-part documentary begins with the establishment of the university as the third state Normal school in 1869. Illustrated by scores of black and white photographs that show students, faculty, and buildings neatly arranged in careful rows and ranks, the documentary presents the growth of the university as a manifestation of the disciplinary model of education articulated by the school's first principal, Ira Moore. Described by the documentary as an "exacting and demanding administrator," Moore characterized this vision as follows: "It is hoped at no distant day, that the work of the school may be mainly limited to the history and methods of instruction. For the present, however, a thorough disciplinary course of instruction must be given in addition to this. The subject taught and the method of teaching, it must be given together" (qtd. in *St. Cloud State*, 2007). As with the Wooton desk prominently displayed in the student union, this video history positions St. Cloud State University's "History of Excellence" as the natural and inevitable consequence of its underlying disciplinary structure.

This disciplinary structure is perhaps most present in the process required to add new programs and curricula to the university's catalog. As outlined through a series of documents published on the Minnesota State Colleges and Universities (MNSCU) system's "Academic and Student Affairs" Web site, this process requires faculty who wish to <u>establish a new program</u> to complete an essentially double-tiered process of evaluation. The first step of this process involves seeking approval from the university that will host the program. In the case of St. Cloud State, interested faculty must justify the need for a new program by submitting a number of forms that ask them to identify, among other things, the new program's potential clientele, how the program will be

assessed, and the effect that the program will have on existing courses and programs. The completed proposal is then evaluated by the university's curriculum committee based on the criteria outlined in Figure 2. If the university curriculum committee accepts the proposal, the faculty involved must then initiate the second phase of evaluation, which involves seeking approval for the program at the state level. As at the university level, faculty must justify the new program based on an analysis of many different factors, including the need for the program in the region in which the university is located, overlap with similar programs offered by other universities in the region, and the resources required to implement the program.

This is, of course, a disciplinary process. Quantified by numerous charts, forms, and formulas, it is designed to ensure that changes or additions to the university's curricula are implemented in a manner that not only maintains the integrity of the curricular structure, but also reinforces the status of the individuals who are subject to the curricular structure, requiring them to describe and quantify their production in a manner that both demonstrates their familiarity with the disciplinary structure and their acquiescence to it. The process for proposing new programs is, in this sense, very similar to how Foucault (1979) has described the examination in *Discipline and Punish* in that it employs an essentially hierarchical process of evaluation to ensure that the production of the individuals within the curricular structure is always expressed as a discipline. Properly structured and channeled, the work they do in producing a new disciplinary apparatus. As Foucault (1979) has written,

It is the examination which, by combining hierarchical surveillance and normalizing judgment, assures the great disciplinary functions of distribution and classification, maximum extraction of forces and time, optimum combinations of aptitudes, and thereby, the fabrication of cellular, genetic, organic, and combinatory individuality. With it are ritualized those disciplines which may be characterized in a word by saying that they are a modality of power for which individual difference is relevant. (p. 192)

Understood in this sense, it is no surprise that faculty who teach new media approach the curricular process with dismay. It is not simply that to teach the subject effectively they must collaborate across disciplinary boundaries and draw on the resources of a number of ordinarily disparate approaches, but that when spelled out as a potential new program in the careful boxes and blanks required by the curricular paperwork, this interdisciplinary mode of production—this desire—looks blasphemous: a direct challenge to the rituals of how "normal" faculty should go about the social, economic, and political business of producing knowledge. Indeed, if the criteria for evaluating new programs listed in Figure 2 are any indication, the desire for interdisciplinarity is, in the order of things, only relatively more important than "gut feel."

Criteria	3			
Fits with Distinctive Competencies	Clearly fits with and enhances the Distinctive Competencies of SCSU			
Impact on students	Clearly measureable, significant positive impact on student outcomes (retention, graduation, learning, satisfaction)			
Addresses a Weakness or an External Threat	Clearly impacts or addresses a weakness of SCSU			
Urgency	Needs to be implemented immediately because of external requirement or small window of opportunity			
Impact on revenue/expense "ROI" and/or external funding potential	Initiative will clearly generate positive revenue to expense or will lead to efficiencies resulting in substantial cost savings OR External funds identified/available			
Best practice	Clearly a proven best practice. Documented best practice that peers have already adopted			
Impact on the community	Clearly measureable, significant positive impact on the community			
Within institutional capability and processes	Process exists and staff currently have necessary skills			
Impact on diversity	Clearly measureable positive impact on diversity of campus community			
Impact on employees	Clearly measureable, significant positive impact on employees (recruitment, retention, development, satisfaction)			
Collaboration or interdisciplinary work	Initiative involves clear interdisciplinary or external partnerships or collaborations			
"Gut feel"	Just seems like a great idea (very innovative or creative)			

Figure 2.	Criteria for	evaluating r	new programs	or initiatives	at St.	Cloud S	State
University	/.						

REMEDIATING NORMALITY

Yet for all of this, it is impractical to imagine attempting a wholesale dismantling of the disciplinary structure of the university. Inscribed into the structure of the university and

perpetuated through innumerable rituals, the rigid distinctions between colleges, departments, majors, and minors defines the production of the university. There is hope, however, that these structures can be addressed through what Bolter and Grusin (2000) have described as the process of remediation. As they have argued, contemporary forms of new media are the products of a "double logic of remediation" (p. 5) that is manifested in two conflicting, but ultimately interdependent desires: immediacy and hypermediacy. Equating immediacy with "transparency" and hypermediacy with "opacity" (p. 19), they state that immediacy is manifested in "a style of representation whose goal is to make the viewer forget the presence of the medium" (p. 272), while hypermediacy is expressed in "a style of visual representation whose goal is to remind viewers of the medium" (p. 272). Constructed in opposition, these desires function to counterbalance each other and thus define the boundaries within which the freeplay of media production takes place. As Bolter and Grusin (2000) have written,

If the logic of immediacy leads one either to erase or to render automatic the act of representation, the logic of hypermediacy acknowledges multiple acts of representation and makes them visible. Where immediacy suggests a unified visual space, contemporary hypermediacy offers a heterogeneous space, in which representation is conceived of not as a window onto the world, but rather as "windowed" itself—with windows that open onto other representations of media. (pp. 34-35)

To Bolter and Grusin, then, media reflects an ongoing process of aesthetic struggle through which culture seeks to negotiate not only what, at any given moment, should be privileged as a real or an authentic experience, but how this real or authentic experience should be represented and disseminated—that is, the recursive strategies by which new forms of media appropriate, refashion, and thereby remediate older forms of media.

A good example of this process of remediation at work can be found in Sierra Entertainment's 1989 computer game, *Space Quest III: The Pirates of Pestulan*. A parody of *Star Wars, Terminator,* and many of the other popular science fiction movies of the time, the game included many allusions to mass culture. Players, for example, encountered an interstellar chain of fast-food restaurants named Monolith Burger modeled on present-day McDonald's. As they visited these restaurants and similar locations in the game, they also discovered a number of *AstroChicken* arcade games. Clicking on these arcade games launched a mini-game in which players attempted to land a chicken on a trampoline gently enough to keep the chicken from bouncing into the air again. Contained within the larger structure of *Space Quest III, AstroChicken's* nonsensical game play implicitly critiqued many of the arcade games of the previous generation, such as Atari's 1979 title, *Lunar Lander. AstroChicken* was also positioned within *Space Quest III* as a critique of the labor practices of the computer game industry—a fact that became clear when players discovered that the *AstroChicken* games were produced by two software developers being held prisoner by the appropriately named software company, ScumSoft. *Space Quest III* thus remediated the arcade game, incorporating it into its structure in a way that was designed to call attention (via hypermediation) to the shortcomings of the arcade game both as a medium and as the product of problematic industrial practices.

As this example makes clear, remediation is a political strategy. Indeed, if one recognizes that technology and media are not material things, but, in the Marxist view, discourses through which knowledge is converted into power, then it becomes clear that remediation is ultimately a discursive strategy through which new discourses are created by appropriating and repackaging older ones. Understood in this light, remediation is a useful strategy for faculty who wish to establish an interdisciplinary new media program. Informed by the notion that appropriation is, to some degree, always a form of critique, faculty who consciously remediate existing curricular elements can critique the disciplinary structure of the university at the same time that they maintain a facade of disciplinarity. That is, instead of explicitly working to attack and dismantle the disciplinary structures of the university, they can repurpose courses, technology, labs, and other curricular elements that are "normally" allocated through departments and colleges. In doing so, they can appear to work within (rather than against) the discursive traditions of the university, yet simultaneously construct the elements they repurpose in a manner that, as in the example of Space Quest III and AstroChicken, serves to foreground underlying systems of power and control that might otherwise appear natural or normal.

Faculty, for instance, who teach introductory courses such as first-year composition can integrate new media into their pedagogies in a manner that requires students to recognize that rhetoric and composition does not simply involve writing and is therefore not simply the providence of English departments. Much of the same pedagogy can be implemented in upper-level courses. Instead of reading and producing traditional or discipline-sanctioned materials, faculty can ask students to use new media to read, respond to, and produce works of popular culture in a way that demonstrates the inherently multimodal imperatives of all textual production. Faculty can also require students to use new media to repurpose or repackage the modes of production or performance that the discipline constructs as normal—to present an academic argument not through an essay or a presentation, but by "modding" an existing computer game such as *Neverwinter Nights*, or through YouTube, Twitter, a podcast, or a similar medium. Such exercises can be extremely useful in that they require students to come to terms with modes of academic and cultural production that are

interconnected but are oftentimes constructed as outside of the boundaries of the modes of inquiry that the discipline privileges as "proper" or "normal."

Faculty can also appropriate existing interdisciplinary structures to facilitate collaboration. St. Cloud State, for example, has established a First-Year Experience Program that emphasizes learning communities as a means to improve retention among new students. This program is not, of course, truly interdisciplinary. Insisting on recognizing and maintaining existing disciplinary boundaries, it trains students to approach the acquisition of knowledge as an essentially compartmentalized activity that, when done properly (or normally), is as much a matter of categorization as it is cooperation or community. Yet even so, this program provides a ready-made space for establishing university-sanctioned collaboration among faculty in different departments who are interested in teaching with or studying new media. Because students who enroll in this program are required to take a series of courses offered by instructors in different departments, the pedagogy of the courses that are yoked together through the program can be structured in a manner that helps students recognize that the disciplinary boundaries are artificial and that learning is a fundamentally interdisciplinary endeavor. These courses can therefore demonstrate the potential effectiveness of larger, interdisciplinary programs. This goal is especially easy to accomplish when such programs are themed around forms of new media, such as computer games. Popular with students, they can provide shared electronic spaces, virtual environments, through which the faculty can illustrate connections among the approaches to the production of knowledge that their ordinarily disparate disciplines privilege.

RHIZOMATIC APPROACHES

The goal of such strategies, however, should not be to produce new media as a discipline in and of itself. As discussed above, much of the productive activity of the university is structured and organized by disciplines. These disciplinary structures compartmentalize and constrain scholars, granting them a large degree of academic freedom, but only if they consent to work within the recognized boundaries of their disciplines. The success of collaborative new media programs, by contrast, depends on facilitating the interdisciplinary branching and blurring that gives new media its transformative potential. Indeed, the rhizome is one of the more useful metaphors that has been used to describe new media. Borrowed from the work of Gilles Deleuze and Félix Guattari (1987, pp. 7-13), the rhizome metaphor illustrates the nonhierarchical, interconnected, and dynamic structures inherent in new media. The rhizomatic structure of new media also clarifies the difficulties inherent in and the paradox of establishing a "new media canon" or even a stable set of criteria for evaluating new media works. New media is not a collection of projects, theories, and practices, but rather a meta-discourse

for which such things serve as nodes of rhizomes. Like any worthwhile academic pursuit, new media is not unified or simply defined; it is, rather, an ongoing discourse whose participants vary in their technical training and interests, to say nothing of their ideological commitments.

Understood in this sense, efforts to impose a simplistic definition on new media betray a misunderstanding of the project; indeed, new media is, if anything, an inherently political movement that works to oppose or at least contrast other understandings of media. In much the same way that most rhetoric scholars wish to complicate their subject beyond the "art of persuasion," and literary theorists wish to move beyond mere contemplations of "the canon," new media scholars work to deconstruct, disorient, and even derail common assertions about how media works and the communities, cultures, and identities it supports and constructs. For instance, one of the most common misconceptions about new media is the assumption that it is primarily concerned with digital technology (computers, iPods, game consoles, etc.). The result of this myopic view is that discussions of new media quickly become mired in technical issues or questions about popular software programs such as Adobe Photoshop, Flash, Final Cut, and ProTools—How will we afford them? How will we learn to use them? Who will teach these programs to our students? While these are important questions to ask, they can detract from more substantive discussions, and that time could be better spent on more traditional and profound critical modes of inquiry.

Yet as concerns about the cost of buying and maintaining software shows, teaching new media studies in a responsible way poses substantial practical as well as theoretical problems. As discussed earlier, the disciplinary structure of American universities is itself an obstacle; this is particularly true when dealing with matters of hiring, tenure, and promotion. One problem faced by any new media scholar is where studies of Second Life, Wikipedia, or the procedural rhetoric of "serious games" fit into conventional criteria for professional development. It can also be challenging to inform English majors about and recruit them into such programs, since they are often more concerned with Shakespeare, vowel shifts, or The Great American Novel than exploring virtual worlds, interactive narratives, or digital rhetoric. Yet despite these practical challenges, individuals hoping to learn more about new media should begin by studying the conversations of its scholarly community rather than the programs on their computers. It is less important, for instance, for someone to know the ins and outs of Dreamweaver than for that person to be aware of the role of navigable space, identity formation, play, and virtual economies that intrigue so many new media scholars. Lacking a sufficient understanding of such theory, "new media" becomes mere pixels in a void.
Fortunately, not all new media enthusiasts pursue the same agenda, employ the same pedagogies, or share the same ideologies. Not all faculty committed to teaching new media are interested in its production; rather, these faculty spend time applying, focusing, or grinding existing critical lenses to accommodate new kinds of texts. Many are quite comfortable teaching "new media" classes in "dumb" classrooms, relying on printed books and articles as the foundation if not the sole content of their course. On the other hand, some faculty aspire to work entirely in non-traditional forms of media. They want to produce new media projects themselves or guide their students in such complex and ambitious endeavors. As a result, students who sign up for "new media" courses might find anything from a seminar based entirely on printed readings, a "studio" class culminating in a video or Web site, or some conglomeration of production, analysis, criticism, and, hopefully, reflection.

The challenge, therefore, is how to construct an interdisciplinary new media program that accommodates all of these rhizomatic approaches, presenting them to students in a manner that allows them to draw connections and synthesize knowledge from the disconnections and disparities as well as the overlaps. One of the key means of answering this challenge is recognizing that new media scholars and practitioners must remain flexible in their praxis and theory, adapting both routinely and regularly, and that these scholars must communicate with each other. Indeed, faculty who were interested in establishing a Center for New Media Studies at St. Cloud guickly realized that all of the participants brought different definitions of what constituted new media. Faculty in the Art and Music Departments, for instance, approached new media primarily as a site of artistic production and performance and therefore argued that the New Media center should be a primarily studio-oriented space. While faculty in the Communication department also primarily approached new media as a productive activity, their definition of production was more pragmatic than creative. They saw the Center for New Media studies as a shared space in which students could gain experience in new media and journalism. By contrast, faculty in the English department approached new media primarily as an area of critical inquiry. While they recognized and were interested in producing new media, they argued for a shared space that included technologies that would afford their students opportunities to study current manifestations of new media. Faced with these differences in perspective, the working group decided to approach new media as a discourse community rather than as a collection of technological practices. As such, they decided that it was best not to begin by establishing a definition of new media, but by imagining a physical space in which faculty and students from the different disciplines could converge and discuss new media—where, working with each other, they could explore the differences in these definitions and approaches. And while the working group did discuss the technology the center would need, they ultimately decided that technology was secondary to establishing a communal space where

interested faculty and students could meet. As such, they decided that the essential elements required to start the center were not computers, video or sound equipment, or software, but a couch, a few tables and chairs, and perhaps if the funding could be secured, a coffee maker.

A CAUTIONARY TALE

It is also important to recognize that the process of remediation can be a two-way street, especially where technological resources such as computer labs are concerned. A case in point that illustrates some of the challenges facing scholars who wish to establish interdisciplinary new media programs can be seen in the small scale example of the New Media Studio that the St. Cloud State English department constructed in 2006. Looking to new media as a way to enrich its course offerings and attract more students and funding, the English department made two new hires—the authors of this chapter, Matt Barton and Kevin Moberly—both of whom had studied and worked extensively with new media and who were eager to develop and teach such courses. Along with the new hires came a proposed "new media lab," a special teaching space designed to accommodate what Barton, Moberly, and the established new media faculty needed to succeed in their endeavors.

Naturally, there were many questions about what this lab would look like. Perhaps the most progressive and least conventional idea laid on the table was a "new media studio," a sort of open-ended environment that would function more like a workshop than a classroom. Emphasizing creativity, exploration, and play rather than skill-and-drill pedagogy, computers and desks would be arranged in pods, and all manner of tools and resources would be available to help students and faculty create, design, or study whatever they wished. One key idea was to purchase different types of computers and accessories, including Linux platforms, so that students could study software and other digital productions through a number of different interfaces. However, this proposal was deemed unrealistic and the majority of the faculty involved in the planning moved toward a more homogeneous space. All of the computers, they decided, would be Apple Macintoshes, which would be arranged in rows, all facing a central projection screen and teacher's workstation. At this point, it became clear that the key impetus for the project (at least for the administrators) was not creating a new media lab, but using the label "new media" as a justification for placing as many stations as possible into the room, so it could ideally accommodate a full first-year composition class-which has swelled to twenty-five students at St. Cloud State.

Fortunately, we were able to resist at least some of these dicta, and the end result was a "hybrid" space consisting of some twenty computers arranged in a horseshoe. A large

table (equipped for laptops) was located in the center of this horseshoe, with a projection screen and an instructor's workstation positioned at its base. Yet the various conflicts that arose over the design of the studio highlight some of the competing interests at stake—not just over the layout of a lab, but the larger disciplinary issues discussed above. Indeed, many of the chief arguments that were made in favor of a traditional lab layout constructed around rows of uniform computers were inherently disciplinary in nature in that these layouts were described as somehow more "natural" or "intuitive" to the type of classes the English department taught. Since this view dovetailed nicely with the administration's interest in accommodating the largest possible number of faculty and students, it was very difficult to resist.

The administrators, of course, were not the only ones with stakes in the design of the lab, and it is worthwhile to consider the other perspectives. One might assume that the new media faculty should have priority in teaching in the space (it is called the "new media studio," after all), but the department seemed hesitant to identify or designate individual faculty members as "new media people." Thus, when the New Media Studio was finally built, it became apparent that other faculty would have as much if not more priority for its use than the new media faculty. On several occasions, courses that were specifically designated new media were shuffled around or even relocated to other labs or classrooms on campus. No priority or exceptions were in place to privilege new media courses; faculty who were expressly hired to teach new media were placed on a level playing field with faculty who simply wanted to teach the occasional business or technical writing course in the studio.

Yet another conflict arose over how the lab would be used by students. The studio design lent itself to a more open, less classroom-centered approach; students could drop by whenever the studio was open and work on whatever projects they wished. However, the majority opinion was that the space should be limited to teaching, and the doors should be closed and locked whenever it was not in use. This policy was justified, of course, by the threat of theft and vandalism. However, it was also justified by concerns about the behavior of students. Instructors who had taught in many of the campus's open computer labs worried that students who wanted to use the studio's resources might disrupt classes by barging into them while in session, demanding technical support, or even attempting to access the printers. While these were valid concerns, the result was that students were prohibited from using the studio unless taking a class in the studio, and even then, only during that class's scheduled meeting times.

In short, the New Media Studio was something of a failure, eventually becoming little more than a computer classroom whose connection to new media was tangential at

best. What our experience suggests is that new media faculty might be better off looking to outside funding for studios; or they might at least find ways to ensure their special needs are given priority in the design of such spaces. While appealing to the general faculty of a single department might be an easy way to build support for a new facility, the resulting "one-size-fits-all" approach is as inevitable as it is undesirable. In the case of the English department's New Media Studio, what this solution led to was the construction of a computer lab whose funding was justified through the extensive use of the term new media, but which was constructed, in reality, because the English department lacked a computer lab in which courses could be offered. Rather than empowering or motivating the new media faculty and students interested in working with new media, the studio has had the opposite effect. With its careful rows of gleaming white computers, it stands as a cautionary tale about one of the greatest challenges that scholars who wish to establish new media programs both within and between programs must overcome: the power of disciplinarity to normalize and regiment even the most promising approaches.

CONCLUSION

New media is a site of ongoing struggle. An inherently political subject, it embodies a multitude of desires, approaches, and interests, some of which are invariably more traditional and conventional than others. The challenge facing scholars, however, is not this multiplicity. As our experience with the St. Cloud English department's New Media Studio demonstrates, the challenge is how to resist approaches that attempt to co-opt or otherwise contain new media, producing it as a unified or somehow carefully demarcated discipline. The challenge facing scholars, in this sense, is not to define, describe, or otherwise quantify new media. Doing so jeopardizes the very characteristic in which its potential is located: the rhizomatic possibilities that are produced at the intersections of new media's inherent contradictions and conflicts. Scholars must instead recognize that, given the interdisciplinary nature of new media, struggle is both inevitable and important; struggle is the means through which new knowledge, new approaches, and ultimately, new struggles are generated. The challenge facing new media scholars is thus fundamentally rhetorical: how to encourage conversation, interaction, and productive collaboration despite the discursive and financial barriers created by the disciplinary structure of the university. Scholars, in short, must work together to discuss and practice new media in ways that foreground and thereby deconstruct the disciplinary struggles that appear natural, inevitable, and incontrovertible and that lead, invariably, to rows of gleaming white computers.

REFERENCES

- Bolter, Jay David, & Grusin, Richard. (2000). *Remediation: understanding new media.* Cambridge, MA: The MIT Press.
- Deleuze, Gilles, & Guattari, Felix. (1987). *A thousand plateaus: capitalism and schizophrenia* (Brian Massumi, Trans.). Minneapolis, MN: University of Minnesota Press.
- Foucault, Michel. (1979). *Discipline and punish: The birth of the prison* (A. Sheridan, Trans.). New York, NY: Vintage Books.
- Hohendorf, Gerd. (1993). "Wilhelm von Homboldt." *Prospects: the quarterly review of comparative education, 3*(4), 613-623.
- Jenkins, Henry. (2006). *Convergence culture: where new and old media collide.* New York, NY: New York University Press.
- Lucas, Christopher J. (2006). *American higher education: a history* (2nd ed.). New York, NY: Palgrave Macmillan.
- McAllister, Ken. (2004). *Game work: language, power, and computer game culture*. Tuscaloosa, AL: The University of Alabama Press.
- St. Cloud State Alumni Association (Producer). (2007, July 17). St. Cloud State University: A history of excellence [Video files]. Retrieved from <u>http://www.stcloudstate.edu/alumni/aboutus/history.asp</u>
- Wulf, Christoph. (2003). Perfecting the individual: Wilhelm von Homboldt's concept of anthropology, *bildungs* and mimesis. *Educational philosophy and theory*, *35*(2), 241-249.

From Local Seminars to International Teaching and Learning Exchanges: The Cross-Cultural Collaborations Project

Magnus Gustafsson Donna Reiss Art Young Linda Bradley

Increasing attention to globalization and technology in the higher education arena, especially as these topics relate to the international exchange of information and to distance learning, leads to new opportunities for cross-cultural, collaborative teaching and learning. Teacher-scholars as well as students are no longer limited to teaming with peers in their departments, on campus, or in the same geographical vicinity. They are able to use the Internet to share responsibility for planning and implementing or for pursuing interactive, multimodal learning activities for enhanced learning and communication across the globe.

The Cross-Cultural Collaborations project—a poetry-focused electronic discussion activity that we have used in our courses for over five years—offers a representative example of an international teaching partnership and an evolving cross-cultural, collaborative, and multimodal learning environment (Figure 1). The assignment involves an exchange where students read, interpret, and analyze poetry collaboratively in cross-cultural groups set up to include students of Magnus Gustafsson at <u>Chalmers University of Technology</u>, Göteborg, Sweden; students of Art Young at <u>Clemson University</u> in South Carolina; and students of Donna Reiss at <u>Tidewater Community College</u> in southeastern Virginia and at Clemson University.



Figure 1. Screenshot from Cross-Cultural Collaborations project Web site.

The exchanges are designed to increase student understanding of poetry, poetic language, and the various ways in which different contexts—including digital ones—help promote communication about and insight into poetry. This increased understanding is reflected in the students' ability to discuss the assigned poetry within an online community of readers. The guiding idea behind these exchanges was our observation that, regardless of their home country or native tongue, students tend to be hesitant about discussing poetry and many students perceive poetry as difficult and foreign. This seems true for classroom discussions as well as for the written work students produce when analyzing or interpreting poetry.

Our guiding pedagogical method has been to provide a comfortable online writing-to-learn space, initially with a learning management system and later with blogs, where poetry can be discussed in an informal yet structured way. The asynchronous online forum provides an opportunity for students to construct a written argument about poetry for an audience of peers and to generate a body of text that can serve as the first step in a writing process leading toward a more formal and traditional approach to analyzing and interpreting poetry. It has been especially important to us that students are provided with a social context for exploring poetry, emulating, as it were, the knowledge production of a literary community. A secondary purpose for the exchanges is that they begin to prepare students for life beyond the university, where an understanding of the complexity of diverse cultures and an ability to communicate cross-culturally, particularly through new technologies, is becoming increasingly important (Levy, 2007).

The Cross-Cultural Collaborations project covers five years of exchanges between 2004-2008, and one additional exchange in 2010, among teachers and students at the three diverse educational institutions mentioned previously. While we all have backgrounds in literature, we met first in contexts of writing and educational development geared toward improving student learning and writing across the curriculum as well as within the disciplines. Hence, there has been a central connection between, on the one hand, a desire to experiment with ways of improving student writing in combination with discussing and analyzing poetry and, on the other, a desire to take advantage of opportunities for online and multimodal composing.

The Cross-Cultural Collaborations project is designed to meet our team's unique goals, but we hope that our meta-description communicates the project's essential components in ways that are relevant to readers who might want to use similar assignment designs in their own English studies courses, where poetry may or may not be a central focus. We particularly try to emphasize the

importance of establishing a shared teaching culture among the facilitators, selecting a flexible and comfortable genre through which students will communicate, and carefully choosing prompts and setting up groups. We also believe it is significant that the three of us were never part of the student conversations, and we want to emphasize that students need to take ownership of the exchange activity by participating actively and sharing responsibility with group members. This type of collaborative peer-learning effort appears to enhance the learning experience.

STARTING POINTS

While we are not aware of projects comparable in character and methodology to the Cross-Cultural Collaboration exchanges, pedagogical and methodological literature informed the design of our framework. For example, Boud, Cohen, and Sampson's (2001) work on peer learning and Starke-Meyerring and Wilson's (2008) work on "globally networked learning environments" has been influential. Additionally, a fundamental dimension of the exchange activity—its constructive alignment—was shaped by the work of John Biggs (Biggs, 1999; Biggs, 2003; Biggs & Tang, 2007).

When designing the exchanges for our Cross-Cultural Collaboration project, we were familiar with the literature on electronically mediated peer learning. For example, research suggests that the choice of peer learning environment affects the learning outcomes of a specific peer-oriented activity (Warschauer, 1997; Thorne, 2003; Levy, 2004; Dippold, 2009). Furthermore, participants in online forums tend to generate more feedback (Schultz, 2000; DiGiovanni & Nagaswami, 2001; Ware & Warschauer, 2006), and electronically mediated peer learning may generate greater task focus (Ware & Warschauer, 2006). However, while the effects of pedagogy and the learning environment are discussed in the peer learning literature, what does not seem to be frequently discussed is how genre affects peer learning activities. Overall, the focus has tended to be on peer review and essay or report feedback. Exceptions here often refer to learning environments and activities that are part of larger collaborative learning environments (Artemeva & Logie, 2003; Gunersel & Simpson, 2009). Our discussion of the Cross-Cultural Collaboration learning exchanges offers an additional perspective to the literature by focusing attention on a more multifaceted peer writing activity and another genre, the letter.

Our particular interest in global rather than local electronically mediated peer learning activities led us to research related to "globally networked learning environments" (GNLEs) (Starke-Meyerring & Wilson, 2008). The GNLEs we have encountered in the literature so far have been international exchanges involving two or more groups of students and countries with shared learning outcomes for the GNLE activities (Starke-Meyerring & Andrews, 2006; Paretti, McNair, & Holloway-Attaway, 2007; Herrington, 2008). One important point made in this literature is that teachers are advised to be more specific in their instructions when the learning environment is a collaborative globally networked one (Paretti, McNair, & Holloway-Attaway, 2007).

Similar advice regarding teacher task or instruction design is also articulated in the Weblog literature. Blogs lend themselves to collaborative work, but Murray and Hourigan (2008) advise that, due to the wide variety of potential educational applications for blogs, "the question of task creation and design lies firmly in the hands of the teacher" (p. 85). So, mere learning by doing in GNLEs or blogs is insufficient. Reflective meta-knowledge is necessary for successful GNLEs.

Starke-Meyerring and Andrews (2006) claim that "success in an intercultural team project very much depends on the extent to which students are able to build a shared learning culture that facilitates sharing of knowledge. To facilitate the development of such a shared learning culture among students, faculty first must develop a shared teaching culture themselves" (p. 45). In our interpretation of Starke-Meyerring and Andrews's framework, the emphasis on a shared teaching and learning culture is crucial and one important but implicit dimension of it is its articulation as "constructive alignment" (Biggs, 1999; Biggs, 2003; Biggs & Tang, 2007). Biggs's description of constructive alignment as the effort to enhance intended learning outcomes by ensuring that learning outcomes, learning activities, learning criteria, learning assessment, and learning feedback are all aligned with the student profile requires the teacher-scholar to re-assess the entire learning environment. This is a demanding task in an isolated campusbased course and increasingly so if we fully consider the potential of GNLEs and Web technology to enhance students' learning. In short, constructive alignment becomes even more important, and possibly more demanding on the facilitator, in a Web-based global learning environment.

OVERVIEW OF PROJECT EVOLUTION AND INSTRUCTOR COLLABORATION

Over the years, the Cross-Cultural Collaboration project has varied slightly and the student groups as well as the courses and poetry selections have changed. On the American side, the participating students have come from various

subdisciplines and educational levels within English studies, teacher education, and engineering programs, whereas on the Swedish side there have been only engineering students from a technical university, most of them Swedish but some international master's students. The Swedish group has been part of an elective <u>Fiction for Engineers</u> course, which students tend to take in their third or fourth year at the university. The course contexts for the U.S. students, however, have varied more. The cross-cultural nature of the exchange has been enhanced not only by participants from Sweden and the U.S. but also by the presence in our classes of students from other countries such as China, Spain, France, Germany, Poland, and Afghanistan.

The most immediate background for the first five years of this ongoing project is that the three of us recognized how most of our students, including those taking Young's master's degree courses in literary studies, struggled with poetry. Not surprisingly, the general education students in Reiss's sophomore literature classes and the science and engineering students in Gustafsson's class on literature for engineers similarly found poetry more challenging to read and interpret than prose. So, we were all seeking ways to give students experience with as well as an increased understanding of poetry. With this purpose in mind, for their first discussion we selected three poems by a Swedish poet, Tomas Tranströmer, who is often anthologized and well translated. Tranströmer's poems not only invited students to collaborate around interpretation of meaning; they also facilitated a discussion of translation from Swedish to English, which included close reading, careful analysis, and the added dimension of cultural distinctions between words and phrases in Swedish and English. Hence, the first exchange was formed around issues of the interpretative act of translating poetry while maintaining a perfectly authentic peer-to-peer audience situation.

From the beginning, we recognized the potential for the Internet to facilitate our collaborative planning and our students' discussions. In particular, we were interested in utilizing online environments to generate authentic audiences for reading and writing about poetry. In the first couple of years, the virtual environment was a Web-based forum in a learning management system at Chalmers University of Technology. In subsequent years, we used a free blog site so that the discussion would not be tied to any one educational institution and would be more open and available, even after the semester ended. In fact, some of these blog sites and the overall Web site for the project remain <u>online</u>. Students found it easier to access the blog and to use it to share their writing with others. Additionally, we took advantage of the wealth of online resources to ask

students to share their responses to poetry not only with words but with multimodal compositions as well.

Although the exchanges have changed shape with regard to the poetry discussed and the virtual environment used, the format of the exchanges has remained similar over the years. Each exchange has run over a short, intensive period ranging between one to two weeks and has been shaped by a series of three or four short letters ranging from 250 to 350 words per letter exchanged by students in asynchronous environments. There is also a set of readings with some supporting online material through links to external or internal Web pages. Approaches to introducing students to the assignment have varied from hardly any introduction at all beyond a presentation of the setup and the assignment objectives to more sustained workshop sessions and references to exchange work in previous courses.

The first two years of the poetry exchange (2004, 2005) established the basic framework for all subsequent years: an informal exchange of short letters over a limited period of time. We were also able to design the first version of the prompts necessary to generate discussion among U.S. and Swedish students of different disciplines. The first two exchanges helped us decide future group setup and management strategies, including the amount and type of writing to be expected. Regardless of the specific technology used, the exchange relies very heavily on the students' own writing. That being said, the choice of technology does affect how accessible the exchanges are to students and how smoothly they proceed.

For the next three years of the project (2006-2008), both the content and the form changed as the exchange moved to a blog environment and to completely different selections of poetry. In 2006, we selected "The Love Song of J. Alfred Prufrock" by T. S. Eliot. From having at first worked cross-culturally with poetry and translation of poetry, the exchange now focused on the long poem by a native English speaker with connections to his birthplace in the U.S. and his adopted European home in England. Although there was no longer the element of translating poetry, there was still a cross-cultural component in the poetry with its British English usages—and Eliot's "Prufrock" is perhaps less immediately associated with the U.S. than Emily Dickinson, whom we turned to for the exchanges in 2007 and 2008.

During the 2007-2008 exchanges, we also made some changes in the structure, since Reiss relocated from Tidewater Community College in Virginia to Clemson University, resulting in an exchange between two universities but still with three

quite different courses and student populations involved. At the same time, Young taught a different course at Clemson, where discussions of Eliot's poetry were less closely connected to the curriculum; as a result, the team decided to use poetry by Emily Dickinson instead. The 2008 exchange was also different from the others because there were only two groups of students involved due to Reiss's retirement: Gustafsson's Fiction for Engineers students at Chalmers and Young's master's level students of Victorian poetry at Clemson.

The complex nature of the project and the need for diverse expertise and technical abilities made a partnership essential. We shared backgrounds in literature and interest in Web technologies, but each of us made unique contributions to the exchange setup. Reiss and Young were familiar with online writing exchanges in higher education and were editors with Dickie Selfe of *Electronic Communication Across the Curriculum* (1998).

Reiss had extensive experience conducting entire classes online and has experimented with various forms, technologies, prompts, groups, and assignment types. Young's work in communication across the curriculum also influenced the exchanges in another way, as his "<u>Classroom Discourse and Communication</u> <u>Across the Curriculum</u>" chart and "Conversational Writing" guide (see Figure 2) are central to the type of informal writing assignment that was developed.



Figure 2. Young's "Conversational Writing" guide.

Gustafsson provided a background first in working with literature and poetry in the context of engineering education but perhaps more importantly in working with texts in a foreign language. Although his class was conducted in English, only very rarely have there been native English speakers in the courses at his university. Additionally, he brought to the project an understanding of students from a wide range of cultures, not only from Sweden but also from Asia and Central Europe.

Our shared goals have meant that the work has been collaborative in nature even when we have assumed individual responsibilities. For instance, Reiss developed the project Web site and blog sites, and she was responsible for the communication of the letter prompts as well as the choice of linked background material. Gustafsson was responsible for setting up the 2004 and 2005 learning platform to share documents and spaces for interaction as well as strategies for setting up groups. Young has been influential in the design of the assignment and the choice of poetry along with the writing-to-learn emphasis of the prompts. Naturally, emphases have changed over the run of the project and all decisions about these changes have been collective.

We first considered the possibility of a student exchange during a conference hosted by Gustafsson at Chalmers in 2003, where we discussed our common interest in the ways online communication can strengthen both writing and learning throughout the curriculum. Subsequently, we developed the first version of the exchange via e-mail correspondence and Skype conferences together with a few exchanges of comments through the learning platform that was eventually used for the student exchange. Almost all team communication and planning has been conducted asynchronously online.

CONTINUOUS DEVELOPMENT FOR CONSTRUCTIVE ALIGNMENT IN A GLOBAL WRITING-TO-LEARN EXCHANGE

The ongoing development of the exchange has been a shared project involving the three of us reading and re-reading the exchange each year to assess to what extent the student work matches our general and shared learning outcomes as well as the specific learning outcomes set by each facilitator. The exchange has been scheduled at different parts of the term, which has affected the amount of reading experience students bring with them into the conversations. Similarly, the exchange has affected how each of us used other subsequent assignments in our specific courses since it was possible to refer back to the learning outcomes of the exchange. In short, the central tenets of constructive alignment—aligning outcomes, activities, and assessment against student profiles—have constituted the recurring development challenge of the exchange for the three of us. Our alignment efforts have focused on the use of the technology, the design of and revision of the prompts, and the group setup for the exchanges. We have not spent a great deal of effort, as a team, on revision of specific learning outcomes or on assessment of the exchange and the learning outcomes, as those dimensions of the exchange have been specific to each participating course. We did, however, align our three courses and our understanding of the educational contexts in terms of shared learning outcomes, results we all wanted the exchange to promote.

SHARED LEARNING OUTCOMES: THE STARTING POINT

We agreed upon shared learning outcomes for all the students in the Cross-Cultural Collaboration project, even though the project played a somewhat different role in our courses each year, since each course had a different topic and student audience. It is important, we believe, that the exchange methodology has this dynamic dimension of allowing slightly different course objectives and learning outcomes among the participating courses. There must be agreed upon learning outcomes for all students (such as to experience close reading of poetry in our case), but there may also be specific and different learning outcomes for each participating class.

Here is an annotated list of our shared learning outcomes:

1. To read literature carefully, attentively, critically, and imaginatively by also connecting literature to other artistic expressions in the visual and performing arts

We think we accomplished this for most students in all three groups and we guided the learning activities with <u>written directions</u> to students.

Example of prompt to get students to focus on the text:

You might begin by discussing the title in the context of the poem. You might mention two or three words or short phrases that seem to be central or quite important to the poem. For each word or phrase you select, write a few sentences of your own referring back to the poem in order to explain why you think they are important. You might even want to look them up in

a good dictionary to further your understanding of how poetic language works.

2. To discuss new understandings and perspectives about how literature works

Many of our students admitted to not reading much literature and even more to not reading or studying poetry. The setup of the exchanges addressed this well by providing a low-stakes environment for exploring poetry and by bringing students into conversation with one another.

Example of prompt designed to include the entire group in the conversation and encourage collaboration:

Before you compose your Letter 2, read all the Letter 1 submissions and any second letters already posted by members of your group. In your Letter 2, addressed to your entire group, refer specifically to at least two members of the group by name, attempting to cite at least two groupmates whose Letter 1 submissions have not already been cited by others if possible. Please respond to at least one person not in your class.

In your Letter 2, identify and explain how one or more keywords and reflective comments by groupmates contributed to your understanding of the poem. Comment on ways in which their interpretations are similar to and/or different from your own. This response can also be personal, connecting your own understanding and experience with what you learned from reading the poem and from your group. Don't hesitate to quote briefly from your groupmates' letters and from the poem.

3. To articulate how they experience and observe the way people from different cultures respond to the same text

We think the discussions demonstrated cultural differences. These differences were addressed, for example, in the multimedia choices the students made but obviously also in their interpretations of metaphors and their understanding of setting and scenery.

Example of cross-cultural references and close reading of Tomas Tranströmer's "Breathing Space: July" from a student conversation:

Thank you especially to Cheryl and Sandra for you[r] references to slowing down and basking. I failed to see that when I initially read the interpretations. Sandra's remarks about the "forever longed for Swedish summer" helped put it in perspective. With the very mild winters and the summer heat and humidity we have here in South Carolina (and in Tidewater Virginia as well), I failed to see the appeal that July would have in Sweden. For those of us that don't like the oppressive heat, "July" hardly evokes a time when we could slow down and breath[e] easy. Only serves to illustrate that not only the author's context, but the reader's context, will affect the interpretation of a work. [Karen, Clemson]

4. To define and negotiate disciplinary considerations such as the intention of the author, effects of translation where relevant, personal response, and critical response

For instance, some students said "Prufock" made them "sad," while others critically examined the use of time in the poem. Some students reacted to specifics in Tranströmer's work, whereas others focused on the confusion regarding pronouns in the translation. Sometimes the same student responded in both personal and critical ways.

Examples of defining and negotiating interpretation from students' conversations:

Hello group! Thanks for your feedback....:) I am glad that Matt found my thoughts, on the "In the room women come and go talking of Michelangelo" verse, rather good. I've been thinking a lot about that verse. I think that the use of mermaids and the fact that they will never sing to him, also might suggest that he feels very separate from society. He can't get that magical love and freedom, which mermaids have. The idea that he is not "one with" society does seem to exist within the poem. For another example he only "watches" the lonely men smoking, indicating that he is not even a part of that group. He feels like he doesn't belong anywhere.

I hope you all will have a great week! Best regards, Ana-Marija [Chalmers]

Wonderful idea, Fredick! :) "I am quite sure though, that it has quite little to do with love to some woman or person. I think it more has to do with love to writing . . ." . . . But what really caught my attention about this statement is your comment about the poem really being about writing itself (or more specifically the writing of poetry). Then more I think about it the more it makes sense.

What if the mermaids who won't sing are actually the muses of his poetry? What if what he really is worried about is that the "muse of poetry" might leave him and he will be unable to write great poetry? What if this is a love song to the "muse," more like a plea to the "muse" to come and visit him? . . . I'll have to think on it more to get a better idea of how Prufrock's (Eliot's?) fear of losing his skill or talent or gift of writing great poetry. [Amanda, Clemson]

The following video about the blog-based letter exchange offers a representative example of and a student perspective on these first four learning outcomes. (See <u>Appendix A</u> for transcripts of the videos included in this chapter.)



5. To develop and share personal and interpersonal connections to the literature they are reading and express their own voices and perspectives

Individually and collectively many students discovered their own voices, such as when one student played Prokoviev's Romeo & Juliet (his favorite), shared it with his group members, and connected it to "Prufrock."

Example of developing and sharing personal connections from a student conversation:

In 1937 Sergej Prokofiv wrote a piano suite from his ballet "Romeo and Juliet". In the beginning of the suite the feelings portrayed are of pure love, but gradually the theme moves closer to death and pain of lost love. So this is one thing that could be related to Prufrock, although it is pretty dark from the beginning. In the tenth and final piece of the suite ("Romeo with Julia before parting" the feeling has grown very eerie and tragic. If you listen closely you can hear the time running in the first bars. As I interpret it, Romeo and Juliet have a last moment together, and they remember their happy times (2:34, 4:44), but constantly the darkness of the moment interrupts (as dark tolling octaves in the bass, 03:47). In Prufrock this can be related to him remembering moments of "tea and cakes" etc....It's interesting to see that some ways of expressing evolved their counterparts in different types of art at approximately the same time. Both Eliot and Prokofiev were groundbreaking, and both used "classical" art as a basis and augmented it with new "twisted" ideas....I am guite fanatical about this piece and I am practicing it now. [Jacob, Chalmers]

6. To reflect on their learning and their rhetorical and intellectual growth

The exchange always had prompts to get students to reflect on the nature of poetic interpretation, poetic language, and on the online cross-cultural learning environment. The single most frequently recurring piece of reflection is probably the negotiated character of poetic interpretation and the nature of the interpretive horizon.

Examples of student reflections:

I also found the discussion about different translations inspiring. It made it obvious how written language really is a two-part way of communication and the message is only transferred after being "translated" by both the writer and the reader. [Erik, Chalmers]

Poetry as a visual art has never been so real to me as it is now, after reading the third letters. [Meredith, Clemson]

- 7. To build fluency, confidence, and respectful approaches in writing to distant and unfamiliar audiences and thus learn to behave as scholars in the community of readers
- 8. To actively participate in an ongoing academic conversation about literature in which expertise is developed, shared, and valued within the group by suggesting individual and communal interpretations supported by textual evidence from the poetry as well as from the community of readers

Learning outcomes 7 and 8 focus on the learning-to-write outcome we hoped for. In this sense, they are different from the other six outcomes. The focus of these outcomes, unlike the previous ones, is on effective writing and conversing rather than effective reading.

ALIGNING THE TECHNOLOGY

Naturally, the choice of tool also affects the outcomes of peer learning activities such as our poetry exchanges. Since the project is conducted entirely online, a key concern over the years has been the choice of technology and the effects technology has had on the exchange itself. Warschauer (1997), Godwin-Jones (2003), Thorne (2003), Levy and Kennedy (2004), and Dippold (2009) all show how computer-mediated tools have specific effects and that they can thus be used suboptimally. So for instance, Dippold's (2009) case study shows us how the blog format lends itself to structural and content-oriented concerns but may be less effective for later order concerns such as mechanics and grammar. Even more important, though, are the affordances inherent in the technology and the learning curve students face when they first start using the tool. As Sotillo (2005) and later Dippold (2009) show in their studies, understanding the tool takes time and may have to become part of the assignment.

On a similar note, Ware and Warschauer (2006) add that the instructor's view of the tool can also enhance or subvert the activity. The importance of the instructor is also described in many studies related to computer-aided language learning (CALL). Such studies have highlighted risks of Web 2.0 technology in terms of negotiation of meaning as well as the negative effects of overlooking the inherent sociocultural component of Web 2.0 interventions (Ware & Kramsch, 2005; Blake, 2007; Thorne & Black, 2007). However, in the same way that Starke-Meyerring and Andrews (2006) have stressed the importance of articulating a shared learning philosophy for GNLEs, Thorne and Black (2007) have argued that Web 2.0 CALL interventions "necessitate a responsive and proactive vision of educational practice" (p. 133). This new practice calls for new roles for facilitators and by implication a renegotiation of assumptions about learning. In other words, the choice and use of technology is tightly coupled with design considerations of how the students are meant to negotiate and interact in relation to the instructions we provide. Such design ideas, in turn, are informed by the learning culture of instructors. The fact that we did not intervene in conversations is but one example of this practice.

No matter which Web technology facilitates the exchange, it should be possible for students and instructors to trace the interaction's development within the groups based on the guidelines given, from introducing elements to be analyzed in a poem, to presenting strategies for discussing and interpreting poetry, to referring to the outcomes that promote new insights. Collaborative development of assignments required flexibility to ensure that student learning outcomes would take priority over technological experimentation and that disparate groups of students would profit from each exchange.

That being said, the role of technology—and the importance of tool choice deserves attention. Appropriate Web-based tools can facilitate collaboration among teacher-scholars and among students, and tool choice can support or undermine objectives. An exchange involving interpretation and analysis may be achieved through e-mail or a listserv, and some exchange projects using such technologies have been successful. For example, writing about an interdisciplinary exchange between students at urban, predominately African-American Howard University in Washington D.C. and students at rural, predominately Caucasian Montana State University, Teresa M. Redd (1998) concluded that "the personal yet faceless nature of e-mail encouraged students to write candidly.... it transformed some of my procrastinating essay writers into prolific e-mailers. The frank and frequent exchanges opened several students' eyes, minds, and hearts" (p. 140). Similarly, University of Rhode Island students engaged in e-mail exchanges with students from University of Bilkent in Turkey and Technical University Braunschweig in Germany (Shamoon, 1998). E-mail was perhaps the most technologically convenient way to structure an exchange in the 1990s, before the advent of widely available user-friendly social networks, but we did not attempt the e-mail solution since it struck us as cumbersome and did not provide the type of interaction we believed would be most beneficial to the Cross-Cultural Collaboration project.

Instead of e-mail or a listserv, we chose, first, the discussion forum feature of a shared learning platform and, then, a blog for the exchange experience. Discussion forums and blogs both allow for the kind of dynamic interaction and content synthesis we wanted to facilitate. In the end, the forum environment we first used for the exchanges proved cumbersome, as we will discuss in a moment, and Weblogs proved to be the more technologically efficient and effective option.

The first technology we tested was an open-source e-learning platform, <u>Claroline</u>, set up on one of the servers at Chalmers University of Technology in Sweden, where it was already used in other courses (see Figure 3). We used this platform by registering students and setting up groups and thus getting past restrictions normally imposed on guests in the system. There were only minor issues to be decided on in terms of the platform, such as whether or not the many fora were to be open in order to permit posting and viewing by all participants. We decided against opening the fora and instead set up closed groups to minimize the amount of possible confusion and the risk of losing track of misplaced letters. We did decide, however, to open the fora after the last deadline and add a general forum for possible joint discussions.



Figure 3. Claroline page from the 2004 Cross-Cultural Poetry Exchange. The page was part of Fiction for Engineers and the U.S. students were invited as guests.

Predictably, there were some technology-related issues, such as <u>login problems</u> and students having difficulties seeing the structure of the fora and being unfamiliar with posting to threads. So, in a few instances, we had to intercede and move posts between threads. This did affect the exchange and seemed to turn student attention away from the exchange objectives and toward the technology (cf. Sotillo, 2005; Dippold, 2009). Secondly, it required a fair amount of administrative work to get around firewalls and arrange groups. Thirdly, this approach did prioritize one university over the other two and the U.S. students were literally "guests" in the system (cf. Starke-Meyerring & Andrews, 2006, who highlight very similar reasons for abandoning university-specific platforms for exchanges such as these).

We needed a more efficient environment, one that provided students with a more immediate view of how a discussion evolves and one that increased the sense of interaction and audience immediacy compared to threaded messages. For the 2006 exchange, we used another platform for the writing-to-learn activity. The institutional learning platform environment was abandoned and a blog was tested instead, using Google's free Blogger publishing tool (see Figure 4). We found

that blogs provide an easy way to open an online discussion to an audience beyond a single classroom.



Figure 4. Cross-Cultural Collaboration project blog, 2006.

We were in charge of our own technical support, so a simple blog platform was a good alternative to the course management system. The blog provided students with easy access and reduced our workload in terms of arranging groups. Students simply added their comments to the group they found their names in and we did not have to set up group associations. The blog also meant that it was possible to invite but not require cross-reading between groups and we did see some signs of such skimming of other groups' exchanges.

In addition to these group-related effects, the public nature of the blog increased the sense of audience as anyone might happen upon the blog even if the primary audience was still the group members. Although no "outsiders" ever entered the blog, students recognized the medium itself as public, in contrast with passwordprotected and university-sanctioned course management systems. We informed our students that the project site was open to Web searches and that interested non-students had the ability to both read and join the discussion. Each student signed a form stating that he or she understood the public nature of blog contributions; the students' audience awareness and their privacy were important to us and to them. At the same time, students faced the challenge of writing to more than one audience: teachers, classmates, groupmates in other classes and countries, and potentially non-affiliated readers who happened upon the blog because of an interest in the discussion topics.

Like the editors of *Into the Blogosphere*, we expected the blog interface to "allow for the possibility of developing new cultural practices of online communication in relation to previously established modes of ownership, authorship, and legitimacy of content and access to information" (Gurak, Antonijevic, Johnson, Ratliff, & Reyman, 2005). Additionally, whether or not students had used the blogging platform before, the interface was similar to the shared multimedia online writing environments familiar to most twenty-first-century students and therefore felt more comfortable to them.

Although we changed environments, we continued to use the letter genre as the students' mode of communication. It could be argued that we did not use the blog affordances completely, and other educators planning cross-cultural exchanges may decide to take a different approach depending on their pedagogical goals. In our case, however, our goal was to use the blog platform's flexibility to facilitate the activity and promote the learning outcomes we already had in place. We did not want to revise the assignment or learning outcomes when we moved to the blog since we believed (a belief that was subsequently confirmed) that the poetry-related learning outcomes would continue to be met with the letter format.

ALIGNING THE PROMPTS

The single most decisive feature of the exchange is the mechanism of the letter since that genre provides ample opportunity for students to engage in close reading not only of each others' writing but more importantly of the poetry as they revisit it to pursue their own or someone else's interpretation. In selecting the letter format, we chose a genre that was familiar but that also engaged students in the full spectrum scholarly discussion and emphasized the social nature of writing (Bazerman, 2000). We found that the unproblematic form of the letter increased the probability that students would focus on content and learning objectives rather than on adapting to a partially new or less known format, and it allowed students to write their comments in a low-stakes environment and style. In other words, the choice of genre and our decision to enact an "epistolary pedagogy" (Reiss, 2000) increased the immediacy of the exchange and promoted writing-to-learn outcomes.

Framing the exchange as a series of letters helped promote collaboration among peers. By including informal greetings and closings, the posts anticipated an

audience and invited a response. The fact that we, as facilitators, decided to remain outside the exchange also contributed to the peer-directed collaborative atmosphere. Throughout, we were only visible online through posting the prompts and taking care of administrative tasks. We did not participate in the exchange; the writing done in the exchange, therefore, was not oriented toward reporting to teachers but toward collaborating with fellow students. After we addressed some initial student uncertainty regarding audience and level of formality, the students quickly established a shared conversational register. This more informal and conversational but highly informative writing to a genuine audience was purposeful enough that as facilitators we never had to intervene.

Once we arrived at our shared understanding of what the exchange needed to achieve for the three courses, work started on the prompts for the three or four letters. As the prompts reveal (<u>Tranströmer prompts</u>; <u>Eliot prompts</u>; <u>Dickinson prompts</u>), we first asked students to introduce themselves in order to make the exchange more personal.

Example of personal introduction prompt:

Here is an example of a prompt from 2007 (Letter 1): "Include within your letter one or two sentences to introduce yourself to the group, for example, your name, which class you are taking, which university, and your academic interest or emphasis. You can say something about your previous experience with poetry as well, if you like."

We also asked students to focus on keywords—important words or short phrases from the poems—in order to highlight each student's individual close reading experience. By requiring participants to connect to keywords supplied by other readers and explain how those keywords had contributed to their understanding of the poetic text, the second letter emphasized the effect of being part of a reading community. Specifically, we asked participants to comment on posts that had not already been commented on to ensure that all participants received a response to their writing and to minimize repetition. A key point here is that all students participate in the conversation, which often is not true in face-to-face classes. The asynchronous setup also affords students time to compose and revise responses instead of quickly writing the first opinion that occurs to them. To some extent, the prompts for the first two letters also invite students into a type of discussion similar to scholarly conversations in terms of close-reading and collaborative interpretation with textual references. An additional component of the exchange called for students to relate their poetry reading to creative expressions in other forms.

Example of multimedia learning prompt:

This example from 2007 (Letter 3) shows how we introduced multimedia learning connections into the poetry exchange: "Second, either create or find another representation of the theme or mood of 'The Love Song of J. Alfred Prufrock,' for example, an illustration or music or another poem. You will need to locate or post this additional representation online so your partners can access it on the Web. Third, explain fully the relationship between the representation you have selected or composed and your understanding of 'The Love Song of J. Alfred Prufrock.'"

As Kress (2003) has aptly articulated, "language alone cannot give us access to the meaning of the multimodally constituted message" (p. 35), and we believe that adding this multimodal component promotes a more comprehensive interpretation of the poetry. However, as a recurring and central characteristic of these exchanges, it was crucial that this prompt not merely result in a list of links or pictures and no interaction. The prompt therefore required students to relate to other readers' choices of complementary media and explain how the expressions affected their reading and understanding.

Examples of multimodal expressions of learning (student conversations):

I've always admired the painting by Salvador Dali: The Persistence of Memory. I think it is representative of The Love Song of J. Alfred Prufrock by the melting away of time. The entire poem reflects on time in some form. The word is seen 11 times in lines 23-48. Also, in the song Time by Hootie and the Blowfish the question is asked: "Time, why you punish me? Like a wave bashing into the shore, you wash away my dreams." The song personifies time and its overwhelming presence. Time, in a sense, controls everything and we must learn to make the best of what little we have. Prufrock does not understand this—he is unable to take a stand and do something about his situation. [Marigrace, Clemson]

The work I selected to reflect themes of "The Love Song of J. Alfred Prufrock" is M.C. Escher's "Relativity." The painting . . . is a simple pencil work with no color. Figures are wandering around in a maze of a house. The house is kind of Mediterranean in terms of architecture, with trees and light (like the pleasant

homes of Eliot's . . . England) but the figures are faceless, moving about in the house without destination or visible purpose. I feel the painting connects with the theme of bleakness and flatness that is conveyed through Prufrock/Eliot's apparent disparity over himself. Prufrock/Eliot, like the figures in Escher's "Relativity," wander without destination or purpose, barely aware of each other and alone in their own little seemingly pleasant world (house in Escher's case). [Erin, Clemson]

The artwork I picked really corresponds more to the second stanza of "Breathing Room" than the entire poem. "Monk by the Sea" is by the Romantic artist Caspar Friedrich, and I think it embodies that feeling of the hugeness and vastness of nature. The monk in the painting is like the man described by Tranströmer who is "Standing down by the jetties [as] he squints across the waters."

The waters are so vast that he cannot see the other side. When looking at the poem alongside the painting, the waters may be seen as literal water or as symbolic of life. [Michele, Clemson]

The following video, in which a student reflects on the multimodal component in the exchange and the effect it had on her reading, provides another example of re-interpreting the poetry through multimodal expression and the student conversation involved in this work.



The final dimension of the exchange has been the reflective component. A fourth letter prompt, in the exchanges where it was used, called for a retrospective look back over the exchange.

Example of prompt to get students to reflect on the exchange:

"Second, reflect on this cross-cultural discussion and some ways this conversation and composition have contributed to your understanding of Tranströmer's poems, your knowledge of how poetic language works, and your thinking about poetry as a literary, artistic, and cultural experience. In particular, you may want to include some thinking about how different cultural backgrounds contributed (for example, Swedish poem interpreted by Swedish students for both Swedish and American students as well as by American students for both American and Swedish students). Please describe what interested you the most about this discussion, or surprised you, or troubled you" (2004, Letter 4).

In this letter and the related discussion, students articulated the cross-cultural learning and insights into poetry achieved through the exchange.

For various reasons the prompts have had to change superficially over the course of the Cross-Cultural Collaboration project. We have had to update them to reflect new poetry selections but perhaps more importantly to adjust for dates and deadlines in view of other course contexts and workload. The discussion of dates and timing as well as that of learning outcomes eventually led to the decision to leave out the fourth letter of the exchange and leave that to be used as a separate reflective assignment in the individual courses. This was partly for workload reasons, as the students had very intensive readings in the beginning of the term in all three courses, but also, and perhaps primarily, because it created opportunities to see specific ways of using the fourth letter assignment for special purposes inside each of our courses. In other words, each of us could adapt the fourth letter to the assignment scheme of our respective courses (e.g., term paper, portfolio, structured classroom writing assignment).

ALIGNING THE GROUPS

Given the varied student profiles, cultures, and educational levels, determining group setup has been a recurrent challenge over the years of exchanges. One key administrative decision has been how to set up the groups in terms of size and thus number of groups. To maintain collaborative dynamics in the groups and some sense of familiarity, we decided that there would be at least two students from each course in each group. Consequently, there were groups of at least six students and a total of up to seven groups. This decision is not a trivial one, as the larger the group, the more reading each student is required to complete in addition to the poetry and, in some cases, translations. Adding a student to a group adds approximately 1,400 words of reading not to mention all the interpretative avenues.

Each of us has had to consider the dynamics of the exchange groups in terms of how the two students from each class can be expected to contribute and what type of emphasis might be created given a certain set of two students. Even if the students are contributing individually to the exchange, familiarity with the context of the other representative of the course might help in clarifying, making sense of, or adding to statements. For the non-native speakers, for instance, it may be necessary to support less proficient students by partnering them with a more articulate peer from the same course to maintain the exchange group dynamics. Distribution of students has been a challenge in other ways as well. In 2006, one of the American courses was considerably larger than the other two. With an unequal distribution of students in the groups, there was a risk that there would be a very strong presence in all groups from that course and, as it were, of American students relative to Swedish students in all groups. These factors jeopardized the cross-cultural component of the exchange. One alternative would be to invite an additional international partner. In our case, efforts to establish such contacts were made, but without success. As an experiment, we therefore decided to set up five international groups with equal distribution of students from the three courses and then add two American-only groups with students from the overrepresented U.S. course. Students compared the exchanges in retrospect to see what the distinguishing differences were in cross-cultural and American groups respectively.

In a similar fashion, a dynamic collaborative exchange requires a certain number of students. For the 2008 run of the exchange, there were only two courses with twelve students in each course. It was possible to break students up into various sized groups, and our decision would affect the dynamics of the discussions. Small groups risked becoming too restricted, while large groups would become too demanding in terms of workload and synthesizing the numerous perspectives. There was also a risk of subgroups developing within groups since there were only two participating courses. We decided to run the exchange with groups of six students, maintaining dynamics as well as keeping tasks manageable in terms of reading and interpretative avenues. The exchange worked well, and diversity and dynamics were maintained in the discussions.

SIGNS OF A SUCCESSFUL GLOBALLY NETWORKED LEARNING ENVIRONMENT

The primary objective of the Cross-Cultural Collaboration project has always been to generate a learning environment characterized by a genuine crosscultural and cross-disciplinary writing-to-learn focus on engaging with poetry. Therefore, the success of the exchanges—and of our choices regarding technology, group set up, and prompt design—has to be assessed in such terms. The most obvious cultural dimension of the exchanges remains the poetry itself. Over the course of the project, exchanges have taken U.S. readers into the Swedish context of Tranströmer's poetry in translation; engaged students in analyzing Eliot's very culturally specific poetry, which was possibly mutually foreign for both groups of students; and introduced the non-U.S. participants to a central voice of American poetry in Dickinson's work. It was also the poetry that gave rise to the many cross-cultural voices incorporated through the sharing of multimedia.

In the exchanges dealing with the Swedish poet, the interpretation of the poems for two-thirds of the students in the exchange (i.e., the American students) was shaped by the translations offered and not by the poet's original phrases, offering the cross-cultural groups a rich topic for discussion. In the case of the American poets, on the other hand, all students understand the English words, even though native speakers have an advantage in being more familiar with subtleties and ambiguities in the English language. (See <u>Gustafsson, Reiss, & Young, 2004</u> and Young, Gustafsson, & Reiss, 2006 for discussions of some of the cross-cultural insights the students have enjoyed through the cross-cultural collaborations; see also <u>conference proceedings from EATAW2005</u>.) As we intended, analysis, inquiry, conversation, and consensus building surrounding the above-mentioned issues as well as other topics characterized the collaborative, peer-directed exchanges promoted by the Cross-Cultural Collaboration project.

It is possible to see the impact of national and disciplinary culture in the content of the students' exchanges. The students involved in the exchanges belong to different disciplines in their countries and home institutions; they also belong to different nationalities with different language backgrounds. In various places in the postings (see Example 1 below), their cultural as well as disciplinary identity is revealed, offering a meeting between initially very contrasting groups. The exchange design as well as the choice of forum serves to bridge the distance between participants (see Example 2). Therefore, the groups established a community for themselves within the exchange to promote understanding of the poetry and of various interpretations of it.

Over the course of the exchanges, we noticed a shift in the style of writing among the students. As the exchange went on, the style students adopted moved from a more formal style to a more conversational one normally found in a forum or blog (see Example 3 and Example 4). This shift occurs as the students become more familiar with the potentially new communicative situation of writing coursework directed not at teachers but at an audience of peers. The change in style suggests that there is a dimension to the exchange that helps students move between the different communicative environments in which they find themselves. So unlike students struggling with the negotiation of disciplinary expectations in other higher education contexts (cf. <u>Russell & Yañes, 2003</u> for an example of a journalism student struggling to accommodate new disciplines and genres in a history class), the students in the exchanges seem to have been empowered in their writing and their learning through the use of the letter genre, the prompts, and the online environment.

Example 1

For instance, the group's diversity comes across strongly when the students introduce themselves in the first posting.

"I am studying chemical engineering at Chalmers University of Technology. I am taking the course 'Fiction for Engineers' because I would like to get some non science into my life."

"I am enrolled in Clemson University as a Master's of Arts in English program. I am currently taking a Victorian Poetry seminar. I am not scientific in the slightest, so it looks as though I may be in for a treat with all the science folks. I am studying to become a Literature professor; I love to read and to write all kinds of literature, both creative and scholarly."

These introductions reflect disciplinary differences, but as the exchange continues, disciplinary differences tend to be less pronounced.

Example 2

Continuing the disciplinary focus, the engineering students encountered other cultural obstacles. Initially, they were expressing anxiety about their capability as interpreters of poetry.

"First I have to admit that I was a bit intimidated when I realized that so many of you American students were literature students. I thought for sure that I was going to be totally ripped apart for my silly attempt to analyze these poems, since I have very limited experiences with reading poems and even less experience analyzing them."

However, during the exchange, the distance between participants tended to shrink. The disciplinary identity of being either a literature student or an engineering student is less visible toward the end of the exchange.

Example 3

Examples 3 and 4 demonstrate a shift in the style of two postings by the same person. In the beginning of the exchange, the American student, a native speaker of English, starts out with academic language that fits her interpretation of what is expected of a literature student.

"The use of personification creates an image for the reader. The metaphors allow the reader to imagine looking toward the sky and seeing the natural windows that the trees make in relation to growing next to each other with the moon light shining in. In many ways I can picture myself walking through the woods viewing the many elements of the woods that the author defines."

The student uses nominalization ("personification") and comparatively complex sentence structure as well as making sure to include keywords such as "metaphors," "personification," "reader," and "author." This style might be the student's way of trying to meet the instructor's expectations.

Example 4

In comparison to Example 3, the student's style changes to one that better suits the medium and the nature of the exchange activity. In Example 4, the student has applied a more casual style with the less demanding sentence structure and vocabulary normally found in online environments.

"The art work that was chosen to represent the poems was great. I enjoyed viewing them. I truly enjoyed Jessica's picture for the poem 'Track.' I believe the picture is a true presentation of the poem. It creates a great visual!"

Our interpretation of this change in register is that it is indicative of how the

exchange promotes a shared interpretative community among the participants.

CONCLUSION: LESSONS LEARNED

Starting with the very first exchange, we have continuously learned from one another and from our students as we have planned and implemented the exchanges. Our most immediate lessons learned from this set of exchanges are that blogs offer a multifaceted, accessible medium to bridge cross-cultural boundaries of time and place and to support intercultural academic conversational communication. No doubt, learning management environments can also be used, but we found that they restrict the conversation in some ways and require more administrative involvement. The asynchronous nature of the collaborative poetry exchange means that students are encouraged to revise and reflect in order to use writing to build on one another's knowledge through extensions, questions, reflections, and careful attention to audience, diction, register, and discourse conventions. By also incorporating the addition of multimodal discourses and inviting students to share multimodal expressions, the asynchronicity of the exchanges extends interpretive practices and enhances intercultural understanding (e.g., references to Iceland, Norway, Spain, France, Russia, China, Afghanistan, and more).

The exchanges have also shown us that the letter genre proves to be familiar and versatile, enabling students to fulfill assignment goals and develop new communities of interpretive practice beyond their individual classes. This epistolary protocol encourages students to respond to people as well as to the texts, thus personalizing electronic communication, fostering a participatory community of learners, encouraging thoughtful writing to diverse, authentic audiences, and expanding the interpretive possibilities for analyzing literary works. The letter genre also promotes conversational language and interaction with others, which contributes to an appreciation of multiple perspectives and of the complexity of literary analysis as students adjust interpretations, deal with disagreements, and develop further conversation and consensus building.

Another lesson learned is that the Cross-Cultural Collaboration project offers an example of how GNLEs can be thought of as sequenced. The writing to enhance learning that is central to the exchange allows for and draws on the cross-cultural. And the decreasing distance between cultures and disciplines can also be recognized as the intercultural inquiry Starke-Meyerring (2005) sees as an effect of GNLEs. She suggests that since current technologies make audience analysis more exact and most media more interactive, it is possible and

necessary to pursue an intercultural inquiry in each global communication instance. In other words, our students need to become more well-versed and versatile in global communication, and it is important to set up learning activities that bring globally distributed students together and offer practice in this competence. Sometimes the learning outcomes are articulated with a focus on the collaborative project result and the inquiry is assumed. Our more informal exchange begins with the inquiry and uses the joint effort of interpreting poetry as the content vehicle.

Yet another lesson learned is that instructions for a GNLE, like instructions for any other learning activity of course, are effective only if they are aligned to the environment, the task, the student profile, and the learning outcomes. As Paretti, McNair, and Holloway-Attaway (2007) have advised, teachers need to be very specific in their instructions in GNLEs. We have been successful in the exchanges with specific instructions aligned to the technological platform and the logistics of the exchange, such as firm deadlines, word counts, reading requirements, and the group exchange process, but with fairly open instructions about the inquiry and the poetry. Our open invitation to discuss the content under study provided students with the freedom to approach their interpretative and communicative tasks from various perspectives, and this generated the learning activity we wanted. A crucial difference here might be that our exchanges are oriented toward writing to enhance learning rather than learning to write or to present/document a project.

This methodological dimension of GNLEs is more thoroughly theorized by Starke-Meyerring (2005) as she describes a possible framework for GNLEs. Starke-Meyerring's suggested framework, with its focus on shared learning cultures, provides a possible structure for future GNLEs, and it is our hope that our analysis of five years of our Cross-Cultural Collaboration exchanges contributes to the joint construction of such a framework. More particularly, we believe that our exchanges exemplify how two aspects of GNLE blogging—the expressivist and the socio-cognitivist (Murray & Hourigan, 2008)—can be successfully combined with careful design of a learning environment that enables a "collaborative, social process of meaning making, [in] a social environment where anxiety about the teacher and of school writing is reduced" (Lowe & Williams, 2004).

REFERENCES

- Artemeva, Natasha, & Logie, Susan. (2003). Introducing engineering students to intellectual teamwork: The teaching and practice of peer feedback in the professional communication classroom. *Language and Learning Across the Disciplines, 6*(1), 62-85. Retrieved from http://wac.colostate.edu/llad/v6n1/artemeva.pdf
- Barton, David, & Hall, Nigel. (2000). *Letter writing as a social p*ractice. Philadelphia, PA: John Benjamins.
- Bazerman, Charles. (2000). Letters and the social grounding of differentiated genres. In David Barton & Nigel Hall (Eds.), *Letter writing as a social practice* (pp. 15-30). Philadelphia, PA: John Benjamins. Retrieved from <u>http://education.ucsb.edu/bazerman/chapters/45.letters.doc</u>
- Bazerman, Charles, & Russell, David. (Eds.). (2002). Writing selves/Writing societies: Research from activity perspectives. Fort Collins, CO: The WAC Clearinghouse and Mind, Culture, and Activity. Retrieved from <u>http://wac.colostate.edu/books/selves_societies/</u>
- Biggs, John. (1999). What the student does: Teaching for enhanced learning. *Higher Education Research & Development*, *18*(1), 57-75.
- Biggs, John. (2003). *Teaching for quality learning at university: What the student does* (2nd ed.). Buckingham, Buckinghamshire, England: Open University Press.
- Biggs, John, & Tang, Christine. (2007). Teaching for quality learning at university: What the student does (3rd ed.). Maidenhead, Berkshire, England: Open University Press/McGrawHill. Retrieved from <u>http://www.scribd.com/doc/20312256/Teaching-for-Quality</u>
- Blake, Robert, J. (2007). New trends in using technology in the language curriculum. Annual Review of Applied Linguistics, *27*, 76-97.
- Boud, David, Cohen, Ruth, & Sampson, Jane. (2001). *Peer learning in higher education: Learning from and with each other*. London, England: Kogan Page.

- Brabrand, Claus, & Andersen, Jacob. (2006). Teaching teaching & understanding understanding [Video file]. Aarhus, Denmark: Aarhus University Press. Retrieved from http://www.daimi.au.dk/~brabrand/short-film
- DiGiovanni, Elaine, & Nagaswami, Girija. (2001). Online peer review: An alternative to face-to-face? *ELT Journal*, *55*, 263-272.
- Dippold, Doris. (2009). Peer feedback through blogs: Student and teacher perceptions in an advanced German class. *ReCALL*, *21*(1), 18-36.
- Godwin-Jones, Robert. (2003). Emerging technologies: Blogs and wikis: Environments for on-line collaboration. *Language Learning and Technology,* 7(2), 12-16. Retrieved from <u>http://cursa.ihmc.us/rid=1131480053328_1801720929_4296/godwin.pdf</u>
- Gunersel, Adalet Baris, & Simpson, Nancy. (2009). Improvement in writing and reviewing skills with Calibrated Peer Review. *International Journal for the Scholarship of Teaching and Learning, 3*(2), 1-14. Retrieved from http://academics.georgiasouthern.edu/ijsotl/v3n2/articles/PDFs/Article_GunerselSimpson.pdf
- Gurak, Laura J., Antonijevic, Smiljana, Johnson, Laurie, Ratliff, Clancy, & Reyman, Jessica (Eds.). (2004). Introduction: Weblogs, rhetoric, community, and culture. *Into the blogosphere*. Retrieved from <u>http://blog.lib.umn.edu/blogosphere/introduction.html</u>
- Gustafsson, Magnus, Reiss, Donna, & Young, Art. (2004). Writing in multiple disciplines, three local contexts, and one global conversation: An online collaboration among Swedish and American students. *Proceedings of Computers and Writing 2004*. Retrieved from <u>http://wordsworth2.net//projects/crossculturalcollabs/cw04proceedings.pdf</u>
- Herrington, TyAnna. (2008). The global classroom project: Multiple relationships in global partnering. In Doreen Starke-Meyerring & Melanie Wilson (Eds.), Designing globally networked learning environments: Visionary partnerships, policies, and pedagogies (pp. 37-51). Rotterdam, Netherlands: Sense.
- Hickey, Dona, & Reiss, Donna (Eds.). (2000). *Learning literature in an era of change: Innovations in t*eaching. Sterling, VA: Stylus.
- Hyland Ken, & Hyland, Fiona (Eds.). (2006). *Feedback in second language writing: Contexts and issues*. Cambridge, England: Cambridge University Press.
- Kress, Gunther. (2003). *Literacy in the new media age*. London, England: Routledge.
- Lantolf, James, P., & Thorne, Steven. (2006). Sociocultural theory and the genesis of second language development. Oxford, England: Oxford University Press.
- Levy, Mike, & Kennedy, Claire. (2004). A task-cycling pedagogy using stimulated reflection and audio-conferencing in foreign-language learning. Language Learning and Technology, 8(2), 50-69. Retrieved from <u>http://llt.msu.edu/vol8num2/pdf/levy.pdf</u>
- Levy, Mike. (2007). Culture, culture learning and new technologies: Towards a pedagogical framework. *Language Learning & Technology, 11*(2), 104-127. Retrieved from <u>http://llt.msu.edu/vol11num2/pdf/levy.pdf</u>
- Lowe, Charles, & Williams, Terra. (2004). Moving to the public: Weblogs in the writing classroom. In Laura Gurak, Smiljana Antonijevic, Laurie Johnson, Clancy Ratliff, & Jessica Reyman (Eds.), *Into the blogosphere*. Retrieved from

http://blog.lib.umn.edu/blogosphere/moving_to_the_public.html

- Murray, Liam, & Hourigan, Triona. (2008). Blogs for specific purposes: Expressivist or socio-cognitivist approach? *ReCALL*, *20*(1), 82-97.
- Paretti, Marie, McNair, Lisa D., & Holloway-Attaway, Lissa. (2007). Teaching technical communication in an era of distributed work: A case study of collaboration between U.S. and Swedish students. *Technical Communication Quarterly*, *16*(3), 327-353.
- Redd, Teresa M. (1998). Accommodation and resistance on (the color) line: Black writers meet white artists on the Internet. In Donna Reiss, Richard Selfe, & Art Young (Eds.), *Electronic communication across the curriculum* (pp. 139-150). Urbana, IL: NCTE. Retrieved from <u>http://wac.colostate.edu/books/ecac/chapter10.pdf</u>

- Reiss, Donna. (2004). Cross-cultural collaborations among Swedish and American students. Retrieved from <u>http://wordsworth2.net/projects/crossculturalcollabs</u>
- Reiss, Donna. (2000). Epistolary pedagogy and electronic mail for learning literature. In Dona Hickey & Donna Reiss (Eds.), *Learning literature in an era of change: Innovations in t*eaching (pp. 18-30). Sterling, VA: Stylus.
- Reiss, Donna, Selfe, Richard, & Young, Art. (1998). *Electronic communication a*cross the *c*urriculum. Urbana, IL: NCTE, 1998. Retrieved from <u>http://wac.colostate.edu/books/ecac/</u>
- Russell, David, & Yañez, Arturo. (2003). 'Big picture people rarely become historians': Genre systems and the contradictions of general education. In Charles Bazerman & David Russell (Eds.), *Writing selves/Writing s*ocieties: Research from activity perspectives (pp. 331-362). Fort Collins, CO: The WAC Clearinghouse and Mind, Culture, and Activity. Retrieved from http://wac.colostate.edu/books/selves_societies/russell/
- Schultz, Jean Marie. (2000). <u>Computers and collaborative writing in the foreign</u> <u>language curriculum</u>. In Mark Warschauer & Richard Kern (Eds.), *Networkbased language learning: Concepts and practice* (pp. 121-150). Cambridge, England: Cambridge University Press.
- Shamoon, Linda, K. (1998). <u>International e-mail debate</u>. In Donna Reiss, Richard Selfe, & Art Young (Eds), *Electronic communication across the curriculum* (pp. 151-161). Urbana, IL: NCTE. Retrieved from <u>http://wac.colostate.edu/books/ecac/chapter11.pdf</u>
- Sotillo, Susana. (2005). Corrective feedback via instant messenger learning activities in NS-NNS and NNS-NNS dyads. *CALICO Journal, 22*, 467-496. Retrieved from https://www.calico.org/html/article_145.pdf
- Starke-Meyerring, Doreen. (2005). Meeting the challenges of globalization: A framework for global literacies in professional communication programs. *Journal of Business and Technical Communication, 19*, 468-499.
- Starke-Meyerring, Doreen, & Andrews, Deborah. (2006). <u>Building a shared virtual</u> <u>learning culture</u>. *Business Communication Quarterly*, 69, 25-49.

 Starke-Meyerring, Doreen, & Wilson, Melanie. (2008). Learning environments for a globally networked world. In Doreen Starke-Meyerring & Melanie Wilson (Eds.), Designing globally networked learning environments: Visionary partnerships, policies, and pedagogies (pp. 1-17). Rotterdam, Netherlands: Sense. Retrieved from

http://www.sensepublishers.com/catalog/files/9789087904753.pdf

- Thorne, Steven, L. (2003). Artifacts and cultures-of-use in intercultural communication. *Language Learning & Technology, 7*(2), 38–67. Retrieved from http://llt.msu.edu/vol7num2/pdf/thorne.pdf
- Thorne, Steven, L., & Black, Rebecca W. (2007). Language and literacy development in computer-mediated contexts and communities. *Annual Review of Applied Linguistics*, 27, 133-160.
- Ware, Paige D., & Kramsch, Claire. (2005). Toward an intercultural stance: Teaching German and English through telecollaboration. *The Modern Language Journal*, 89(2), 190-205. Retrieved from http://mlj.miis.edu/resources/Ware.and.Kramsch.pdf
- Ware, Paige D. & Warschauer, Mark. (2006). Electronic feedback and second language writing. In Ken Hyland & Fiona Hyland (Eds.), *Feedback in* second language writing (pp. 105-122). Cambridge, England: Cambridge University Press.
- Warschauer, Mark. (1997). Computer-mediated collaborative learning: Theory and practice. *The Modern Language Journal*, *81*(4), 470-481. Retrieved from <u>http://www.gse.uci.edu/person/warschauer_m/docs/cmcl.pdf</u>
- Warschauer, Mark, & Kern, Richard. (2000). *Network-based language teaching: Concepts and p*ractice. Cambridge, England: Cambridge University Press.
- Young, Art. (2005). Classroom discourse and communication across the curriculum. Retrieved from <u>http://www.clemson.edu/~apyoung/pdf/CACDiscourseYoung2005Feb203.p</u> <u>df</u>
- Young, Art. (2006). *Teaching writing across the curriculum* (3rd ed.). Upper Saddle River, NJ: Prentice Hall. Retrieved from <u>http://wac.colostate.edu/books/young_teaching/</u>

Young, Art, Gustafsson, Magnus, & Reiss, Donna. (2006). Writing, literature, and technology: Online writing and conversational learning. *Journal of College Writing*, *8*, 5-18.

APPENDIX A: VIDEO TRANSCRIPTS

Video 1

Hi my name is Suvi, and I am a student at the Chalmers University of Technology in Göteborg, Sweden. I am here today because I want to show you how I have been working with a letter exchange which I did when I took a course in 2010. The letter exchange was between Chalmers and the University of Clemson in South Carolina in the USA. It was about the poetry of Tomas Tranströmer. It is good to have it in this blog format. Otherwise it would be difficult for us to read. All the information; we have the same information because it is all on this blog. We have some background information on Tomas Tranströmer. We have one, two, three poems of Tranströmer in Swedish with English translations. We have also the letter guidelines, so we have the same assignment.

There are three letters in the assignment as a whole, but I will focus on the first letter. It was about reflecting on how different words and phrases can affect the meaning of the poem if you change it. Before getting into the task I took a look at the background information on Tomas Tranströmer and what I found interesting was this: That his work is a lot about the unknowable and searching for transcendence.

I didn't know too much about Tranströmer before, so it is good for me to have a clue about what he is all about. I read through the poems but I decided that I wanted to look deeper into the "I Det Fria," which starts in a maze, late autumn maze. Some sentences caught my eye more than others and this was one of them: *Vald kanns overklight en kort stund*, which I would translate into *violence feels unreal for a brief moment*. But I am not a translator, so let's see what the translator said. May Swenson says that "Violence for a moment feels unreal." Already here we see a difference because Tranströmer says first that violence seems unreal and then but only for a brief moment. Robert Bly has a different translation: "Violence seemed unreal / for a few moments." So we have the same kind of feeling as Tomas Tranströmer does and maybe it is due to them being friends, Bly and Tranströmer; I don't know. Anyhow it seems as if Swenson has a different interpretation. She doesn't have to translate it literally.

So, these are some of the comments that I took with me when writing my first letter. But there was something else I thought a lot about also. We are in the maze, as it said in the beginning of the poem, and dusk is coming and we have to find and see our landmarks again. Swenson, she writes, "It's a matter of finding the way out / and locating some landmarks." Then comes the specifics, but here it sounds like some landmarks, any landmarks. Whereas Bly writes, "to find the landmarks again." To me I felt like the original said that. We are lost and we have to get out. We know that now it's time; we have to find sanity again and we know what a good path for us could be. To me Bly says this better than the original version, at least for me. This is something I wouldn't have thought about if I hadn't read the different translations or interpretations.

I took this with me and I put it in my letter which you can see here. We read each other's letters and it was so interesting for me to see how different words can change the feeling of a poem. I really got some new insights. Thank you for listening and I hope you got some insights too.

Video 2

Hi again. It's Suvi from Göteborg, Sweden. I would like to share some of my thoughts on the third letter of the letter exchange. And in particular the part of the letter where we are to express our understanding of the poetry in some other way than just writing; with for instance music or illustrations. Some writing has to be done because we have to motivate why we have chosen the artwork. And here is a part of my motivation which is in my third letter. Here I write that my feeling of Tranströmer is nostalgia and also I got some . . . it kind of reminded me of my own Swedish summers. And therefore I took a photo that looks like this. It is of a Swedish summer day.

I have a woman in the photo. That's because during the letter exchange we had some discussions on gender. In Swedish when we write about a general human being, "en manniska," you write about this person as a female. So, you use female gender. Whereas when you write about a man in English you call this man a "he." So when Tranströmer shifts between *she* and *he*. This nuance is lost in translation because all the *shes* are turned into male gender. I just wanted to make a comment on that with my illustration. So that is why I chose to do the picture as I did.

One of the other girls, she used a painting that she says reminded her of the poem "Tracks." It is kind of about chaos in the middle of tranquility and she chose this painting by Massachusetts painter Joshua Meyer. You can see here it is quite chaotic but still there is something serene in it also. I have never heard

about the painter Joshua Meyer, so for me it was really great fun to get to know this artist.

We had to do some thinking outside the box and it was great fun to get to know how students in the United States think regarding music and stuff like that also. So, I hope you had some use of this footage, and thanks a lot for listening. Goodbye.

ACKNOWLEDGMENTS

We would like to express our gratitude to all the students over the years who have engaged in the poetry exchange and helped develop it. In particular, we thank Ms. Suvi Panas who helped make the videos for the chapter and Professor Cameron Bushnell, Clemson University, South Carolina, USA, who agreed to include the poetry exchange in her course for the spring term 2010, thus allowing it one more run. We are also very grateful for the many review comments we have received in the process of writing this chapter and all the help and patience of the editor Professor Laura McGrath.

The Polyphonic Classroom: A Collaborative Pedagogical Approach to Information Literacy and Digital Composition

Caroline Cason Barratt Jill M. Parrott Erin Presley

As Cynthia Selfe (1999) recounted in *Technology and Literacy in the Twenty-First Century*, the <u>Technology Literacy Challenge</u> that the Clinton-Gore administration presented in 1996 looked toward a future of not only traditional alphabetic literacy but technological literacy as well. Selfe analyzed the social and cultural implications of such an endeavor but also emphasized the "professional responsibility" of educators in that challenge. She rightly pointed out that "teachers remain comfortable with the culture's traditional separation of arts and technology" (p. 9). Even more than a decade removed from that publication, we still see resistance to the melding of traditional and technological literacies into singular pedagogical endeavors. We hope that our pedagogical design challenges that resistance and offers an example of ways to become *un*comfortable with the separation of art and technology. In this chapter, we offer a pedagogical model that uses collaborative instruction to press forward for the purpose of drawing attention to the relationship between information literacy and digital composition. This model, the polyphonic classroom, begins to address the three challenges Yancey (2009) lists in the NCTE report "Writing in the 21st Century":

- developing new models of composing,
- designing a new curriculum supporting those models, and
- creating new pedagogies enacting that curriculum. (p. 8)

As we will describe, the three of us co-teach a course designed to introduce students to the technology resources available to them, to improve their research and information literacy skills, to teach them how to present research findings using a multimodal approach (thereby providing experience with digital composition), and to enhance specific technical competencies. In designing our polyphonic classroom environment, we have focused on developing a pedagogy that plays to each of our strengths in ways that facilitate our students' digital composing. In this way, we feel that collaborative instructorship improves the quality of our pedagogy with the accumulation of our expertise, and sharing these responsibilities also covers some weaknesses we might have as individual instructors.

CONTEXT

The Division of Academic Enhancement (DAE) at the University of Georgia, a unit of the Office of the Vice President for Instruction that operates independently from the university's schools and colleges, provides excellent opportunities for cross-disciplinary collaboration and teaching. This department offers a variety of classes, generally in support of improving students' study and life management skills, and tutors students in particular areas (see Academic Enhancement Full Course List). According to the DAE, their mission is "to provide entering and continuing UGA students a wide range of services to support their academic efforts." Classes in the DAE are often taught by instructors with ties to other academic departments. Additionally, the <u>UGA Libraries'</u> Reference Department has enjoyed a strong relationship with the DAE for years, adding to the cross-disciplinary nature of many courses they provide. As a free-standing and multi-disciplinary academic department, the DAE, like the UGA Libraries, has an interest in serving all students on campus. This flexibility allows instructors to reach a broad segment of the university population and to experiment freely with new collaborations.

One course that has benefited from a long-standing interdepartmental collaboration is <u>UNIV1120</u>: <u>Online@UGA</u>. UNIV 1120 is set up as a workshop-style learning environment wherein we, as instructors, give the students the tools to complete a project and provide the necessary support to help them as they progress toward that final goal. The class meets one hour a week for a full semester and provides one hour of academic credit. In terms of instructors' teaching loads, this means that three one-credit-hour sections are equivalent to one three-credit-hour course. This course is a particularly pointed place for the study of collaborative technological pedagogy as it brings together instructors and students from various disciplines across the university, encouraging those involved to see the broader ideological implications of the classroom environment and technological focus beyond potentially near-sighted disciplinary concerns.

UNIV 1120: Online@UGA arose from a concern that students were not coming to college equipped with the computer and information-literacy skills they need to succeed in an academic environment that emphasizes technology. Additionally, there was no other course offered that specifically addressed these skills for students who either needed a refresher or wanted more individualized instruction in improving their academic-computing and information-literacy skills. The course attracts students who are just entering the university environment and feel that their level of technical expertise may be inadequate, students who are about to graduate and want to develop skills that will enhance their résumés, and students who simply need an extra credit hour.

UNIV 1120: Online@UGA is graded on a satisfactory/unsatisfactory (S/U) basis, meaning that students must accumulate points equivalent to a passing grade or above to receive a Satisfactory assessment. A positive aspect of this grading system is that it contributes to the relatively low-stakes nature of the course. These low stakes may encourage grade-conscious students unsure of their technological skills to take the class, as the grade of S/U is not included in the academic average. On the other hand, due to scholarships and other GPA-based programs, the S/U grading for this class may appear unattractive to students who depend on accumulating high grades to remain eligible for their scholarships, to satisfy the requirements for particular programs, or to remain competitive when applying to graduate or professional schools. As instructors, our main concern with the S/U system is the disparity in grading it causes in that a student who accumulates 95 points gets a Satisfactory as well as a student who did not perform as well and received only 72 points. Discussions with administrators about the possibility of transitioning UNIV 1120 into a traditionally graded class are ongoing as we continue to develop the course to best meet the needs of our students.

Students receive a Satisfactory if they successfully complete the course requirements: choosing a topic to investigate, completing research to compile an annotated bibliography on that topic, writing a narrative script using that information, creating a digital movie based on this research and writing, and pulling everything together in a hand-coded Web site. We see UNIV 1120's textured or layered assignment structure as an "intertextual [application] of the new-media literacies . . . which rely as much on images, video clips, animation, sound, and still-photography as on words—[and] have begun to emerge and compete vigorously with more traditional alphabetic print texts for readers' attention" (DeVoss, Johansen, Selfe, & Williams, 2003, p. 163). We will describe the sequence in detail in the "<u>Assignment Sequence</u>" section of this chapter.

For educators as well as students, new communication technologies and textual practices require a shift in our understanding of the ways we make meaning. Over a decade ago, Gunther Kress (1999) noted that a singular "emphasis on language alone simply will no longer do" (p. 67) and that the "distinct possibilities of speech and of the visual [have led] to different cognitive action, to different representations, to the construction of a different world, with a different order" (p. 81). We agree with Kress's argument but also realize that a transition to the pedagogical application of this wider understanding of meaning-making in academe is slow for many reasons including, but not limited to, traditional university structures and instructor trepidation and lack of experience with the technology.

In this slow transition, we believe that collaboration is one method of challenging silolike university structures, easing instructor fears about teaching with and about technology, and increasing instructor experience with technology for academic purposes. When projects require both students and instructors to employ multiple literacies and technical competencies, teaching partnerships that bring together instructors with various relevant proficiencies is beneficial if not essential. Further, collaborative teams composed of instructors and librarians can illuminate ways in which instructors often underutilize the library's main resource: its staff. Employing librarians as co-instructors rather than as one-day guest speakers fosters an increase in both breadth and depth of research skill development while embedding critical thinking skills into the curriculum, creating a more sophisticated academic environment for students.

Using the definitions laid out in *Collaboration in Composition Studies* by Sheryl Fontaine and Susan Hunter (2006), we see our project as truly collaborative rather than merely cooperative. Fontaine and Hunter insist that these are two separate concepts and that understanding the difference is important to successful collaboration; their definitions provide an integral ideological foundation for our classroom planning. Cooperation, they say, occurs when two or more people work near each other on the same project; the participants work for the same goal, yet they have different tasks. This concept is best illustrated by student work groups: with three students in a group, one student might do research, another may write a rough draft, while the third may edit and proofread. This is cooperation. Collaboration, on the other hand, occurs when groupmates work in tandem toward the same goal at the same time on the same tasks. As instructors, we focus on collaborating with one another in the planning and implementation of our classroom goals. While one of us may "control" the classroom environment more on a particular day and another on another day (a more cooperative approach), each of us has had previous input on the goals and purpose for each individual instructional element.

In our classroom environment, each instructor brings particular expertise to the classroom but also has a voice in overall assessment and implementation of goals. Jill Parrott's background is in rhetoric and composition, from which she brings expertise in copyright law and its effects on authorship, a topic particularly pertinent to a project like the one in UNIV 1120, which requires students to integrate images and information from many different sources and adapt them for this new, unique composition. She also provides instruction in MovieMaker and provides technical support for Mac users. Erin Presley also specializes in rhetoric and composition theory and has a particular interest in technology in the classroom. She teaches HTML coding and assists students in completing their Web sites. The participation of Caroline Barratt, the UGA Libraries' liaison for the UNIV 1120 course, shows how the involvement of librarians in technology-enhanced assignments from creation through implementation is particularly beneficial in that, mirroring the attention to technology emphasized by the other instructors, librarian-led instruction focuses on critical assessment of information and

information-seeking strategies. Throughout the semester, we three instructors and our students work collaboratively to learn and create. Our syncretic approach to assignment design, instruction, and research mirrors the students' task of forming a coherent whole over the course of the semester by completing discrete tasks that build to a large-scale project.

The video to the right mirrors the process that students use to create their projects, while simultaneously describing the processes the students complete. As a meta-commentary, our method and choice of production software and hardware reflect the process described in this study, providing an accurate illustration of the assignment discussed. Indeed, as the video suggests, we emphasize that students should understand media as a way to consume information and as a way to create information and participate in conversations.



See <u>Appendix D</u> for video transcript.

PARTNERSHIPS AND PLANNING

The Role of Technology

We understand that "technology fosters collaboration, but it doesn't ensure or in any way make collaboration happen" (Fontaine & Hunter, 2006, p. 92). People make collaboration happen, not technology, but having access to computers and the Internet certainly makes collaborating easier. While teaching this class, we have relied on e-mail for sharing ideas and coordinating meetings. We have also employed GoogleDocs as a way to share our work when we cannot physically be in the same space. This Google program has been a boon to our collaboration. It allows us to share and edit documents easily without clunky e-mail attachments and to do so from remote locations. For classroom matters, we use Google Docs to construct planning documents, collect assignments, and keep grade rosters in a single place where we can all have access at all times. Professionally, Google Docs provides us with a forum where we can share our work and write collaboratively about our teaching and our research (as we did in creating this chapter). Like Fontaine and Hunter (2006), "technology has allowed us to

enter into one other's writing in a way that couldn't occur if we were retyping manuscripts" (p. 92). With Google Docs, we can add and delete without tracking changes, though we can see the document's revision history if necessary. Composition theorists such as Mary Belenky (as cited in Ashton-Jones & Thomas, 1991, p. 32) have expressed concerns about collaborative writing, but we view the creation of "a third voice," as discussed by Fontaine and Hunter (2006, p. 93), as an asset in the classroom, not a loss of identity. We like to think that our situation has created a fourth voice. In writing about our experience, in creating syllabi and lesson plans, and especially in our polyphonic classroom, we want to create in accord.

Collaborative Planning and Teaching

Collaboration has characterized all aspects of the planning and teaching of UNIV 1120. Assessment of each part of the assignment is facilitated by a detailed rubric, created by the librarians in collaboration with the UNIV 1120 instructors (UNIV 1120 Grading Guidelines). The instruction team also created tutorial documents like Web sites and "how-to" handouts to help students learn the material. And, as mentioned previously, we divide the topics covered in classes according to our particular strengths. Caroline Barratt conducts the research workshops and introduces students to the library's resources. Jill Parrott teaches the students about copyright law and using Creative Commons as a valuable resource for finding images, audio files, and video clips. She also helps Mac users troubleshoot any issues that they may have with iMovie. Erin Presley introduces students to HTML coding and assists them in building their Web sites. While we divide the teaching responsibilities, we are all still available to assist students on the days when one or two of us may not be leading the class. Each one of us is also familiar enough with all aspects of the course to adequately instruct when needed; in other words, if Erin is busy working one-on-one with a student on his Web site, Jill may be helping another student simultaneously. We utilize simultaneous instruction every time the students participate in a workshop. This setup makes it possible for all of us to have the same level of authority in the classroom, while simultaneously allowing each of us to teach to our strengths. The frequent workshops and rotating lectures in our classroom necessitate an "all hands on deck" approach in order to help our students reach their goals.

Co-teaching is not without its challenges. Previous iterations of UNIV 1120 were problematic because students were confused about who was in charge. This confusion was counterproductive in two ways. Ideologically, it detracted from the environment we wanted to create wherein the students focused on the creation of projects and we facilitated their comprehension of technology as a tool as well as a filter for information retrieval and composition. Practically, students' distress over classroom authority made class more difficult because they did not know whom to approach with questions or in what ways their work would be assessed. The point-person system was our solution to this problem; we share the workload by dividing the number of students as equally as possible for evaluation purposes. This system also prevents confusion for the students in terms of which instructor is evaluating their work, since the same instructor grades every element for a specific set of students.

The Learning Center and Library as Essential Partners

The UGA Libraries and DAE have worked cooperatively for several years. The two academic departments coordinate to provide a variety of tutoring services within library buildings in addition to supplying staff to co-teach the UNIV1120 course. What makes this last endeavor different is the level of collaboration required throughout the semester. The UGA Libraries and DAE are completely integrated within the UNIV1120 program in a way that touches on all aspects of the course, from the location of the classroom to the creation and assessment of assignments to the human and technical resources provided in support of the students' work. Resources to support this course include the people who teach it, but also the hardware and software that are essential components of the tasks performed in this technology-intensive course. The course is taught within UGA's Learning Commons, the Miller Learning Center, a building comprised of an electronic library, classrooms, and a computer lab. With librarians, computer technology help, and faculty support offices located in the Miller Learning Center, support for both students and faculty is available within the same building. In addition to the support they receive in the classroom from their instructors, students can also obtain technical support and research assistance at the service desks after class is over, making it possible for instruction to continue outside of classroom hours. The intensively integrated environment of this particular learning space provides the perfect setting for UNIV1120. Having a wealth of technology is a boon to the course, but the real key to the success of the program is the collaborative effort of the instructors, librarian, and support staff at the Miller Learning Center to provide students with instruction and support.

When librarians were first invited to participate in UNIV 1120 classes, they visited as guest lecturers for three sessions. The librarian covered the library's online catalog, one or two article databases, and searching the Internet effectively for scholarly information. After these three sessions, however, the librarian was not involved in the course. Students may have followed up with the librarian for an additional research consultation or with questions, but the librarian was not included in the class after this contact. In response to the library sessions, students were asked to compile a short list of sources on their topics using the resources covered by the librarian, but they did not have to read the information contained in the sources or create a product from their contents. This often led to a "good enough" approach to student bibliographies, where students

simply chose the first source that matched their keywords in order to fill the requirement. Because this activity did not ask students to evaluate and use the information they discovered, librarians lobbied for a change to the assignment to include the creation of a short synthesis of their findings. These essays became part of the assignments and were graded by UNIV 1120 instructors.

In 2007, the coordinator for the UNIV 1120 program asked librarian Caroline Barratt for assistance in designing a new assignment that would integrate the information literacy and computer literacy components of the course, informed by principles described in the Association of College and Research Libraries' information literacy standards and guidelines. Barratt suggested a project that would ask students to create a digital movie using Apple's iMovie software, based on a similar assignment created by Lisa Smith and Mildred Pate at Georgia Southern University. Like Smith, a librarian, and Pate, an English department faculty member, the instructor and librarian at UGA worked together to discuss the goals of the course and how an assignment like this one would support both the information- and computer-literacy learning outcomes. The assignment was written to incorporate several stages, each building skills and content that would inform the next portion of the assignment, in a way that combined information literacy, visual literacy, and computer literacy while strengthening students' communication skills.

Previously, in order to prepare for each coming semester, the librarian liaison and UNIV 1120 instructors met to discuss lessons learned from the previous semester, plan course activities and content, and set logistical details like due dates and room assignments. Multiple sections of the same course complicated planning as due dates, librarian visits, and other class activities varied slightly between sections. A different librarian liaison was assigned to each class section. He or she would lead the library sessions and was also responsible for grading the annotated bibliography portion of the project. The difference between a coordinated approach versus a collaborative one became apparent when some students, as discussed previously, became confused as to who was responsible for their grades and to whom they should address their questions. Added to this, coordination of grades and student feedback was more successful among some instruction teams than others, and there were a few times when grading or communication slipped through the cracks.

Instruction teams that achieved the most consistent and clear approach used online collaborative communication like Google Docs to share grade rosters. A reduction in the number of sections offered made it possible for one librarian to act as the single liaison to each UNIV class, joining the instruction team to assess all parts of the assignment for her cohort. This less fractured approach clarified roles and provided more cohesion to the course. Students were clearer on who their contact would be for grades and other questions that arose. In all, a librarian is present in approximately six out of fifteen

classes with the two UNIV instructors team-teaching the remainder of the sessions. This intensive involvement in the classroom has evolved over the years, finding the most profound change with the implementation of the digital movie assignment described above. From that point onward, the investment in the partnership between the instructors and librarians increased. With the librarians and instructors working collaboratively to craft the assignment, teach content, and assess students' work, the UNIV 1120 course moved from one that was simply cooperative to a class that was truly collaborative. Now, the instructors collaborate on every aspect of the class to create a truly integrated curriculum.

ASSIGNMENT SEQUENCE

In UNIV 1120, students complete a creative research project, which is comprised of five components: research topic e-mail, annotated bibliography, script, documentary movie, and Web site. This project has several complementary goals, such as introducing students to the technology resources available to them at the university, improving their research skills, and teaching them how to present their findings by employing a multimodal approach. We also hope to encourage students, as they create their documentaries and Web sites, to look actively at technology instead of passively looking through it, as suggested by Richard Lanham in The Electronic Word (1993) and The Economics of Attention (2006). Another proponent of technology in the classroom who informs our strategies is Gregory Ulmer, who coined the term "electracy" in Internet Invention (2003). Ulmer argues that a "proper task" for humanities programs is "to develop rhetorical and composition practices for citizens to move from consumers to producers of image discourse" (p. 6). We agree with Ulmer and hope that our course joins his cause of "inventing electracy" by fusing the literate, oral, and electrate in the classroom (p. 7). While our project may not take as many risks as Ulmer, we do agree that "literacy did not have enough computing power to think formless, or to exploit the holistic moods of categorical images. The mathematical order of chaos emerged only within the patterning made legible by the computer" (p. 323). We hope that directing students to look at technology, specifically computer-related technologies, as more than iust a tool is an important step in fostering electracy. Our students conduct their research through online databases and with search engines such as Google, then employ software to produce documentaries that will eventually become the centerpiece of hand-coded Web sites. In UNIV 1120, we ask students to combine the oral, literate, and electrate as they complete their projects.

The first facet of the assignment involves asking students to define their research questions. At the beginning of the semester, students submit their topics to us via e-mail, and we give them feedback based using the "point person" system that the three of us established. Each student will have a point person (instructor) to whom he or she

can go throughout the semester for questions, feedback, and assessment. We created this system for two main reasons: to increase instructional efficiency and to decrease student confusion. In terms of topic selection, we encourage students to choose topics that complement their studies. After submission, students receive feedback from their point person on how to focus the topic so it lends itself to a three- to four-minute movie. Once topics have been approved, students receive library research instruction before conducting their research. After two consecutive research workshops—which cover searching the library's online catalog, working with a selection of databases, and using the Internet for academic research—students are asked to compile information they discover into an annotated bibliography (Figure 1).



Figure 1. Student bibliography sample.

Although the project as a whole emphasizes the idea that academic conversations can take multimodal forms, Figure 1 demonstrates that the annotated bibliography assignment follows a traditional academic format. In order to foster reflection on source type and authority, students are required to include at least four sources from at least three different source type categories (e.g., book, Web page, journal article, film) and format the bibliography according to a particular style (e.g., MLA or APA). Students have the freedom to mix source types as they wish, as long as the sources are from different categories (<u>Appendix C</u> provides a citation analysis of their choices). The annotated bibliography is the basis for the third part of the assignment, the movie script.

Scripts are generally two-pages long, and students write them in two drafts. They receive instructor feedback on the first draft but no grade. We aim to provide this feedback quickly so students can take it into consideration as they revise their first draft. Some students approach the script as they would a typical essay (Figure 2); others

compose a more theatrical script that incorporates sound effects, music, and dramatic narration. The final draft receives a grade, and the student generally records this version for the movie after taking any final comments into consideration.

Slide 2:

\$3 billion dollars is spent every year by fast food companies to place ads targeted towards children on television ("The Role of Media in Childhood Obesity" 5). This seems like a lot of money, but it is a small amount when compared to how much young children spend on food products. Just four years ago, in 2004, it was expected that children under the age of twelve would spend \$35 billion of their own money on food items ("The Role of Media in Childhood Obesity" 5).

Slide 3:

Ted Lempert, president of a research company called Children Now, explains that out of all of the ads aimed at kids, most of them are "for candy, sugared cereal, soda, and fast food" (1). He explains that companies are using eye-catching commercials with popular TV characters to sell their products (Lempert 1). When these techniques are used, children become captivated with the entertainment that is being displayed before them and make unhealthy food choices as a result.

Figure 2. Excerpt from student script draft.

The students also receive instruction in the parameters of copyright law, which equips them to gather legally available images for their movies. After receiving instruction on the Windows-based Movie Maker software, students choose to use either Movie Maker or iMovie to complete their movie projects. The lab in which we teach is equipped with PCs, but we encourage and support Mac use as well for those students who are most comfortable with that platform. Several class periods are workshop days in which students compile images, audio, and film clips to produce a three- to four-minute documentary on their respective topics.

The final assignment for the course is a hand-coded Web site (Figure 3 and Figure 4), which showcases the students' work and includes their embedded documentary movie file. Students use the Web space provided to them by the university to host their Web sites. Using HTML coding, students also include internal links to their documentary scripts and annotated bibliographies as well as external links to pertinent sites about their topics. Once the Web site is completed, students share their work with the class in an informal presentation at the end of the semester.



Figure 3. Student Web site design sample.

Using our objectives and our assignment sequence as a starting place, we invite other teacher-scholars to imagine their own cross-disciplinary collaborations and polyphonic classrooms. In each case, instructors will bring their own strengths and weaknesses to the pedagogical table, and each institution will have its own exigencies and structures in play. In order to recreate the project we have described, the infrastructure needed would be university-provided Web space; access to Movie Maker, iMovie, or a similar program like Google's free image editor and video slideshow maker, Picasa; NotePad for PCs or TextEdit for Macs, for HTML coding; and a computer-enhanced classroom or lab space. That being said, a movie isn't the only way for students to present their research while gaining valuable digital composition experience and developing technical competencies. Collaborative technological instruction lends itself to any number of assignments that facilitate "at" vision rather than "through" vision, as Lanham (2006) explains those concepts. Simply focusing on PowerPoint is certainly a possibility. Anecdotally, we have found that students are more comfortable with PowerPoint than other types of presentation software, so assigning a project involving Microsoft PowerPoint or an open-source equivalent such as OpenOffice's Impress might prove to be a fruitful way of having students look "at" a technology they have probably most often looked "through."

If an institution does not automatically grant students a certain amount of server space for Web publishing, the IT department may be able to provide space for the small number of students in the class. Alternatively, students can still see their Web sites without having to publish them by opening their files in a Web browser. Reflection on "at" versus "through" can be encouraged even if the site is not online, although a live page is certainly optimal.

STUDENT PERCEPTIONS AND PEDAGOGICAL STRATEGIES

Throughout the semester, the three of us meet often to discuss issues that have arisen in the different classes. It is productive to meet away from the students so that we can discuss, as pedagogues, what is working in the classroom and what may not be. Sometimes, it becomes necessary to adjust the syllabus to meet the needs of the students or to change focus for a day to facilitate their projects. Also, although we each have assigned students whose work we grade, grading issues occasionally come up for which an instructor would like advice or affirmation. Our collaborative team provides pedagogical focus, feedback, and support that traditional single-instructor classroom environments simply do not. Our frequent face-to-face conversations and e-mails keep us connected as instructors both inside and outside of the classroom. It was the frequent conversations about what is working and not working that led us to create a survey to more formally evaluate student perceptions. Although the initial sample size is small and further research is necessary, the results and our responses to student feedback are worthy of attention.

Because of the unique and evolving nature of our classroom structure, we felt it was necessary to evaluate the class using our own criteria rather than the standard generic criteria set forth by the university through its end-of-the-semester evaluation process. Surveys that questioned students about their experiences in the class were administered at the beginning and end of the semester (see <u>Appendix A</u> and <u>Appendix B</u>) to students in two separate undergraduate sections of UNIV 1120. We designed the questions to address the students' motivations for taking the class, their experience in the class, and their reflections on the class. We hoped that the students' answers would provide insight into what parts of our pedagogical plans had made an impact on their experience and what parts of our plans still needed improvement in order to reach our goals. We also hoped to be able to see how we could hone our collaborative relationship as instructors to facilitate the attainment of the course goals and student learning objectives.

First Survey

We started with demographic information to determine academic class standing amongst our students in terms of how far along they were in their college careers. We asked students to list their majors in order to evaluate which students from which colleges were most comfortable with technology before they came to class and which became most comfortable with the concepts we introduced. The questions we considered most important, however, were concerned with the students' perceptions of the assignment and the classroom environment. In the survey given at the beginning of the semester (Appendix A), the majority of students said they wanted to take the class because they felt that becoming more comfortable with the technology we present to them will help them either in college or in their future careers. In other words, they were mostly goal-oriented, hoping that the project would help them reach a goal beyond our classroom. Most were not interested in the class simply for the sake of completing an interesting project. In fact, fourteen out of the seventeen students who took the first survey (Appendix A) stated that they took the class only because they needed an hour's worth of credit, and three respondents said they were apathetic about the project. Some apathy is not all that surprising for a class assessed as Satisfactory/Unsatisfactory and worth only one credit hour. More interesting is the wide array of disciplines in which they thought the uses of technology covered in UNIV 1120 would be appropriate; the answers included a discipline from nearly every college on campus from accounting to chemistry to English, education, theatre, sociology, and political science.

We were particularly interested in students' perceptions about the role of technology in the classroom and the purpose of the project. When asked "What have you been taught is the purpose of technology in learning in the classroom?" the vast majority of students declared that technology was a way for them to find information or complete projects more efficiently. One even said he had been taught that technology was "a means to an end and not the end itself." Similarly, when asked "What do you feel is the purpose for this assignment?" the vast majority of the answers revolved around some variation of using technology and research together to complete the assignment. These answers show us that the students came into the classroom expecting to learn a skill or tool that might help them meet larger goals concerning research, academics, or career. Although we certainly hope that what we teach will be applicable outside the classroom, the students' steadfast focus on that singular goal has the potential to undercut what we hope they will learn about consumption versus creation.

Rather than seeing the tools we introduce to them (such as movie making software and HTML coding) as means to an end, we hope that they will be able to look "at" the technology. Lanham describes a spectrum of attention: "At one end, the *through* ideal. Minimal awareness of an expressive medium. At the other end, the *at* ideal. Maximal awareness of how we say what we do, or paint it, or sound it out. In the middle, all the daily mixtures. Please note: no point on the spectrum is intrinsically evil or virtuous; it seeks to describe rather than to proscribe, to analyze rather than condemn" (p. 159). We do not wish to condemn "through" vision. The students so often consume technology-mediated content (as we all do) from TV, search engines, social media, word processors, and so forth that looking "through" it has become somewhat of a

necessity of surviving everyday life. We do believe, however, that instruction that emphasizes "at" attention provides essential balance. Software and Web design instruction is often focused on "through" vision wherein, as our student pointed out, the technology is seen as "a means to an end and not the end itself." This is "minimal awareness of an expressive medium" as Lanham (2006) describes it, and we aim for attention closer to maximal awareness (p. 159).

One example of how our pedagogy encourages "at" vision is our insistence on teaching HTML hand-coding—see Figure 4—rather than a What-You-See-Is-What-You-Get (WYSIWYG) program such as Dreamweaver. Students often ask why they *have* to do HTML, and our answer is that it allows them to understand how a Web site works (i.e., to look "at" it). Using a WYSIWYG program allows a Web designer to see what the page will look like, but it does not allow her to see how the page works—how the code is laid out so the Web browser can read it. We show students how they can go to any Web page on the Internet, and choose View > Source Code from the menu to see the coding used to create the page. Viewing the code is "maximal awareness" and requires the students to lean toward the "at" side of the attention spectrum (Lanham, 2006, p. 159). Although their pages are simpler and less user-friendly than they might be with a WYSIWYG program, our pedagogical purpose is achieved. Further, if they choose to continue developing as Web designers and use a WYSIWYG program, knowing how to look "at" the code will allow them to be more sophisticated designers and adept troubleshooters.

```
</head>
<body style="color: rgb(0, 0, 0); background-color: rgb(204, 255, 255);" alink="#000099" link="#000099" vl</pre>
<big><big>Go to my <a href="project.html">Documentary
page</a>.</big></big></br>
<br>
<div style="text-align: center; font-family: Arial; color: rgb(255, 102, 102);"><big><big><big><span</pre>
</big></big></big></big></div>
<center> <big style="color: black; font-family: Arial Black;"><big><span style="font-weight: bold;">T
Childhood Obesity?</span></big></big></big></br>
<br>
<br>
<img style="width: 431px; height: 307px;" src="http://www.myextralife.com/wp-content/uploads/2008/08/fat_k
<center> <font color="silver"><a href="http://www.myextralife.com/?p=8959">Link</a> <span style="color: rg</pre>
<h2>
<center>
<center>big>br>
<span style="color: rgb(255, 102, 102); font-family: Candara;">External
Links to Related Articles:</span></big><br>
<br>
<a href="http://www.childrennow.org/newsroom/press coverage/childhood obesity op ed.html">Childhood
Obesity Fueled by Marketing Tactics</a> - <span style="color: rgb(1, 0, 0);">Ted Lempert</span><br>
<br>
```

Figure 4. Student HTML hand-coding sample.

Another important way we attempt to emphasize creation over consumption is the introduction of <u>Creative Commons</u> to the students. Creative Commons, we explain to

students, provides a variation on copyright to composers of text, art, photography, music, or any kind of intellectual property. Traditional copyright is "all rights reserved" while works in the public domain have "no rights reserved." Creative Commons is that middle ground of "some rights reserved," wherein creators can choose how their audience can use and manipulate the work. A search engine accessible from the Creative Commons. Web site provides access to work that has been licensed under Creative Commons. Defining terms such as *copyright, public domain, fair use,* and *intellectual property* opens the door to a conversation with students about which sources are appropriate to use and which are not.

That is, of course, only part of the discussion. Importantly, we provide the students with a framework for seeing themselves as authors with intellectual property that can be shared in the same way that their sources represent intellectual property that was created and shared by authors. They are building on the expertise of others to create a new and unique composition. We spend an entire class period defining key terms and introducing the students to <u>Creative Commons licenses</u>. We make sure to show students the steps that authors can take to acquire a Creative Commons license for their work. Although we do not require students to license their compositions, we believe this knowledge provides a sense of reality for them as authors. The option is there; they have the same rights as other authors to choose how their work is used and manipulated by others.

We insist that students not use any images, music, or video that is licensed under a traditional "all rights reserved" copyright. Because the students' work is displayed on a Web site that can be viewed by any individual with Internet access, educational fair use does not apply. We introduce them to the concept of Creative Commons—that an author would willingly allow others to use his work and build upon it—and then instruct them to use only their own images or videos or materials that can be used legally for their digital movies, such as those in the public domain or that have the appropriate Creative Commons licenses.

Throughout the course, we focus on the process of composing the movie. Part of this process includes encouraging students to question their content consumption. In terms of video content, for example, we might ask the following questions: Where do these videos come from? Whose creations are they? Who has a right to them? Students must look "at" the videos rather than "through" them. In addition, we challenge students to think about their own roles as authors: To whom do they owe credit for their work? Which other individuals have contributed to this new creation? Who "owns" this new work? Any similar assignment involving the collection of outside resources for the creation of a new digital composition must involve a conversation about copyright law

and authorship. Creative Commons is an excellent tool for furthering that goal and starting a conversation about creation and consumption.

Second Survey

At the end of the semester, participants were given another questionnaire (<u>Appendix B</u>); some of the questions remained the same while others were added or removed. In some cases, students responded to the same questions differently. One noteworthy change in answers from the beginning-of-the-semester survey involves the courses in which they thought the uses of technology covered in UNIV 1120 would be appropriate. While their original answers varied widely, the second round answers included six students giving some variation of "any class" or "all classes." So, our survey shows that, after completing the assignment, some students saw its worth and appropriateness broadened.

We were most disappointed by changes in the way some students answered the guestion about the purpose of the class and project. We had hoped that students would say that the goal was to develop information and computer literacies simultaneously. Almost every student, however, said the purpose was to learn the technology. This change/simplification may have been associated with the fact that every student except two said that the technology was more difficult to master than the topic. Because our project schedule plans for them to complete their research and scripts before midterm and to use the software and HTML coding at the end of the semester to bring the project to fruition, the students probably had technology on the brain as they were answering our questions. In fact, in the "Final Thoughts" section of the survey, most answers focused on Web site creation or movie making instead of their research. We hypothesize that because research is not a novelty to the students-they often do research in their various discipline-oriented classes—it seems less important than the technology, which was new to them. We also hypothesize that the students may not be equipped with the vocabulary to articulate these ideas, so we plan to provide some theory-based digital composition instruction in future classes and suggest that educators teaching similar courses do the same in order to emphasize and reinforce these essential concepts.

These few thoughts are a brief representation of the survey results, but our point is to describe how the surveys have shown us ways our pedagogy might be improved. The next few paragraphs summarize the problems we are currently addressing—problems that should be considered by other educators planning or teaching courses that emphasize information literacy and digital composition. One issue involves troubleshooting the technology. Just as we collaborate in the composition of lesson plans and goals for the classroom, we want our students to have a collaborative

component to their projects. The projects are individual; these are not group compositions. However, we desire for our classroom environment to encourage students to rely on one another to find answers to some of their technical and digital composing questions. How can we share knowledge in the classroom concerning technology troubleshooting in a way that includes students in the process? We plan to create a peer-support space using the discussion board available in our learning management system. Although we are experienced with the technology and research tactics our students are using, we are not actually composing projects simultaneously; the students are. Therefore, other students are often a good resource for troubleshooting. A peer-support space gives students the opportunity to learn from one another and work together to solve common problems in a way that parallels our own support network of co-teachers.

Further, in response to the students' confusion with the technology and their sense that it was the technology more than the topic that impeded the progress of their projects, we worked together to create a course packet that explains the project step-by-step and offers advice and tips that we have picked up in our semesters of teaching the course. Previously, we had posted much of the information online piecemeal or simply distributed paper copies of handouts. This new packet, which is distributed to students in printed form, consists of all original material created and gathered by us to meet the specific needs of students in our courses. Each of the three of us gave input about what should be included and excluded from the packet.

A packet may seem obvious as a pedagogical tactic. However, if we desire our students to see this project as digital composition—not research, technology, and composition as separate entities awkwardly intertwined, but different literacies working together toward the same goal—we as instructors must make the technology less complicated in practice but not concept. Frustration with software necessarily brings about "through" vision. If a student is thinking, "How do I make this work?!?" then focus is placed on mastering the software in order to complete the project and get a grade. When the software applications are made simpler by clear explanation and guidance, the students have the freedom to see the import of the research-technology-composition connection.

We have also found that some students (particularly non-traditional and international students) take the class to become more comfortable with technology rather than to learn a specific software program or fulfill a credit hour requirement as many of the other students do. These non-traditional students are comforted by the recognizable textbook/packet format and rely heavily on it to help them with their projects inside and outside of the classroom environment. Since implementing the paper version of the packet, confusion has been lessened for the non-traditional students. And, it certainly does not hinder the comprehension of those students who are already comfortable with

technology when they come through our door. We debated this switch to a paper format; after all, the class focuses on technology literacy and digital composition. In the end, however, as instructors we agreed that the students needed a print reference that contained step-by-step instructions. As we continue to hone the course, we will ask questions about what specific aspects of the technology the students find troubling. We can then address these specific issues, continuing to lessen technology troubles and allowing more time for reflection on and comprehension of the connection between consumption and composition of information.

Finally, to facilitate reflection on the consumption-creation relationship, we intend to integrate peer review into our curriculum. Erin Presley and Jill Parrott are also often first-year composition instructors, and so we are familiar with common approaches to peer review. A peer review activity is a way to increase students' interactions with one another and also increase their awareness of the audience toward whom their digital movies are aimed. Giving feedback to another student can make a student more aware that she also has a tangible and real audience for her own composition. As previously discussed, one of our goals is to keep students from seeing technology as merely a tool or a means to an end. We hope that by including peer review—a required pause and change in perspective—the students might become less product-oriented (consumptive) and more process-oriented (creative). Further, just as we disperse classroom authority amongst the three of us as instructors, "another way to redistribute authority in the classroom [is] to disperse it among students" (Crowley, 1998, p. 207). Reflecting on audience, context, and purpose is just as essential in digital composition as it is in other more traditional academic genres. The literacy skills required to create and give feedback are different, but the rhetorical concept is similar: "invention may go on throughout the composing process" (Crowley, 1998, p. 208). We hope that the interactive and reflective nature of peer review in this class will allow students to see themselves composing for an audience and to better understand the relationship between their research and the technology they use to create their projects.

CONCLUSION

In short, our goal as co-teachers has been to provide an instructional space wherein students can develop multiple twenty-first-century literacies in an integrated, academically relevant way. UNIV 1120 students benefit from our diverse expertise as they gain experience using technology to gather information (Google, article databases, and online catalogs, Creative Commons search) and to author compositions (the digital movie and Web site). Further, we facilitate their development of "at" vision in ways that we hope will make them more aware information consumers and producers. We will continue to refine the course in ways that will further encourage students not to view the

technology as a tool for creating a fancier version of PowerPoint but instead to see the project as a composition and themselves as authors and participants in a conversation.

Our collaboration enriched our pedagogy, and we believe that cross-disciplinary collaboration is an effort worth undertaking because—though many of us would not like to admit it—disciplinary insularism sometimes detracts from our ability to be wise, efficient educators and to provide strong academic connections for our students. Classroom settings similar to the one we describe in this chapter can be one way to provide opportunities for instruction that is not compartmentalized. A limitation of discipline-centered, single-instructor courses is that "composition teachers simply cannot anticipate every discursive exigency their students will be asked to meet in college or in life" (Crowley, 1998, p. 27, 28). Further, courses on information literacy and digital composition require such a breadth of expertise and involve such a variety of disciplines, literacies, and competencies, that cross-disciplinary collaboration is ever more important.

Overall, we believe that our collaborative teaching model is a strong one that might be adapted and adopted by other English studies scholar-teachers seeking to teach information literacy and digital composition in ways that begin to address the challenges identified by Yancey (2009):

- developing new models of composing,
- designing a new curriculum supporting those models, and
- creating new pedagogies enacting that curriculum. (p. 8)

The assignment sequence and the collaborative planning and pedagogy we have described are certainly transferable to other classroom environments and contexts. For those considering such an undertaking, we must emphasize the most important variable in the polyphonic classroom: volition. Collaborative pedagogy will be unsuccessful unless the instructors involved desire collaboration and not just cooperation. Cooperation requires less time and effort than collaboration, but we have found that the classroom is much more successful—with success defined as student attention to and investment in the assignment—when the instructors are aligned as partners and focused on the same goals. This is what Finkel (2000) calls "collegial teaching" (p. 139).

DeVoss, Johansen, Selfe, and Williams (2003) ask, "What new understandings of terms such as *text* and *composing* will students bring with them to the college classroom in the next decade—especially those students habituated to reading and composing the kinds of new-media texts that have come to characterize contemporary computer-based environments?" (p. 157). We believe that our classroom environment begins to address this question. When collaboration, multiple literacies, and digital technology combine to

form a model for blending information and computer literacy instruction, students are not only provided with new skills but also with a way to think differently about their roles as information creators and consumers.

REFERENCES

Ashton-Jones, Evelyn, & Thomas, Dene Kay. (1991). Composition, collaboration, and women's ways of knowing: A conversation with Mary Belenky. In Gary A. Olson & Irene Gale (Eds.), *Cross-disciplinary perspectives on rhetoric and literacy* (pp. 27-44). Carbondale, IL: Southern Illinois University Press.

Creative Commons. (2009). Retrieved from http://creativecommons.org/

- Crowley, Sharon. (1998). *Composition in the university*. Pittsburgh, PA: University of Pittsburgh Press.
- DeVoss, Danielle Nicole, Johansen, Joseph, Selfe, Cynthia, & Williams, John. (2003).
 Under the radar of composition programs: Glimpsing the future through case studies of literacy in electronic contexts. In Lynn Z. Bloom, Donald A. Daiker, & Edward M. White (Eds.), *Composition studies in the new millennium (*pp. 157-173). Carbondale, IL: Southern Illinois University Press.
- The Division of Academic Enhancement. (2009). Retrieved from <u>http://www.uga.edu/dae/</u>
- Faigley, Lester. (2003). The challenge of the multimedia essay. In Lynn Z. Bloom,
 Donald A. Daiker, & Edward M. White (Eds.), *Composition studies in the new millennium* (pp. 174-187). Carbondale, IL: Southern Illinois University Press.
- Finkel, Donald L. (2000). *Teaching with your mouth shut.* Portsmouth, NH: Boynton/Cook.
- Fontaine, Sheryl I., & Hunter, Susan. (2006). *Collaborative writing in composition studies.* Boston, MA: Thomson Higher Education.
- Information Literacy. (2003). Association of College and Research Libraries. Retrieved from <u>http://www.ala.org/ala/mgrps/divs/acrl/issues/infolit/index.cfm</u>
- Kress, Gunther. (1999). "English" at the crossroads: Rethinking curricula of communication in the context of the turn of the visual. In Gail Hawisher & Cynthia Selfe (Eds.), *Passions, pedagogies, and 21st century technologies*. (pp. 66-88). Logan, Utah: Utah State University Press.
- Lanham, Richard. (1993). *The electronic word: Democracy, technology, and the arts*. Chicago, IL: University of Chicago Press.

Lanham, Richard. (2006). *The economics of attention: Style and substance in the age of information.* Chicago, IL: University of Chicago Press.

Online@UGA Homepage. (2009). Retrieved from http://uga.edu/online/

- Selfe, Cynthia L. (1999). *Technology and literacy in the twenty-first century: The importance of paying attention.* Carbondale, IL: Southern Illinois University Press.
- Smith, Lisa, & Pate, Mildred. (2007, May 27). *Extreme makeover: How collaboration and hard work improved English 1102 students' multi-genre projects*. Paper presented at the Atlanta Area Bibliographic Instruction Group Conference, Athens, GA.

Ulmer, Gregory. (2003). Internet invention. New York, NY: Longman/Pearson.

- The University of Georgia Libraries. (2008). Creative Research Assignment. Grading Guidelines. Retrieved from <u>http://www.libs.uga.edu/ref/univ1120/assessment.html</u>
- Yancey, Kathleen. (2009). *Writing in the 21st century*. Urbana, IL: NCTE. Retrieved from <u>http://www.ncte.org/library/NCTEFiles/Press/Yancey_final.pdf</u>

APPENDIX A: FIRST SURVEY

Part 1: Demographic Information

Age:_____ Gender (circle): M F Year in School:_____

Area of Major (please circle):

Agriculture	Human Sciences
Architecture, Design, and Construction	Liberal Arts
Business	Nursing
Education	Pharmacy
Engineering	Science and Mathematics
Forestry and Wildlife Sciences	Veterinary Medicine

Do you own a computer? Yes or No

If yes, is it a:

(if you own more than one, please circle all that apply or indicate multiples with a number)

PC Desktop	Mac Desktop	Other
PC Laptop	Mac Laptop	

If no, where do you use a computer when necessary and what kind is it? How much time do you normally spend a day on the computer?

Part 2: Use of Technology

- 1. What kind of technologies are you most comfortable or familiar with?
- 2. Where/how did you become familiar with those technologies?
- 3. What technologies are you hoping to become more familiar or comfortable with in this class?
- 4. Why do you want to learn these new technologies?
- 5. What was your motivation for taking this UNIV 1120 class? (Please pick the two most important.)

Needed 1 hour credit Wanted to become more familiar with computer technologies Wanted to learn how to create my own Web page Wanted to become more familiar with library resources Wanted to learn how to use iMovie or MovieMaker My adviser suggested it I just sort of wandered in 6. How do you feel about the experience of learning a new technology?

Excited	Nervous
Apathetic	Bored
Other	

- 7. What classes do you feel are appropriate venues for assigning technology assignments (like the one we will have completed here)?
- 8. In what other classes have you or do you expect to use technology extensively (as in, more than just word processing for papers)?
- 9. Do you view access to a computer as essential to your education at The University of Georgia? Why/why not?

Part 3: The Assignment

- How much time do you anticipate you will spend working on your presentation outside of class? (circle one) Less than ten minutes Between 10 and 30 minutes Between 30 minutes and an hour Between 1 hour and 2 hours More than 2 hours
- 2. Which do you think will be more difficult: mastering the technology you use or mastering the topic? Why?
- 3. Do you plan to use instructor office hours during the semester for extra help with the technology?
- 4. What have you been taught is the purpose of technology in the classroom?
- 5. Regardless of what you've been taught, how do you think technology works in the classroom?
- 6. Do you feel that right now you are prepared to complete the requirements for this assignment? Why/why not?
- 7. What do you feel is the purpose for this assignment?

APPENDIX B: SECOND SURVEY

Part 1: Demographic Information

Age:_____ Gender (circle): M F Year in School:_____

Area of Major (please circle):

Agriculture	Human Sciences
Architecture, Design, and Construction	Liberal Arts
Business	Nursing
Education	Pharmacy
Engineering	Science and Mathematics
Forestry and Wildlife Sciences	Veterinary Medicine

Do you own a computer? Yes or No

If yes, is it a: (if you own more than one, please circle all that apply or indicate multiples with a number)

PC Desktop	Mac Desktop	Other
PC Laptop	Mac Laptop	

If no, where do you use a computer when necessary and what kind is it? How much time do you normally spend a day on the computer?

Part 2: Use of Technology

- 1. What kind of technology did you use for your presentation?
- 2. Were you familiar with that technology before this presentation or did you have to learn something new?
- 3. Did you attend the classes that were specifically set aside as workshops?
- 4. If so, were they helpful? In what way or why not?
- 5. Did you visit your instructor during his/her office hours for further instruction on the assignment?
- 6. If so, were they helpful? In what way or why not?
- 7. If not, do you wish you had? Why or why not?
- 8. If you used a technology that you were already familiar with: Why did you choose to take UNIV 1120? And, where did you become familiar with that technology?
- 9. Did you use any new effects/applications in that program? Which ones? Why? If you used a new technology:
- 10. Why did you choose to take UNIV 1120?

- 11. How do you feel about the experience of learning this new technology?
- 12. What classes do you feel are appropriate venues for assigning technology assignments (like the one we completed here)?
- 13. Do you view access to a computer as essential to your education at The University of Georgia? Why/why not?

Part 3: The Assignment

 How much time did you spend working on your presentation outside of class? (circle one)

Less than ten minutes Between 10 and 30 minutes Between 30 minutes and an hour Between 1 hour and 2 hours More than 2 hours

- 2. What, if anything, do you wish you had done differently?
- 3. Now that you are finishing your project do you feel that giving the technology: helped you with understanding your topic, distracted your understanding of the topic, or neutral?
- 4. If you were grading the presentations, what criteria would you use?
- 5. What grade do you think you deserve on this project, and why?
- 6. Which was more difficult: mastering the technology you used or mastering the topic? Why?
- 7. Did class discussions/lectures/instructions help prepare you for this assignment? If so, how? If not, what would have been helpful?
- 8. Do you feel that now, at the end of class, you were prepared to complete the assignment?
- 9. What do you feel is the purpose for this assignment?

Part 4: Final Thoughts

- 1. What are your final thoughts about this assignment?
- 2. What was the most enjoyable part?
- 3. The least enjoyable part?
- 4. Sum up what you have learned from this assignment: technology, topic, and process.

APPENDIX C: CITATION ANALYSIS

Notes:

- "Print" and "Online" refers to method of access. Sources categorized as "Other" are not included in this designation as many times they would fall into neither category (i.e., a movie, photograph, or song).
- "Owned" and "Not Owned" refers to whether or not the item is owned by the UGA Libraries. Those "Not Owned" are sources likely drawn from a student's personal collection (including course materials from another class).
- Students were asked to provide a minimum of five sources from three of the following categories:
 - Book or book chapter
 - Scholarly/peer-reviewed article
 - Magazine article (popular or trade magazine)
 - Newspaper article
 - Film/TV/Audio clip
 - Web site (of academic quality reputable, up-to-date, and authoritative)
 - Government document

1. Spring Semester: Two undergraduate sections, sixteen students

	Print	Online	Owned	Not Owned	
Book	25	0	16	9	
Journal	3	13	12	2	
Magazine	0	6	5	1	
Newspaper	0	6	6	0	
WWW: gov		3			
WWW: org		9			
WWW: edu		3			
WWW: com/net		2			
WWW: news		3			
Other	19				
TOTALS	28 (excluding "Other")	45 (incl. Web sites)	39	12	
Note: Other sources included a dissertation abstract, an online governmental white paper, and visual sources like YouTube videos, film, and photos.					
	Print	Online	Owned	Not Owned /	
------------------	-----------------	----------------	----------------	--------------	
				Not	
				Accessed	
Book	22	3	21	3	
Journal	0	15	15		
Magazine	0	15	14	1	
Newspaper	0	17	16	1	
WWW: gov		7			
WWW: org		5			
WWW: edu		4			
WWW: com/net		14			
WWW: news		2			
Other	7	0			
TOTALS	22 (excluding	82 (incl. Web	66	5	
	"Other")	sites)			
Note: Other sour	rces included a	TV program tra	nscript and vi	sual sources	
like YouTube vic	leos and film.				

2. Fall Semester: Two undergraduate sections, twenty-one students

APPENDIX D: VIDEO TRANSCRIPT – The Polyphonic Classroom

The Polyphonic Classroom, a meta-multimodal video, offers a pedagogical model that uses collaborative instruction to draw attention to the relationship between information literacy and digital composition by providing an example process for a digital student project involving collaborative instruction. Collaborative teams composed of instructors and librarians can illuminate ways in which instructors often underutilize a library's main resource: its staff. Employing librarians as co-instructors rather than as one-day guest lecturers fosters an increase in both the breadth and depth of research skill development while embedding critical thinking skills into the curriculum. Each instructor should bring a particular expertise to the classroom but also have a voice in overall assessment and implementation of goals. Throughout the semester, the instructors and students work together to learn and create. A syncretic approach to assignment design, instruction, and research mirrors the students' task of forming a coherent project over the course of the semester by completing discrete task that build to a large-scale composition.

The project upon which our experience and research is based has several complementary goals, such as introducing students to the technology resources available to them, improving their research skills, and teaching them how to present their findings by employing a multimodal approach. The first task of the assignment requires students to define their research question. After two consecutive research workshops which cover searching the library's online catalog, utilizing a selection of databases, and using the Internet for academic research, students are asked to compile information they discover into an annotated bibliography. The annotated bibliography is the basis for the third part of the assignment, the movie script. Some students approach the script as they would a typical essay. Others compose a more performative paper incorporating sound effects, music, and dramatic narration. The final draft receives a grade, and the student will ostensibly record this version for the movie after taking any final comments into consideration. The students also receive instruction in the parameters of copyright law which equips them to gather legally available images, video, or sound clips for their movies. Several class periods are workshop days in which students compile images, audio, and film clips to produce a 3 to 4 minute documentary on their respective topics. The production of the movie you are now viewing has intentionally followed a similar process in order to provide a commentary on how this type of composition could work for building information literacy in various contexts. But instructors need not follow our exact example in order to enact polyphonic strategies in the classroom.

The final assignment for the course is a hand-coded Web site, which showcases the students' work including the embedded documentary movie files. Using HTML coding,

students also include internal links to their documentary scripts and annotated bibliographies as well as external links to pertinent sites about their topics.

Although everyone's institutional structure might not allow a project exactly like this, collaborative teams can come up with successful classroom plans according to their own situations. We suggest focus on developing a classroom that plays to each of the collaborative instructors' strengths and interests. In this way, collaborative instructorship improves the quality of pedagogy with the accumulation of expertise. Further interdisciplinary collaboration is an effort worth undertaking because, though many of us don't want to admit it, disciplinary insularism detracts from our ability to be wise, efficient researchers and to provide strong academic connections for our students.

It has become an expectation rather than an exception on both the part of the student and teacher that technology will be used in some way in the classroom. Our research finds that we should draw attention to the technology in the ways that it makes meaning rather than simply using these tools without thought to how digital environments create contexts. A collaborative approach such as the one that we suggest here can facilitate this goal.

In short, our goal for the collaborative relationship between instructors is to provide an instructional space where students can see research and technology integrated as both method of gathering information and method of information production. When collaboration, multiple literacies, and digital technology combine to form a model for blending information and computer literacy instruction, students are not only provided with new skills but with a way to think differently about their roles as information creators and consumers.

Interdisciplinary Knowledge Work: Digital Textual Analysis Tools and Their Collaboration Affordances

Monica E. Bulger Jessica C. Murphy Jeff Scheible Elizabeth Lagresa

In Laws of Cool: Knowledge Work and the Culture of Information, Alan Liu (2004) asks, "What is the relation between the now predominantly academic and other knowledge workers . . . who manage literary value in 'cultural context' and the broader realm of professional, managerial, and technical knowledge workers who manage information value in 'systems'?" Liu suggests that it is increasingly important for those of us in the humanities and arts to understand, engage with, and influence the modes of knowledge work that take place in information and corporate economies, and to think critically about the technologies we use to perform these types of knowledge work. While it is individuals rather than teams who traditionally perform knowledge work in the humanities, Liu challenges us to think differently. Adopting a traditionally corporate or scientific model of knowledge work means engaging in "teamwork," drawing upon the collective expertise of people with different backgrounds who share common interests. One approach to the project Liu calls for is to bring people together into such a "team," provide them with access to digital technologies, and have them use these tools to create visual representations of their analyses (referred to here as visualizations). This chapter discusses our experience of this approach in Alan Liu's "Literature+: Cross-Disciplinary Models of Literary Interpretation" course offered during the 2008 winter guarter at the University of California, Santa Barbara. We reflect on our experiences as both students and researchers, moving beyond local context to offer recommendations for interdisciplinary collaboration as a teaching tool and research practice of relevance to English studies and humanities scholar-teachers.

In the experimental graduate seminar/workshop, Liu (2008b) asked students to <u>form groups</u> around topics of their choosing and to perform analyses using digital tools on their materials. These groups could be "tight," centered on a specific text and methodology, or they could be "loose," sharing only a methodology or only a text. Our particular group was a "loose" team of graduate students from comparative literature, education, English, and film and media studies who used a set of digital textual analysis tools on a variety of texts. Our positive experience with this type of collaboration suggests to other researchers that a team can form

successfully and productively around a mutual interest, no matter how seemingly disparate its members' disciplinary backgrounds or research goals might be.

Interdisciplinary collaborative seminars/workshops are important to graduate study because they encourage students to think outside of their own disciplines while also thinking deeply about them. Thus, students and professors mutually benefit. Liu describes these courses as invaluable opportunities for student researchers and their professors to "scout new knowledges" (A. Liu, personal communication, March 2, 2009). In this chapter, we will share strategies for and benefits of interdisciplinary collaboration in a digital humanities context and describe our "new knowledges." In particular, our experiences working on a team with four people from four different disciplines forced each of us to attend more precisely to modes and methodologies of producing information and interpretations. The collaborative experience also challenged our fundamental assumptions about the technologies we use to analyze our texts and generate knowledge about them. This creative teamwork helped us acquire useful technical knowledge and generate the visualizations and interpretations of our texts that we discuss below. The visualizations in many cases also uncovered elements of our texts that would otherwise have gone unnoticed.

DIGITAL TOOLS FOR CLOSE READING

Textual analysis tools most suited the methodological overlap between our group members' disciplines because the materials we brought to the team for analysis-student texts, ballads, translations, and a theoretical piece-each required some kind of close reading. The process of close reading is, of course, a fundamental element of traditional textual interpretation, by which texts are carefully examined for connections or disconnections in content, form, language, or context. Textual analysis is a crucial element of close reading, and it seeks to identify patterns within a text, such as concordance or unity (Rockwell, 2005), meaning (Samuels & McGann, 1999), truth (Brooks, 1947), or rhetorical strategy (Bazerman & Prior, 2004). The digital textual analysis we undertook was influenced by Lisa Samuels and Jerome McGann's (1999) notion of "deformative criticism," a method of looking at texts that goes against the norms of traditional interpretive ways of reading to accommodate what one might understand as a more poetic engagement with a text, foregrounding formal patterns and rhythms of language, placing less emphasis on decoding buried meanings. Deformance involves not only reading the text against itself but also doing things to it. Samuels and McGann (1999) see methods of deformance, such as reordering,

isolating, altering, and adding as a means to access the text's "systemic intelligibility."

Deformative criticism need not be digital, but using digital tools to perform it on texts allows for faster computations and a higher degree of textual manipulation. For instance, a digital tool could isolate all of the verbs in Richardson's *Clarissa*, a notoriously long eighteenth-century novel, in seconds, as compared with the traditional practice of searching the novel page-by-page to find the verbs one at a time. Or, as another example, one could use a digital tool to analyze a large group of student papers in an attempt to find all of the times each of the students guoted from a particular source. But digital methods of analysis offer much more than mere volume; they serve a creative function too. As Geoffrey Rockwell (2005), the project leader for the Text Analysis Portal for Research (TAPoR), which is a collection of text analysis tools, claims: "The computer does not replace human interpretation, it enhances it." One of the main ways digital tools enhance interpretation is by shifting the focus from the arduous technical aspects of analysis (e.g., finding and counting the occurrences of a word) to the intellectual goals of the process. Willard McCarty (2005) articulates this notion as "making new knowledge by manipulating hypothetical constructs."

While blending Samuel and McGann's (1999) notions of deformance and McCarty's (2005) textual manipulation, our group also adapted Franco Moretti's (2005) practice of using digital tools to zoom out and view the broad structures and forms of texts. Zooming out allowed us to discover new connections and patterns not immediately visible in their traditional structures. We thus blended traditional methods of literary interpretation with digital textual visualizations to better understand the connections that underlay our chosen texts. By manipulating these hypothetical constructs, we found new and interesting ways to examine the texts with which we were working.

OUR PROCESS

Crucial to our collaboration and that of all of the groups in the Literature+ course was the wiki that Liu maintained as our project site (Liu, 2008b). The links to free textual analysis and visualization tools provided in the "toy chest," a section of the course wiki, ranged from literary characters in <u>Second Life</u> to digital concordances to tag clouds, with an ever-expanding list of possibilities. The "toy chest" was important to our group not only because it helped us find digital analysis tools; it also encouraged us to see ourselves as engaging in a kind of

"play" and provided us with the opportunity to create our own learning experiences.

Groups formed during our second course meeting when Liu asked the twenty or so students to describe a project they wished to pursue. As people described their interests, the groupings became obvious: one group wanted to study gaming, another comic strips, another a literary text (Alice in Wonderland) and its representations across media. Each of the members of our group, however, expressed a curiosity about textual analysis tools. We each had individual projects that did not share obvious connections to other projects, but we did share an interest in finding new ways to read our texts closely. Our group was multi-level as well as multidisciplinary, as we were each at different stages of our graduate careers. Elizabeth was a first-year graduate student from the Comparative Literature program and was interested in comparing and deforming translated versions of literary texts. Jeff was a third-year student in the Film and Media Studies department and wished to analyze the use of parenthetical phrases in theoretical texts. Jessica was in her last year in the English department and wanted to analyze feminine language use in ballads. And Monica was graduating from the Department of Education and wished to study the use of source materials in student texts. Each of us had played a bit with the tools, but no one could figure out a thematic or methodological connection beyond our interest in textual analysis.

Experimentation with the text analysis tools in the toy chest helped us find our common interest. For example, Elizabeth, after ruling out the word cloud (used to visualize a ranking of the frequency of words within a text) and diagramming features of TAPoR, found that <u>Babylon</u>, an online translation tool, processed her texts in a way that better complemented her research goal of deforming translated versions. Jessica also experimented with word clouds, but did not feel they offered an acceptable level of precision. It was the word trees (used to visualize individual word, phrase, or punctuation concordance within one line of text to reveal recurrent usage patterns) generated through <u>Many Eyes</u> that provided the networks of words needed for her analysis.

We quickly moved from experimenting with the tools on our own texts to experimenting with one another's. Each of us selected a tool and then ran other members' materials through it. For instance, Elizabeth found that Babylon most accurately translated Monica's student texts and was least accurate when translating Jessica's ballads. This discovery informed her assessment of Babylon as an appropriate tool for analysis. Likewise, Jessica created digital concordances of each group member's text. As shown in Figure 1, Jessica used Many Eyes to diagram the use of "I" in two of Monica's student essays. While not a direct focus of her research, Monica reported that seeing the words that directly followed "I" in graduate student texts was useful, especially when compared with the used of "I" in undergraduate texts. In these examples, the exposure to the wide range of texts that formed our interdisciplinary team subsequently informed the discovery and assessment of our chosen tools' capabilities and limitations.



Figure 1. Many Eyes diagram of "I" in graduate student text.

By the middle of the quarter, we started to refine our research questions and report preliminary observations. At this point, we engaged in much questioning and clarification. We explained jargon from our fields, which seemed easy enough. The challenge, though, lay in our group's "so what?" questions. Why, for example, would Derrida's use of parenthetical phrases matter? Or, why would paraphrasing versus direct citation in student texts matter? So what? The questions that we asked one another as we searched for connections among our work forced us to reconsider our disciplinary assumptions and explain our research pursuits.

It was in the second half of the class—the workshop portion—that the links among our projects started to become clearer (<u>Liu, 2008a</u>). As we worked together and individually on our texts, we discovered shared methodologies; in particular, we learned that we enjoyed using tools against their intended purpose. When faced with a selection of tools that did not quite fit our research aims, each of us figured out ways to repurpose those tools. Thus, Monica used <u>Pairwise</u> (2005), by design a punitive tool for plagiarism detection, to study students' composition practices. In particular, she used the tool to compare online source texts with student texts to find instances of paraphrasing and citations in students' essays (Bulger, Murphy, & Lagresa, 2009). Likewise, Jeff used the font color feature in Microsoft Word to isolate Derrida's use of parentheses; he used a word processor to deconstruct the text of a deconstructionist. At the end of the course, as we prepared to present our findings to the larger workshop group, we were surprised by how deeply related our research had become.

OUR STRATEGY FOR PRODUCTIVE COLLABORATION

Facing the possibility of disciplinary discord and the challenge of using new digital tools, we managed to engage in a productive collaboration because of the four principles that were the foundation of our collaboration:

- 1. Respect for one another's work
- 2. Commitment to process
- 3. Sense of play
- 4. Flexible expectations

Despite disciplinary differences, we demonstrated a fundamental *respect for one another's work*. That respect was evident in our patience and willingness to pursue collaboration even when we did not fully understand one another's research goals. Thus, while tempting and possibly easier to pick a thematically unified project, such as an analysis of gendered language in the broadside ballads, we continued to pursue our individual analyses in a collaborative fashion. We engaged with texts outside our discipline, each applying the tools we found to our team members' texts. Once we ran the texts through our respective digital tools, we discussed their benefits and drawbacks. We trusted one another's expertise and considered applications of our team members' methodologies and theoretical approaches to our own work.

The outcome of a given research project is often prioritized over the process, but in our group (and in keeping with the embedded knowledge-work philosophy of the class more generally) there was a *commitment to process*. In framing our class assignment, Liu gave equal weight to both process and outcomes, as evidenced by the workshop portion of the course. He scheduled in-class workshop sessions—during which each group met to work on their respective projects—to give us time to experiment with our process. This time was important because, as graduate students engaging in interdisciplinary work, each of us was already pulled in several directions, and the scheduled class time allowed us to complete our analyses collaboratively. In a sense, we borrowed our collaborative approach from the sciences by experimenting with processes that may or may not yield an end result. Throughout our collaboration, we often expressed confusion about where we were going, but we remained committed to the process of discovery. To work together, we had to develop a degree of understanding of one another's work. Part of our process, therefore, was to become literate in one another's disciplinary concerns, assumptions, and methodologies. This is not to say that we became experts; instead, we developed a shared literacy with which we could communicate effectively. That shared literacy resulted in continued challenges to our disciplinary assumptions, which contributed to the strength of our process.

As stated earlier, naming the resource page of our course wiki a "toy chest" established a sense of play; that is, Liu encouraged us to "play" with the tools. Elizabeth most strongly demonstrated this spirit in her tinkering with translation software. She translated our texts into Spanish and then back into English to see which themes remained, were lost, or even transformed. Jessica's text was in irregular early modern English spelling, and the translation software did not recognize many of the words or it translated them incorrectly in comical ways. For example, the opening of the poem in English, "Shall I wrestling in dispaire, / Dye because a womans faire, / Shall my cheeks looke pale with care / Cause anothers rosie are" becomes "Shall I struggling in dispaire, Tint because a woman faire, cheeks looke my pale with care" (A new Song of a Young mans opinion, undated). While Jessica's tendency might have been to preserve the text as it appeared on the page, Elizabeth suggested entering the text in modernized spelling. Jessica reported that this new and more playful way of working with the text was much richer than it might have been without its modernization. The repurposing of the tools we mention above also grew from this sense of play. When Jeff first showed us his Microsoft Word document that had all of Derrida's text in white, with the exception of parentheses in black, Jessica laughed and said "those look like electrophoresis slides" because of the scattered appearance of the lines (see the image of gel electrophoresis in Figure 2). In his final analysis, Jeff described the look of his pages as "DNA electrophoresis" as a nod to Jessica's initial observations (see Figure 5).



Figure 2. Gel electrophoresis (visualization play).

As this example shows, we were more willing to take risks with texts that were unfamiliar and new to us. In fact, that unfamiliarity was a significant catalyst for textual analysis—the texts became strange and new, which allowed for a richer reading.

We entered our collaboration with *flexible expectations* of our end product. We each had research questions we wished to pursue and an interest in digital textual analysis, but beyond these similarities, nearly every aspect of our collaboration was open to change. That flexibility was crucial to interdisciplinary collaboration because it left us open to learn. It was challenging to maintain a flexible vision, though. At times, we were concerned that nothing would result from our collaboration. Ultimately, however, our sense of the knowledge work we were engaging in together kept us resolutely adaptable. These four principles (respect for one another's work, commitment to process, sense of play, and flexible expectations) were important to the success of our collaboration, and their constant renewal in each of our meetings kept them at the forefront of our minds.

OUR METHOD FOR ANALYSIS

Despite our initially "loose association," we collaboratively developed a sevenstep method for analyzing our texts. The method shifts from macro to micro to macro analysis, zooming in and out as with a camera lens. We began by selecting a work, then moved to small units of text and steadily worked toward identification of patterns and overarching thematic elements. The early steps of the process allow for collaborative analysis before ascending into disciplinespecific complexity. The seven steps are as follows:

- 1. Develop research question.
- 2. Select texts.

- 3. Break texts into micro-elements (e.g., at the level of individual word or punctuation mark).
- 4. Select tool for analysis.
- 5. Use functionality provided by digital textual analysis tool to filter, isolate, count, categorize, aggregate, and so forth.
- 6. Render the results visually.
- 7. Use visual representation as basis for higher-level interpretive analysis.

Many of these steps occur in non-digital textual analysis; however, given the functionality afforded by digital tools, we performed much of the analysis collaboratively that is usually completed by a single individual. Digital tools allowed us to see texts through our team members' lenses and contribute to the analysis by preparing texts and performing initial analyses for one another. To illustrate our seven steps, and how we advanced our individual projects while collaborating in an experimental research team, we will draw on a case study: Jeff's "Digitally 'Whiting Out' Derrida with Microsoft Word."

Step 1: Develop research question. Prior to entering our collaboration, we independently pursued research in our chosen fields. Within our collaboration, we preserved our diverse research directions. Our research questions were developed individually, and while we were flexible about our expectations of the end product, we each remained committed to our fundamental research goals. Jeff was interested in focusing on parentheses in Derrida's essay "Signature Event Context" (first presented in 1971). He began with an informed intuition that they have both quantitative and qualitative significance: there are a number of parenthetical phrases, and honing in on them promised to resonate with and perhaps even shed light upon Derrida's interests in the essay and in his philosophy of writing more generally. In the essay, Derrida discusses qualities of communication and writing that move beyond meaning, and he is interested in terms such as mark, displacement, saturation, and so forth, which characterize inscriptive functions the parenthetical phrase in particular foregrounds. Given that Jeff wanted to take the parenthesis as a sort of unit of analysis, or unit of deformance, to approach Derrida's essay, he then wanted to figure out the best way to work, and get creative in a meaningful way, with the essay's parentheses.

Step 2: Select texts. Selecting texts for close reading actually occurred as part of Step 1. This step, however, refers to the selection of texts appropriate to digital textual analysis. Some of us had to create digital versions of our texts, while others had to prepare texts for analysis. In Jeff's case, for example, he wanted to have multiple versions to work with to control for variations in translation styles

and reading experiences. He worked with the original French version of "Signature Event Context" and two different English translations, one of which was found online. He scanned the other two through optical character recognition software to generate digital files, which he was then able to convert into Microsoft Word documents.

Step 3: Break texts into micro-elements. In this step, we determined the scope of our analyses by focusing on specific textual elements. For example, Jessica focused on the use of *I* and *you*, while Jeff examined patterns of parenthetical phrases. Our commitment to a focus on these micro-elements informed our tool decisions.

Step 4: Select tool for analysis. We used functionality, accessibility, and applicability as our guidelines for selecting tools. We tested the functionality, or capabilities, of each tool. For example, when building tag clouds, we evaluated the extent to which we could control the analysis and appearance setting, whether we were able to save the resulting image to our personal computer, and if we could consistently recreate the visualization/analysis. We also considered accessibility; for example, Jeff's choice to use Microsoft Word, a widely available program, meant that each team member could experiment with isolating text elements using font color. We also evaluated applicability, or relevance to our research questions. Just as children would behave around a true toy chest, we discovered many fun and potentially distracting tools. While exciting and interesting, many were not relevant to our work. Within the framework of play, we tested tools for one another, considering how various functionalities applied to team members' research goals.

Jeff was not exactly sure what the "work" of isolating parentheses and parenthetical phrases in Derrida's essay would entail, but importantly he wanted that process to emerge relatively organically out of a balanced consideration of the other tools and texts his project collaborators were working with and of the relationship between the user and the technology. There are many applications that allow users to do interesting things with words in texts, such as tag cloud generators, but there are considerably fewer that accommodate analogous procedures with punctuation marks. However, <u>Many Eyes</u> does allow users to search text by punctuation marks, thereby making visible patterns of languages that surround a given mark. When experimenting with Many Eyes for the team, Jessica ran Derrida's essay through it, and while it was provocative to see the frequency with which various words surrounded parentheses in the essay, in terms of Jeff's interests in the essay, he was ultimately unsatisfied with the information it generated and with the aesthetics of the output (which is to say that it did not capture the artfulness of Derrida's writing style). Our group had many such moments—visualizations that did not lead anywhere, findings that were underwhelming. As with teamwork one might see in the sciences, though, it is important to remember that failures can be as significant as, and sometimes even more important than, successes.

Being surrounded by a group of people experimenting with a wide range of digital tools helped us question just what a tool is in the first place. It occurred to us that scholars do not necessarily need to turn to new, specialized software and technologies to play with text. A textual analyst can take texts apart with the same word processing applications he or she uses to write them. Thus, Jeff considered Microsoft Word a tool for Joseph A. Schumpeter's (1942) "creative destruction" (as cited by Liu, 2002) by which we, "from within," use the technologies and commodities of (post-)capitalist societies to defamiliarize the familiar as a means of engaging in creative acts and aesthetic inquiry.

Microsoft Word, after all, is fundamentally a textual "toolbox" that many of us use everyday. In fact, when it was first released in 1983, its name was "Multi-Tool Word." It has since replaced "multi-tool" with the name of the corporation that owns Word, though the metaphors the program draws upon are very much enmeshed in skeuomorphic terms that refer to functions of tools that predate the computer. It has a "Tools" menu, in which spelling and grammar checking functions are located, alongside language counters, language preference settings, and much more. Another menu features icons such as scissors and paintbrushes that find computer word processing analogies with tools of older media forms. The features in the "edit" menu group several everyday metaphors for manual operations that the application performs—"cut," "copy," "paste," "undo," and "redo." This list in particular might remind us how the process of writing is often already a process of deformance.

Step 5: Use functionality provided by digital textual analysis tool to filter, isolate, count, categorize, aggregate, and so forth. This step was the initial realization of our research question. Here, we performed digital textual analysis and generated preliminary results. The process varied for each of us, with Elizabeth uploading files to a program that quickly delivered results and Monica's laborious uploading of 150 student essay files and 30 online source texts. One example of filtering is the numerical data generated by Monica's use of Pairwise (see Figure 3).

File Name	Score	
name:102607MIRAMAR 22	= 14	
name:10407Gaviota 07	= 9	
name:110807Miramar 14	= 8	
name:110107Miramar 23	= 7	
name:102607Miramar_14	= 5	
name:102507Ouant 112	= 2	
name:10407Gaviota_05	= 2	
name:10407gaviota 21	= 1	
name:10207gaviota 18	= 0	
name:10407gaviota 22	= 0	
name:110107miramar 07	= 0	
name:110807miramar 22	= 0	
name columbia, 120107	= 0	
name:110807Miramar 23	= 0	
name:102507quant_122	= 0	
name:110807miramar 02	= 0	
name:10407Gaviota_16	= 0	
name:110107miramar 22	= 0	
name:10407Gaviota_15	= 0	
name:10207gaviota 24	= 0	
name:110807Miramar_24	= 0	
name:10207Gaviota_07	= 0	
name:10407Gaviota_13	= 0	
name:102507Quant_119	= 0	
name:10407Gaviota_25	= 0	
name:110107miramar_16	= 0	
name:10207gaviota_08	= 0	
name:110107Miramar_17	= 0	



In Figure 3, the left column lists the file name of each student essay and the right column lists the percentage of similar phrasings compared against a single source text, in this case an article from *Christian Science Monitor* (labeled at the top as "cse_10207"). Monica examined texts with higher than five percent similarity in order to study whether students quoted, paraphrased, or exactly copied online source texts in their essays.

Jeff used Microsoft Word to perform what Samuels and McGann (1999) refer to as "isolating" deformances, critical practices that single out parts of a text. In keeping with his research question, Jeff chose to isolate parentheses and parenthetical comments in the different documents. The process of isolation involved, first of all, selecting all the text, a feature in the Edit menu, then making the font color of the text white (Format > Font > Font color). He then highlighted all the parentheses black by using the "Replace" function in the Edit menu. When there, he entered an opening parenthesis in the "find what" field, then in the "replace with" field, entered an opening parenthesis again, and in order to highlight it, had to expand his options by choosing the down arrow, which opens up a "format" option, where one can select "Highlight." Jeff then "replaced all" so that all the white opening parentheses in the document were replaced with white parentheses that were highlighted black. He repeated the same find and replace function on all closing parentheses. The result of this experiment was saved in a document as one deformance.

Step 6: Render the results visually. Until this step, we were basically using the digital tools to do traditional readings, but faster. Because we firmly believed that methods drawing upon digital technologies do more than just increase the volume and scope of what a person can process, we produced visual representations of our results for analysis.

While Steps 3 through 6 were performed collaboratively with each of us testing one another's texts with our chosen analysis tool, the higher-level interpretive analysis required discipline-specific knowledge. Just as our formulation of research questions and selection of texts were performed independently, so was this last step. Figures 4a and 4b provide samples of our initial results.



Figure 4a. Elizabeth's diagram of <u>Crawdad</u>'s tree-flow visualizer, which provides a network model of the most influential words in a text along with their level of interconnection.



Figure 4b. Monica's diagram of source use in student essays.

Jeff's deformed "Signature Event Context" is nineteen pages of white space with scatterings of narrow black strips with white parentheses inside them. He printed these pages out and laid them side-by-side in a few rows on the floor of his home and took photographs of these texts to generate yet another visualization of the deformed essay that allows one to see multiple pages at once. He did this to afford a better overall visual sense of the patterns of parentheses in the text that he felt would be more difficult to see page by page on a computer screen. A valuable benefit of collaboration came at this stage, too, when he could share his visualizations with team members as he generated them. As mentioned previously, Jessica, for example, noticed the ways in which individual pages of this deformance and the photographs of multiple pages of this deformance, resemble scientific diagrams, such as a DNA electrophoresis maps with scattered bars (see Figure 2). It is as though the visualizations outline the essay's genetic makeup, indicating just how many parenthetical chromosomes there are in its biological composition.



Figure 5. Visualization created using Microsoft Word.



Figure 6. "Signature Event Context," four pages side by side, just the parentheses highlighted.

The images of isolated, highlighted parentheses shown in Figures 5 and 6 are visually informative, but without words, they have little to say about the actual content of Derrida's writing. In an effort to justify the significance of this seemingly obscure project to the rest of the team (again, part of the value of teamwork is the consistent self-evaluation that happens due to knowing your accountability to others), Jeff decided to make other deformances to think more qualitatively about the essay's parentheses. To do this, he started with the original document of the previous deformance and next—with all the parentheses highlighted, surrounded by white text that was indistinguishable from the white background of the computer screen—changed all the text in between highlighted pairs of parentheses from white to black, parenthetical by parenthetical. He then deleted all the highlighted parentheses surrounding the bits of parenthetical text. In this deformed version of the text, then, there are nineteen pages of scattered text—sometimes single numbers or words, and sometimes quite lengthy notes of just the text's parenthetical content, with the nonparenthetical text and the parentheses themselves "whited out," to borrow a metaphor from another manual operation to apply to this digital context (see Figure 7).



Figure 7. Just the parentheticals.

Step 7: Use visual representation as basis for higher-level interpretive analysis. Jeff's deformances white out sections of text, maintaining the spatial relationships between words and parentheses within the document. With the essay's spatiality intact, especially when the pages are laid out side by side, one can observe that parentheticals proliferate in the essay as it proceeds, as if "infecting" the essay itself with the displacement and supplementation of philosophical thought. In his interpretative analysis of these deformances, Jeff argues that this is quite significant for a variety of reasons—for example, as a grammatical performance of Derrida's deconstruction of traditional philosophical writing. If Jeff had not whited text out with Microsoft Word, he would not have realized this systemic quality and pattern of parentheses in the text, nor would it have occurred to him to look for it.

As the example of Jeff's project shows, our seven-step method of collaboration in digital textual analysis yielded some surprising results. When we began working together, we certainly did not consider that the program we all used to take our meeting notes would work to create an aesthetic and analytic representation of one of our texts.

PRACTICAL APPLICATIONS OF JEFF'S DEFORMANCE

Looking at the actual content of the parentheses without the theoretical density of the rest of the text was quite helpful in bringing much of the essay's significance into sharper focus. In fact, we would all highly recommend teaching dense theoretical texts to students by having them perform parenthetical deformances or similar operations that isolate textualities. Since parentheticals are often spaces in which authors attempt to clarify or qualify the nonparenthetical text around it, one notices that in his parentheticals, for example, Derrida clearly makes his main points and identifies his conceptual concerns, which could otherwise easily be overlooked amidst the dense text. (Normal reading practices might encourage us to gloss over parentheticals, as we often read them as optional parts of a text we could do without.) Secondly, as parentheses are often a site of citation, glossing an essay's parentheses in isolation also maps out what we could refer to as the text's discursive field of references. In the case of "Signature Event Context," this parenthetical mapping provides an informative point of entry into understanding Derrida's engagement with other philosophers.

In addition to using Microsoft Word to write essays about other essays, books, and works of art, then, scholars, teachers, and students should also use it as a tool to un-write their objects of study, to turn them into their own works of art, and to learn from them in new ways. Without having to suffer the inevitable learning curves that accompany using new software, it is worthwhile spending time thinking about more creative ways to use familiar software against their conventional and intended uses. It is important to remember that tools are just as much for taking things apart as they are for making them (Manovich, 2001). Microsoft Word, which presents itself as a box of metaphorical tools, might indeed be thought of as a toolbox not only for writing but also for de-writing and re-writing already "finished" writing. One can use it to find and replace; change font color; draw tables; track changes; leave comments in text balloons; highlight; reconfigure margins and line spacing; and much more. In this sense, our knowledge work not only models itself after systems of creation in the corporate world, but it also takes inspiration from digital remix cultures, transforming and sampling from pre-existing media objects into new, creative media objects (Jenkins, 2006).

WHAT WE LEARNED FROM OUR INTERDISCIPLINARY COLLABORATION

Given the diversity of our interdisciplinary team, collaborative textual analysis would seem challenging from the outset. While we shared interest in textual analysis theoretically and methodologically, our interests diverged in the theoretical and methodological approaches to the texts. For example, Elizabeth's work compared different translation versions of a Golden Age play, while Jeff's work considered the rhetorical function of parenthetical phrases. Both engaged in textual analysis, but for different purposes. As a starting point for our collaboration, the digital tools became a means to interact with one another's texts. Performing filtering processes on one another's texts, through sampling, sorting, aggregating, and counting, enabled meaningful engagement with both the theoretical and methodological approaches of our team members.

Liu's vision of collaborative knowledge work in the humanities structured our pursuits. Within the framework of his graduate course, we adopted a sense of play with our texts and the textual analysis tools we used, while sometimes simultaneously feeling overwhelmed by our disciplinary differences. Educators would call these challenges "teachable moments," and indeed, Liu's course provided many moments of insight into the inner workings of interdisciplinary collaboration.

Our use of digital textual analysis tools opened doors for us to accomplish what is usually impossible in any form of collaboration, let alone an interdisciplinary one. In the early steps of our process, digital textual analysis allowed us a means of deeply exploring one another's texts. As we played with the tools and experimented to find functionalities that fit our research questions, we continually interacted with and examined our diverse corpus. Thus, we moved beyond the usual discussion of one another's work and, through the use of the tools, contributed to one another's analytical processes.

In addition to filtering one another's texts, we also assisted in rendering the results visually, as shown in Figures <u>1</u>, <u>2</u>, <u>4</u>, and <u>5</u>. Visualization tools allowed us to concretize abstract concepts by illustrating the basis for our analyses. For example, Jessica's word trees diagrammed the relationship of words that suggest female agency in the ballads, such as *I* and *you*, and Jeff's isolation of parenthetical phrases showed their increased occurrence in later parts of "Signature Event Context." Through these visualizations, we were able to, in effect, "see" what our interdisciplinary partners look for in their textual analysis and, through discussion, view the texts through our partners' lenses. This practice enabled in-depth understanding of interdisciplinary approaches to analysis and a deeper understanding of one another's topics.

Whether in the classroom or beyond, collaborative work places high demands on researchers. Participating in deeply interactive collaboration with colleagues from a variety of disciplines requires researchers to master a level of literacy in their team members' disciplinary approaches. As our process demonstrates, these shared literacies are developed through much discussion, practice, error, and play. We found that our team members' disciplinary approaches forced us to reconsider our assumptions about their work and our own in valuable ways. As researchers attempt to understand and engage with one another's analytical processes, they will be challenged, as we were, to make their own processes visible.

Response: "So What?" New Tools and New Humanities Paradigms

Alan Liu

In a recent article entitled "Digital Humanities and Academic Change" (Liu, 2009), I recount a formative incident in my career as a digital humanist when, in a meeting with faculty from other disciplines studying information technology, we went around the table and gave examples of our work. After a dose of advanced literary interpretation from a colleague, I recall, a computer scientist "rocked back in his chair, folded his arms, and, after a pause, asked: 'What was that for?'"¹ Brusque as he was, the engineer who asked the question was less dismissive than genuinely curious and open-minded. Indeed, what is humanities-style reading or interpretation for? What does it help build, design, or change? What might an engineer interested in working across disciplines learn from it?

I am struck by a similar question in Monica Bulger, Jessica C. Murphy, Jeff Scheible, and Elizabeth Lagresa's chapter: "So what?" After acclimating to each other's assumptions and vocabularies, they faced the inevitable challenge of so what? Why, for example, would Derrida's use of parenthetical phrases matter? Or, why would paraphrasing versus direct citation in student texts matter? So what? The questions that we asked each other as we searched for connections among our work forced us to reconsider our disciplinary assumptions and explain our research pursuits.

Like the engineer's *what was that for*? the *so what*? question from outside one's discipline—the question that demands that one justify one's assumptions, methods, and goals to those working in other research paradigms—has the potential to be hostile.² It is like the border guard or immigration officer's challenge: So you are esteemed and credentialed in your own country. So what? But as in the case of the engineer's *what was that for*? Bulger, Murphy, Scheible, and Lagresa's *so what*? ultimately opened, rather than closed, borders of knowledge.

¹ See pp. 25-26 for the incident I recount. The engineer was Kevin Almeroth of my campus's Computer Science department. The meeting, which occurred in March 2004, was called by my campus's Center for Information Technology and Society to explore possible grant projects involving scholars of information technology from multiple disciplines.

² See also Liu, 2005, which responds to the *huh*? question—mainstream society's reaction to literary study, the humanities, and the digital humanities—ventriloquized in Joanna Drucker's (2005) review of my *Laws of Cool: Knowledge Work and the Culture of Information* (Liu, 2004). My meditation on *huh*? responds to reviews of my book in the same issue of *Criticism* by Drucker and N. Katherine Hayles (2005).

The strategy for doing so is collaboration, which their essay crisply defines in four principles: "respect for one another's work, commitment to process, sense of play, and flexible expectations." While researching corporate culture for my Laws of Cool: Knowledge Work and the Culture of Information (2004), I came across many definitions of collaboration and teamwork. Few seem to me as true and well formulated as this. Respect for one another's work opens a space of tolerance within so what? Commitment to process provides a structure—not to mention a space and time—for the conjecture to play out. Sense of play activates what is really crucial in playing out such conjecture: play, which prevents process from becoming just routine by dedicating it to open-ended discovery. And *flexible* expectations means facing up to the consequences of discovery: not just the reward of expected results but the real risk of failure. ("At times," Bulger, Murphy, Scheible, and Lagresa recall, "we were concerned that nothing would result from our collaboration.") Or, better: result versus failure may be understood according the paradigm of "modeling" that Willard McCarty (2005) explores in his Humanities Computing. It is less a binary opposition than a process of ameliorative iteration. One fails, and then one learns what went wrong and tries again. The academy calls this *education*, which now expands through collaboration beyond the more traditional, and far lonelier, paradigm of individual humanities failure and learning.

Especially relevant for this volume is how such a strategy of collaboration and learning can be facilitated—indeed, modeled—by digital tools. In this light, the initial problem is the notion of tools itself, which-along with ideas like applications or, more recently, analytics-has often been adopted without adequate interrogation by digital humanists under the pressure of grant competitions requiring *deliverables*. Some historical perspective is useful: there are tools, and then were/will be tools. Tools that connote precision, analytical metrics (they measure and provide feedback even as they operate), slaving to specifications, exact repeatability, and so on-that is, the whole program of rationalism implemented through Taylorism (the ghost of Frederick Winslow Taylor measuring work processes with stopwatch in hand still haunts our dreams)—are of specifically modern vintage. Such tools do not agree with the longer premodern history, and even prehistory, of tools-for example, an axe or hammer handled with considerable play between their technique and technology, as when we say that even a well-oiled machine part, not to mention a musical instrument, has *play* in it. (For a discussion of technique versus technology, see Liu, 2004, pp. 294-297, and Liu, 2008c, pp. 187-188.) And they do not now coincide with the postmodern (postindustrial) understanding of tools. Applications or "apps" for the iPhone may be a perfect symbol of the latter. Some apps are functional and rational. But many are just playful. And this is not even to consider the delicious overlap between functionality and play—called *design*—that is part of the very mystique of contemporary tools (for which perhaps no corporation today is more famous than Apple).

As recently as poststructuralism, humanities researchers lived under a contradiction by which the *theme* of their research was all about play (e.g., Derrida [1978] on language as play, Barthes [1974] on connotation, and Deleuze & Guattari [1986] on rhizomes) while the *practice* of their research—at least the kind that gets jobs and tenure—was all about rigor. Hence, adherents of deconstruction, especially in the ascetic style of Paul de Man, demanded both play (like letting students run wild through the streets of Paris in May 1968) and—a word that comes up with disturbing frequency in the deconstructive school—*rigor.*³ To adapt Foucault's (1965) adage about madness, rigor bound play "to Reason, to the rules of morality and to their monotonous nights" (p. 64). Of course, it would be unfair to ascribe this contradiction just to deconstruction. It went back at least to the New Criticism and, more generally, to formalism, whose "close" and technical reading methods taught us at once to play with language and, rebuffing the preceding era of belle lettrism, to grind out ever more hard, difficult, unpleasurable, and agonistic ("ironic," "paradoxical") readings.⁴

By comparison with such humanities research, I venture, engineers had more fun. The function of advanced digital tools today is to restore the sense of play in humanities research by baking into humanities methodology at a low level the principles of collaboration outlined by Bulger, Murphy, Scheible, and Lagresa. When I say "advanced" digital tools, I mean Web 2.0 tools with highly-evolved information architectures across all the "resource" (back-end), "service" (middleware), and "client application" (front-end) tiers. (For a view of the underlying information structure of Web 2.0, see Governor, Hinchcliffe, & Nickull, 2009). But as Bulger, Murphy, Scheible, and Lagresa delightfully show, even apparently workaday digital tools older than the Web itself—for example, Microsoft Word—can be used against the grain to defamiliarize what we thought we understood about the way humanities discourse works. The important point is that the engineering, as it were, is now finally (or at least mainly) under the hood.

³ For a critique of the "rigor of deconstruction," see the section on "De Rigueur, or the Charisma of Routinization" in John Guillory's (1993) *Cultural Capital: The Problem of Literary Canon Formation.* Guillory's reading of deconstruction is especially interesting in the present context because of its thesis that deconstructive rigor is "technical," "a kind of technology," and "a mimesis of the technobureaucratic itself" (pp. 201, 206; see also pp. 181, 257).

⁴ Besides American New Criticism, for instance, there was the earlier paradigm of Russian Formalism with its emphasis on what Victor Shklovsky (1965) called "Art as Technique."

Humanists no longer must, though they should, learn HTML to hop on the information superhighway. All they have to do is drive the new blog, wiki, social-networking, textual-analysis, visualization, mapping, mashup, machinima, visual programming, and other software engines. Tooling down the information superhighway in these new machines, we can at last look up from managing low-level routines to see the world as it appears from the technical platform, while, reciprocally, we can also look at the social, political, economic, and cultural nature of the technical platform from the perspective of the world.⁵ These new information engines have lots of rigor and precision. But their rationality has not yet been fully rationalized. Indeed, in a manner hearkening back to 1970's cyberlibertarianism, they often seem ideologically biased against rationalization. Or, at least, they are in an open space where it is unclear whether they are rational or not. It is ambiguous, for example, what some of the new information engines (e.g., Twitter) are actually *for*, let alone what their business model might be. *What was that for*? and *so what*? can fairly be asked about all of them.

The new software machines encourage humanists to rev them up. The goal is to open up reading and interpretation to such new digital methods capable of flexing between rigor and play as "distance reading" (Moretti, 2005); "modeling" (McCarty, 2005), and "deformance" (<u>McGann & Samuels, 2001</u>).

When I designed <u>my Literature+ course</u>, I called such tools or machines "toys." That may be the most important move I made.

⁵ My observation that humanists no longer must look under the hood of the new information technologies does not mean that they *shouldn't* look under the hood. Part of my practice in research and pedagogy on information culture has been to insist on getting hands-on enough with the technologies that humanists can use them not just as applied tools but as thinking tools—something one both sees through and sees as an object of thought.

REFERENCES

- Barthes, Roland. (1974). *S/Z* (Richard Miller, Trans.). New York, NY: Hill and Wang.
- Bazerman, Charles, & Prior, Paul. (2004). Intertextuality: How texts rely on other texts. In Charles Bazerman & Paul Prior (Eds.), What writing does and how it does it (pp. 83-96). Mahwah, NJ: Lawrence Erlbaum.
- Bulger, Monica E., Murphy, Jessica C., & Lagresa, Elizabeth. (2009, March). Digital textual analysis: Potential for research and practice. Paper presented at the Conference on College Composition and Communication, San Francisco, California.
- Brooks, Cleanth. (1947). *The well wrought urn: Studies in the structure of poetry.* New York, NY: Harcourt, Brace, and World.
- Deleuze, Gilles, & Guattari, Félix. (1986). *Kafka: Toward a minor literature* (Dana Polan, Trans.). Minneapolis, MN: University of Minnesota Press.
- Derrida, Jacques. (1978). Structure, sign and play in the discourse of the human sciences. In *Writing and Difference* (Alan Bass, Trans.) (pp. 278-293). Chicago, IL: University of Chicago Press.
- Drucker, Johanna. (2005). Humanities games and the market in digital futures. *Criticism* 47, 241-247.
- Foucault, Michel. (1965). *Madness and civilization: A history of insanity in the age of reason* (Richard Howard, Trans.). New York, NY: Vintage.
- Guillory, John. (1993). *Cultural capital: The problem of literary canon formation*. Chicago, IL: University of Chicago Press.
- Governor, James, Hinchcliffe, Dion, & Nickull, Duane. (2009). *Web 2.0 architectures*. Sebastopol, CA: O'Reilly.
- Hayles, N. Katherine. (2005). Attacking the borg of corporate knowledge work: The achievement of Alan Liu's *The Laws of Cool. Criticism*, 47, 235-239.

- Jenkins, Henry. (2006). *Convergence culture*. New York, NY: New York University Press.
- Liu, Alan. (2002). The future literary: Literature and the culture of information. In K. Newman (Ed.), *Time and the literary* (p: 62). New York, NY: Routledge.
- Liu, Alan. (2004). *The laws of cool: Knowledge work and the culture of information.* Chicago, IL: University of Chicago Press.
- Liu, Alan. (2005). Understanding knowledge work. Criticism, 47, 249-260.
- Liu, Alan. (2008a). Literature+. *Currents in Electronic Literacy*. Retrieved from http://currents.cwrl.utexas.edu/Spring08/Liu
- Liu, Alan. (2008b). Literature +: Cross-disciplinary models of literary interpretation. Retrieved from <u>http://www.english.ucsb.edu/courses-</u> <u>detail.asp?CourseID=2010</u>
- Liu, Alan. (2008c). Local transcendence: Essays on postmodern historicism and the database. Chicago, IL: University of Chicago Press.
- Liu, Alan. (2009). Digital humanities and academic change. *English Language Notes, 47*(1), 17-35.
- Manovich, Lev. (2001). *The language of new media.* Cambridge, MA: Massachusetts Institute of Technology.
- McCarty, Willard. (2005). *Humanities computing*. Basingstoke, England: Palgrave MacMillan.
- McGann, Jerome, & Samuels, Lisa. (2001). In Jerome McGann (Ed.), Radiant textuality: Literature after the World Wide Web (pp. 105-135). New York, NY: Palgrave. Retrieved from <u>http://jefferson.village.virginia.edu/~jjm2f/old/deform.html</u>
- Moretti, Franco. (2005). Graphs, maps, trees. London, England: Verso.
- A new song of a young mans opinion, of the difference betweene good and bad women. Pepys 1.230-231. *English broadside ballad archive*. University of California, Santa Barbara. Retrieved from <u>http://ebba.english.ucsb.edu/</u>

- Rockwell, Geoffrey. (2005). Why bother with computer-assisted text analysis? A short answer. *Text Analysis Developers Alliance*. Retrieved from http://tada.mcmaster.ca/Main/WhatTA
- Samuels, Lisa, & McGann, Jerome. (1999). Deformance and interpretation. *New Literary History*, *30*(1), 25-56.
- Shklovsky, Victor. (1965). *Russian formalist criticism: Four essays* (Lee T. Lemon & Marion J. Reis, Trans.). Lincoln, NE: University of Nebraska Press.

Tinker-Centric Pedagogy in Literature and Language Classrooms

Jentery Sayers

Think "tinkering" and childlike behaviors likely come to mind. For instance, in Aesthetic Theory (1970), Theodor Adorno calls tinkering "infantile" (p. 37). The word implies play, not to mention a lack of expertise, technique, or formal training. Plus, learning climates that foster tinkering (such as the Tinkering School in Montara, California) are often intended for youth. Tinkering also entails toying with objects that already exist, not designing or building them from scratch. The stakes of tinkering thus seem small and the consequences insubstantial. Meanwhile, like bricolage, tinkering is highly situational and context dependent, presumably without thesis or formula. It is tactical. And for those who study literature and language, it may appear irrelevant. After all, literary criticism and critical theory are usually quite conceptual in character. Even when texts are treated more like physical objects for hands-on engagement (e.g., during archival research or in textual studies), that engagement must be incredibly careful and methodical, especially if rare books, incunabula, or other such artifacts are involved. Indeed, the archive is no place for childlike behaviors. Nonetheless, in the following pages I argue that—as digital media become all the more common in today's reading, writing, editing, and researching practices-tinkering is of tremendous value to both graduate and undergraduate students in literature and language classrooms. Its value emerges not only because digital media are easier than their analog predecessors to circulate and modify but also from the fact that competencies in collaboration are fundamental to that circulation and modification. Since neither collaboration nor digital media is exactly ubiquitous in English studies, embracing tinkering's inexpert, tactical, and situational experimentation lends itself well to introducing students of literature and language to otherwise unfamiliar modes of learning.

Granted, some English studies courses do, in fact, integrate collaboration and digital media into the learning process. Consider coursework associated with fields like computers and writing or digital humanities, which both focus heavily on the collaborative use of new technologies for inquiry and scholarly communication. Still, formal opportunities for extensive study in these fields are not as common as one may think. Even a cursory review of directories, such as <u>centerNet</u>'s international network of digital humanities centers, reveals that most technology-focused humanities centers, initiatives, or programs do not issue degrees, especially at the undergraduate level. At the same time, the "lone scholar" remains a standard model for knowledge production in the humanities, particularly for graduate students. Christine Borgman (2009) observes:

While the digital humanities are increasingly collaborative, elsewhere in the humanities the image of the "lone scholar" spending months or years alone in dusty archives, followed years later by the completion of a dissertation or monograph, still obtains. Students often are discouraged from conducting dissertation research under a faculty grant. Instead, they are expected to spend yet more time identifying funding for solo research. When one is groomed to work alone and does so for the years required to complete the doctorate, collaborative practices do not come easily. (para. 47)

And yet, only one year after Borgman's publication in *Digital Humanities Quarterly*, the president of the Modern Language Association, Sidonie Smith (2010), offered an <u>agenda for expanding what it means to write a dissertation in literatures and languages</u>. Two of the four ideas she provides for "new dissertations" resonate with the emphasis of this chapter. Smith's first and second examples are as follows:

- 1. "Composing, displaying, and linking *a digital project* potentially valuable to other scholars, teachers, and students. As Kathleen Woodward suggests, such projects might be conceived under the rubric of curation rather than argumentation." [italics added]
- 2. "Undertaking *a collaborative project* with other students or faculty advisers. Such projects might eventuate in a publishable essay, for example." [italics added]

Of course, these two ideas could go hand-in-hand, but for now the point is that what Smith (or, by proxy, Woodward) proposes relates to other similar calls for change in the academy.

In 2002, the National Research Council released a report entitled *Preparing for the Revolution.* The findings of the report claim that "[i]nstitutional boundaries will be reshaped and possibly transformed" (p. 47), "[t]he future is becoming less predictable" (p. 47), and "the university will have to adapt itself to a radically changing world" (p. 48). Elsewhere, in "Envisioning a Transformed University," Duderstadt, Wulf, and Zemsky (2005) describe a revolution that will "pose considerable challenges and drive profound transformations in existing organizations such as universities, national and corporate research laboratories, and funding agencies" (para. 10). As they go on to suggest, the revolution could already be "well under way... and simply not sensed or recognized yet by the body of the institutions within which the changes are occurring" (para. 29). What's more, Kathlin Smith (2005) describes a "revolution in the making" and the transformation of scholarship on American literature. This revolution corresponds with a 2005 publication by Martha Brogan (written with Daphnée Rentfrow) that is based on a preliminary report prepared for The Andrew W. Mellon Foundation in 2004. In it, Brogan

states that there is a "dearth of specialists" (p. 30) who are prepared for what Eric Ayers refers to as "'a revolution led from above'" (qtd. in Brogan, 2004, p. 7) and what Brogan associates with the scholarly practices of "renegades" (p. 8). And though it is variously described by these and other contemporary publications, the revolution—as well as the transformation of scholarship and the renegade practices associated with it—can unfailingly be qualified by a single word: "digital." Digital scholarship. Digital practices. The digital revolution.

But the revolution may not be all that revolutionary. Or, to return to a point made by Duderstadt, Wulf, and Zemsky (2005), it might not be sensed or recognized as such. There is no great rupture, *per se*, that can be time-stamped as the sole cause or origin of digital scholarship. There is no demonstrable gap between English studies then and English studies now. Instead, the so-called revolution might be better articulated as a gradual, iterative process through which "the digital" is incorporated into English studies and vice versa. And with that gradual incorporation, collaborative activity is slowly increasing across the academy, due in part to the growing popularity of crowdsourcing, microblogging (e.g., Twitter), and networked, multi-authored writing spaces like wikis, blogs, and Google Docs now available in the cloud. Sure, platforms such as these are exciting. They garner a certain allure, and English scholars should spend time testing and assessing them. That said, they do not need to be read deterministically, and revolutionary rhetoric tends to favor such determinism.

On the other hand, the collocation set—"slowly," "gradual," "iterative," and "growing"—I have articulated thus far favors a tinkering mindset, whereby a dusty Humanities 1.0 expertise is not rendered retrograde by a shiny Humanities 2.0 toolkit. Instead, tinkering slowly re-imagines expertise in English in such a way that 1.0 is forward-compatible with 2.0. One benefit of this model is that it suggests that we, and our students, need not read the digital revolution as the demise of the discipline as we know it, or—less dramatically—the demand for a radically different kind of scholarship. Competencies generally associated with the study of literatures and languages are not irrevocably altered and do not disappear; they are instead mobilized in new domains and situations, with different effects. That is, while digital media do not determine research and authorship practices, English studies must also adapt with them. Tinkering fosters that adaptation.

Outside of English studies, the tinkering impulse is not at all new, and it is worthwhile to note which other fields, traditions, and cultures have been invested in it. For the 2010 Computers and Writing conference, Annette Vee composed a <u>video essay</u> highlighting tinkering's legacy in programming, hacking, and engineering. In that video, she describes tinkering as a series of small corrections that aggregate toward a path ahead,

and she links this approach to the importance of social *and* physical feedback in the tinkering process. Toward the end of the video, Vee raises an interesting question, one that is incredibly relevant to this chapter: How might the history of tinkering relate to language and writing? Echoing my observations above, she also hints at how tinkering—at least on its face—appears irrelevant to English, too kinesthetic, too tactile and object-oriented. In light of the interfacing and sensory input afforded by gadgets in Vee's video, texts seem rather flat and static, banal even. They do not provide the feedback (especially the physical feedback) that Vee stresses throughout her brief history, and they are rather simple in their composition when compared with the technical complexities of a bot or an engine. Even more importantly, the culture for tinkering in English is simply not there. As opposed to scientists and engineers, who are educated in labs and other collaborative environments, or even to artists, who are well-versed in studio-based learning, the stereotype of the run-of-the-mill English scholar is, once again, that "lone scholar": the isolated writer whose specialties are abstract thinking and single-authored publications.

Proving that this stereotype is just that, many scholars in the humanities are currently experimenting with digital media, collaborative learning, and kinesthetic speculation. Here, Anne Balsamo's work is of particular relevance. Writing for the MacArthur Foundation in 2009, she explains her inquiry into how museums and libraries might function as nodes for hands-on learning with digital media:

The "learning affordances" made possible by museums and libraries include 1) the possibility of creating physical spaces for face-to-face social interactions that are based in communal "tinkering" practices, 2) the possibility of providing a community-level physical space for the development of embodied learning relationships between members of different generations (youth and adults); and 3) the possibility of serving as the context where digital creative practices (graphics production, video-making, etc.) are connected to the production of physical objects (i.e., through the acts of tinkering with various materials). (para. 2)

Balsamo's tinkering is by necessity a communal practice. It requires a shared space where people gather around physical objects and experiment with them. Tinkering also necessitates a physical "off-screen" space where those objects are perceived and approached differently by different people, based on age differences and other factors. Finally, and perhaps most obviously, tinkering implies production, and not solely consumption, of media. Importantly, this production involves "embodied learning relationships"—such as "the role of the hand and of the body in the process of learning and making culture"—that have long been the focus of her work (Balsamo, 2009; see also Balsamo, 1996).

As part of a MacArthur Foundation-funded grant project, Balsamo invited thinkers from a variety of fields to comment on the state of tinkering today and to respond to her comments as I've summarized them above. In "Videos and Frameworks for 'Tinkering' in a Digital Age" on the MacArthur Foundation's Spotlight on Digital Media and Learning Web site, Balsamo (2009) describes her grant project and presents video recordings of participants who joined "a cross-domain discussion about the concept of 'tinkering' as a paradigm for knowledge construction." The CarnegieViews Web site, affiliated with The Carnegie Foundation for the Advancement of Teaching, presents the same videos under the heading Tinkering as a Mode of Knowledge Production in a Digital Age. According to CarnegieViews, "The MacArthur Foundation brought together educators, 'tinkerers,' curators, artists, performers and 'makers' to grapple with questions around ensuring that all students benefit from learning in ways that allow them to participate fully and creatively in public, community, and economic life. . . . [I]nterviews from five of the participants were produced to provide some insights into the thoughtful and passionate conversations from that convening." Three of the five interviews comment on elements of tinkering that hold particular relevance for the tinker-centric pedagogy that I will describe later in the chapter.

First, San Francisco artist, performer, and teacher, Jamie Cortez, notes that tinkering is comparable to testing, or a kind of creative and repetitive process. In "Try it and Fail," he says it involves "trying and adjusting and getting back up and going at it again," while also tacitly implying that trial and error are more fitting terms for tinkering than, say, success or failure. Although Cortez's perspective does not necessarily resonate with Vee's history, I find the rhetoric of trial and error (instead of repeated failure) more fitting for English studies. Such language does not assume there is a pre-existing ideal toward which tinkering gravitates. It also underscores the prevalence of chance in any tinkering practice.

Second, Allison Clark of the University of Illinois, Urbana-Champaign, picks up Balsamo's emphasis on communal learning spaces and speaks to lab-like settings that are quite different from a more traditional computer lab replete with desktops. In "<u>You</u> <u>Can Still Be You and Become a Scientist</u>," she describes a project with which she is affiliated—the Hip Hop Information Technology Tour (HHITT)—as "a lab where kids can come on and tinker with technology." She adds, "There's a . . . music studio. There's a connection between math and music," and that connection makes math or science less intimidating to youth, especially youth who are traditionally underrepresented in those fields. This emphasis on making math or science less intimidating is quite appealing to my inquiry here, as it imagines competency acquisition as, first and foremost, a matter of culture and setting. As Clark argues, tinkering is not about mastery or control. It is an ad-hoc form of exploring what possibilities are available and developing confidence in those possibilities through trial and error.

Finally, in "<u>The Open Architectural Studio</u>," well-known scientist, writer, and teacher John Seely Brown highlights how tinkering encourages students to "embrace change," "play with knowledge," and—perhaps most suggestively—"create knowledge on the fly." Unfortunately, the spaces and opportunities for such learning are few, and Brown argues that all too often the imagination of young learners is not fostered by normative learning climates. Like Vee, I find Brown's investment in context-dependent experimentation crucial. This investment does not imply that experimentation warrants no pedagogy. Instead, it necessitates relocating pedagogy in English studies away from the solitary learner model and toward the collaborative spaces and communal practices emphasized by practitioners such as Balsamo, Brown, Cortez, and Clark.

With this context in mind, I want to transition into some basic principles for what I call tinker-centric pedagogy in English studies and to elaborate upon them. Tinkering in literature and language classrooms privileges:

- 1. Adaptability in planning, where the results are not always anticipated (Kelty, 2008),
- 2. Constant negotiation with a variety of materials in order to test what kinds of compositions they accommodate or restrict (Pickering, 1995),
- 3. Resisting readymade, acontextual tutorials for composing media and experimenting with technologies (Latour, 1987),
- Collaboration through "boundary objects," or objects that meet the informational needs of various social groups while also being put to different uses (Star & Griesemar, 1989; Bowker & Star, 1999), and
- 5. A view from outside of prominent computing disciplines (e.g., computer science), with humanists expressing their own forms of technological and media literacy.

To flesh these out, below I provide examples of how to incorporate each into prompts, workshops, and exercises. Throughout, I stress how collaboration not only enhances tinker-centric pedagogy but is also central to it. And while the following sections do not emerge from a formal study, they are intended to prompt those studies and—at this still formative stage of intersecting digital media with English studies in higher education—invite more tinker-centric experimentation in language and literature classrooms. Such research would no doubt enhance humanities pedagogy as learning climates grow increasingly collaborative and digital in character.
ADAPTABILITY IN PLANNING: CHANGE LOGS AND NON-SEQUENTIAL PARAGRAPHS

In my writing-intensive courses, students are usually required to submit a ten- to fifteenpage academic essay that has been revised. In tandem with this essay, I ask them to compose abstracts, annotated bibliographies, and close readings and submit them to a multi-authored WordPress blog. These shorter assignments might be read as ways of scaffolding the writing process. However, what scaffolding often implies is the iterative development of a project through a series of upward- or forward-moving steps, revisions included. For instance, in a series of short assignments, students might practice how to write claims, assess warrants, examine evidence, and develop persuasive paragraphs. Later in the course, these exercises are compiled and mobilized together in a longer academic argument. Tinkering in literature and language classrooms intervenes in the scaffolding process by having students imagine a "big idea" that is somehow relevant to the course topic and then experiment with multiple ways of approaching it. Writing exercises, such as claims-making and warrant assessments are then integrated into those experimentations. This approach is all the more motivating for students if it emerges from their own interests, majors, educational goals, or previous coursework. For instance, a biochemistry student who is taking an English course on literary modernism might be curious about how science is depicted in modernist novels and to what effects on its popular perception. This idea can be approached from multiple angles, and the class can become an opportunity for the student to engage some of those angles, test them out on various audiences through an array of media, and acquire some basic composition competencies in the process.

Put this way, the key to a tinker-centric pedagogy is having students document what changes from experiment to experiment. One way to do so is through what I call "change logs" (see Figure 1), a term common in the parlance of software and hardware development. Often found in HTML, CSS, and PHP files, change logs document the alterations made to a file. In literature and language classrooms, they can function in a similar way by asking students to compose often (through a variety of media) and to articulate, at the end of the assignment, how their "big idea" changed during the process. Attention to change can be prompted through a number of questions, such as:

- What did you learn about your idea that you had not considered before?
- How did composing in a new medium affect your perception of the idea?
- While thinking experimentally and looking for evidence, what did not work?
- Where did your idea meet resistance?

No doubt, the rhetorics of tinkering—situated in testing, play, and experimentation—are crucial here. Change logs must be imagined and presented as low-stakes assignments, even if they are pivotal to the learning that takes place. Through them, students test their ideas; instructors do not test the students.



Figure 1. "Change Log" prompt.

As with cultures of software and hardware development, change logs in literature and language classrooms also force students to "version" their work. As a form of documentation, change logs chronicle specific moments in the process when the shape of an idea is notably altered—when Idea 1.0 becomes Idea 1.1 or even 2.0. In a collaborative climate, attention to such alterations can be fostered through instructor or peer feedback on a blog (e.g., comments on entries) or in-class workshops where students circulate their change logs. Regardless of how that attention is fostered, the

point is for students to be aware of it, explain it, label it (e.g., Version 1.0 or 1.1), and ultimately become comfortable with moving "backward" across versions from, say, Version 3.2 to Version 2.1. In contrast, perhaps, to the tendencies of scaffolding and technological progress, tinkering acknowledges that often the first trial was ultimately more persuasive than the fourth or fifth. Or put differently, it is always possible that the original version of the idea was the best one. While some composition competencies (e.g., claims-making, warrant assessments, and audience and genre awareness) may have been developed along the way, the emphasis of tinker-centric pedagogy rests less in scaffolding a final essay with those competencies and more in ideating multiple versions of that essay. Change logs therefore allow students not only to serialize and chronicle how their ideas are altered and when but also to return to earlier versions, test them again, and adapt their ideas accordingly.

Regarding adaptability, tinker-centric pedagogy is also premised on the repeated rearrangement of ideas. Subtending this approach is a heavy emphasis on design and readings from a distance, or from the aggregate view (Moretti, 2005). Building upon hypertext's tradition of random-access narratives, one way of helping students grapple with design and distant reading in literature and language classrooms is by writing non-sequential paragraphs.

The "Non-Sequential Paragraphs" prompt (see Figure 2) asks students to begin writing a ten- to fifteen-page academic essay by submitting four paragraphs that would not follow each other directly (i.e., not the first four paragraphs of the essay). Instead, they write four "stress points" in the essay that address crucial testing grounds for their idea. They then circulate print versions of the four paragraphs in a writing workshop without giving their peers any sense of what the intended arrangement of the paragraphs might be (e.g., paragraph 1 on page 3, and paragraph 2 on page 6). Aside from providing feedback on the writing itself, their peers also arrange the paragraphs might appear in an essay, and articulate what types of claims, contexts, and evidence would need to precede and follow each paragraph.

Hello, 242! At this point in the guarter (post-annotated bib and with research guestion in hand), how about drafting four paragraphs that should ideally become key parts of your final essay? In response to this prompt, please post your own blog entry, which should include four paragraphs that: Emerge from the research both you and your cluster have already done on your keyword. (Pssst... Don't forget about the Zotero group!) For evidence, draw upon (e.g., quote, analyze) the primary sources and secondary sources you listed in your annotated bib. Cite that evidence (using your preferred annotation style). Include (across all four paragraphs) the use of at least one piece of non-textual evidence. (Put differently, only one paragraph of the four has to include non-textual media.) Unpack some responses to the research question you wrote. Consist of at least 250 words each. (Remember the first paragraph exercise?). Are not articulated in sequential order. With the exception of that last one, I think all of the above requirements should be pretty clear. (If not, then let me know!) As for "not articulated in sequential order," I am asking you to please treat these paragraphs as "instances" or "snapshots" or "stress points" that might occur in your final essay, meaning they should not follow the order of, say: first-second-third-fourth paragraph in the essay. Instead, please consider writing paragraphs that might occur on, say: page one, page four, page seven, and page nine. Yes: such an exercise might require you to sketch out what happens, exactly, between the instances.

Nevertheless, I encourage you to refrain from writing the whole kit, especially before you workshop these four. (More below.)

Figure 2. "Non-Sequential Paragraphs" prompt.

From one perspective, this collaborative workshop is an engaging, hands-on exercise for students. It is deeply linked to traditions in mashup, collage, or remix cultures. Language is treated very materially, as printed pages are moved around and ordered in a particular fashion. Comparable to Balsamo's (2009) emphasis on kinesthetic learning, writing non-sequential paragraphs affords students the opportunity to see, quite tangibly, how the materiality of media affects interpretation. It also switches the modality through which students typically learn (i.e., computer-based composition), giving them the time and space to step away from the screen. Additionally—and perhaps most relevant to the notion of adaptability in planning—feedback during this exercise lends itself to surprise. The peers' arrangement of paragraphs is often not what was intended,

and peers frequently ask for more information before and after each paragraph than what was forecasted. These kinds of responses help students critique what can often become the most deterministic template in the field of writing—the sequential (or linear) outline—and, in some sense, become familiar with the concepts of nonlinearity, hyperlinking, and information design that influence digital media and Web-based reading. Peers collaborate to reshape what might otherwise be a rigid outline and suggest new trajectories for the ideas at play in the essay. Ideally, these reshapings and suggestions are documented in a student's change log.

Both of these assignments translate proto-print authorship into digital domains because they get students thinking about the force of the readymade structures (e.g., templates) to which content is often added in Web 2.0 writing spaces. As a practice with a history in markup languages, code, and programming, the change log privileges alterations to the design of an idea and tinkering with the possible versions it can assume. As a more hands-on experimentation with the arrangement of that idea on paper, non-sequential paragraphs emphasize how the order of things is inherently an argument, regardless of whether readers are aware of it (Arola, 2010). Together, and especially when integrated with some of the other assignments that follow below, these two exercises offer basic introductions to digital media, where writing must be broadly understood beyond content. In both exercises, writing is always framed, composed, and materializations shift or are remediated, students can test and articulate the consequences of that shift from, say, print to a WordPress blog (Bolter & Grusin, 1999).

CONSTANT NEGOTIATION WITH MATERIALS AND SAYING NO TO TUTORIALS: TEACHING CODE AS LANGUAGE

Tinker-centric pedagogy requires students to acquire some basic competencies in code and markup languages, and—at least in my classes—this learning takes place through WordPress, Dreamweaver, TextPad, and handwritten quizzes (usually on HTML and CSS). Later in this chapter, I argue that technical competencies in the humanities must, by necessity, differ from those in computing disciplines (like computer science). Here, that claim is important because tinker-centric pedagogy does not treat code or markup abstractly, as somehow outside of history or context. It is available somewhere, and it is doing something specific there, with certain audiences in mind. The question is how to locate it, test it in a different location, and see what happens. Framed this way, tinkercentric pedagogy treats code and markup in a way that is comparable to how a student of English would treat literature or language. It also acknowledges that, for many in the humanities, one of the main obstacles for transitioning into digital media is learning code and markup. After all, unlike print text, code is an executable language (Galloway, 2004). For these reasons, the code and markup I teach are almost always borrowed from an existing work of electronic literature, rather than from tutorials in a book or on a Web site. Starting with an existing work is a less intimidating way for non-experts to engage code and markup, and the literary text is a more familiar domain for English students. Aside from having the code and literary text already available and in circulation, starting with an existing work like an electronic poem or a hypertext novel also frames the engagement through speculation and curiosity instead of knowability, quantification, or memorization (Drucker, 2009).

I begin by showing students how to view a page's source using a Web browser, and then we copy it into TextPad or Dreamweaver, talk about how the text is marked-up or encoded, speculate about what certain tags (e.g., <body>, , , or) may or may not do, and begin tinkering with them (see Figure 3). This sort of exercise is especially productive for humanities students who typically know little to nothing about code, and all the more so when it is conducted in collaborative groups, where students can share ideas and advice. It gives them the opportunity to try new tags, rearrange them, restructure texts, and—above all else—become comfortable with error messages and accidents. Indeed, with tinkering comes the "broken" text: code accommodates and restricts certain material behaviors (Pickering, 1995). The 404 message is inevitable. And that is familiar territory to technology professionals. For humanities students, the aim is to identify how the error happens—using, for example, a W3C validator—and then how to document it, replicate it, and fix it. If such exercises are conducted earlier in the quarter or semester, then they can really enable students to start writing in code and marking up on blogging platforms like WordPress. Later in the class, it also helps to transition code from the screen to paper, having students quickly mark up an existing work by hand or free-code something in response to a prompt. This activity is but one more exercise that reminds everyone involved how digital and analog materials, their cultures, and their legacies are constantly in exchange, not worlds apart. Although, on paper, code cannot be executed, a long history of writing still influences how it is perceived.



Figure 3. "View Source" assignment.

COLLABORATION THROUGH BOUNDARY OBJECTS: CLUSTERING AROUND KEYWORDS

Along the same lines of an exchange between things analog and things digital—or things both off screen and on—tinker-centric pedagogy is also motivated by the use of boundary objects, or objects that meet the informational needs of various social groups while also being put to different uses (Star & Griesemar, 1989; Bowker & Star, 1999). Perhaps rather obviously, sharing boundary objects facilitates conversation and collaboration. In the computer-integrated class, it might mean shifting student attention from the twenty or thirty computer displays in the room toward a single object (e.g., a large blank piece of paper or a map). The advantage of this technique is that it takes otherwise isolated observations and aggregates them in the same space. It also fosters the kind of communal practices stressed by Balsamo, Seely Brown, Cortez, and Clark. Yet most importantly, it invites groups to modify or repurpose the physical object collaboratively in order to test what behaviors and ideas it might enable.

Such exercises might sound more like the domain of science labs; however, in my classes I have had tremendous success asking students to cluster in small groups of five to eight people around "keywords" of their choice. As Figure 4 demonstrates, the keyword invites collaboration through a variety of ways. On a course blog, it becomes an organizing principle. Every entry that a student in a given cluster posts on the course

blog might be tagged folksonomically through descriptive metadata with the cluster's keyword. Clicking on that tag (either in a tag cloud or in the blog entry itself) will render the results for every entry associated with that keyword.

Ok, 242. With this prompt we begin thinking about more concretely about your paper for this course, as well as how to collaboratively cluster around a keyword, collectively share your research, and offer each other feedback during the writing process.

Before we begin, let's consider something Raymond Williams writes in the introduction to <u>Keywords: A</u> <u>Vocabulary of Culture and Society</u>:

The questions are not only about meaning; in most cases, inevitably, they are about meanings.... The original meanings of words are always interesting. But what is often most interesting is the subsequent variation.... [I]mportant social and historical processes occur *within* language, in ways which indicate how integral the problems of meanings and of relationships really are. (16, 20-21, 22)

As a primer for your paper, this prompt asks you not only to define a word. It also asks you to privilege variation and to start highlighting where and how variation occurs. As the class progresses, you'll gather more materials (e.g., through an annotated bibliography and Zotero) that allow you to better determine how, exactly, social and historical processes happen within the keyword your cluster selected.

Figure 4. "Keywords" prompt.

Also, in terms of research, students can use the keyword to divide and conquer while, say, compiling a collaboratively annotated bibliography. One student might search for journal articles related to the keyword; another might find relevant digital images, videos, or audio; and yet another might concentrate on primary sources, various definitions in reference texts, and so on. Research tools such as <u>Zotero</u> are quite handy here. As an extension for the Firefox Web browser, Zotero allows users to gather the metadata for their sources, as well as relevant URLs and screen shots, and circulate them via shared libraries. For keyword clusters, the shared libraries can be named after the keyword students choose.

Off the screen, keyword clusters can also become vehicles for forms of collaboration that are less networked (e.g., through metadata online) and more face-to-face. In the past, I have tried printing a cluster's keyword on a large sheet of paper and stapling to it other sheets that suggest how the word is being mobilized in similar and different ways by students in the cluster. For instance, sheets attached to the primary keyword might read, "warrants," "sources," "definitions," and "claims." On each sheet, students then provide the information that is relevant to the keyword. What are its multiple definitions? What claims are students making through it? What assumptions does the keyword

enable, and to what effects? What kinds of evidence or sources are students using to learn more? And so on.

On its face, this exercise appears to be an analog or low-tech form of social networking and information aggregation. But it differs not only in the sense that students are collaborating through face-to-face conversation and interaction; they are also actually sharing the keyword as an in-hand, material artifact. What the latter affords that the former does not is a more tangible practice with the kinds of work that language accommodates and restricts. Language becomes a testing ground for experimentation, feedback, and knowledge on the fly. Two conflicting arguments may emerge from the same keyword exercise. The challenge, then, is to get students thinking beyond which argument is more persuasive. As a testing ground and shared space, the question is how a single word becomes a mechanism for generating an array of problems, claims, and ideas, each with its own version (Williams, 1976). With this approach in mind, students can then work less and less in isolation, draw upon and document each other's work, and even collaboratively compose essays or other media.

VIEWS FROM THE OUTSIDE: ANOTHER ARGUMENT FOR CONTEXT-PROVIDERS

That gesture—toward collaborative composition—has recently steered me toward a new speculation for tinker-centric pedagogy: students and instructors in literature and language courses acting as "context-providers." The term—somewhat popular in fields such as computer science, information management, and interaction design—is also favored by media artist Sharon Daniel (2007). For Daniel, a context-provider aims to create spaces that inspire or otherwise encourage others to contribute content. During her own work, Daniel has collaborated with former injection drug users, women in California's correctional facilities, and others. Through these collaborations, she helps communities develop some competencies (e.g., how to use technologies for the purposes of self-representation), and she also records their oral histories. Ultimately, these stories are circulated through Daniel's digital art, which can found online in the journal *Vectors* and in galleries. Recently, I experimented with Daniel's notion of the context-provider through a thirty-one-person course on digital collaboration and publication. The course focused on do-it-yourself music cultures and their relevance today (see Figure 5).



Figure 5. "Do-It-Yourself Music Cultures" course site.

Collectively, the students and I worked with University of Washington Libraries to develop an online exhibit to which over thirty-five of the university's community partners contributed content. For the students and me, tinkering became a means to repeatedly test that exhibit based upon the needs and desires of another group—giving the online space over to them (boundary object-like) to determine what worked and what did not. By the quarter's end, student writing often looked more like code or interface design, and in many ways it was less visible than the digital assets (e.g., images, video, and audio) our community partners contributed. Nonetheless, the collaborative learning was incredibly rigorous. All involved had to imagine how the exhibit would function and be sustained after the course was over: where it would be stored, who (to return to Woodward's point) would curate it, how additional content would be added, and even how the design might be altered. What's more, the students and I had to situate ourselves as learners curious about the cultural, aesthetic, and social implications of new technologies and media. Our aim was not always technical elegance, and our expertise did not emerge from quantitative approaches or mastery over content. Instead, our motivation was to repeatedly connect new technologies and media to tangible contexts, material situations, and off-screen issues, all toward seeing what exciting correspondences could be sparked in experimental, shared spaces.

NOTES TOWARD FURTHER STUDY

Overall, the aim of this essay has been to pose some possible trajectories for tinkering in language and literature classrooms. I have theorized and provided examples of tinker-centric pedagogy as a starting place for future conversations. More formal in situ research needs to be conducted in order to determine-more concretely-how humanities pedagogy can benefit from tinkering. Such research may be framed around three general areas of inquiry: the space of the classroom, the expectations of English studies, and the value of collaborative work. Related to the first are questions about what tinker-centric learning spaces look like and how they differ (if at all) from more traditional classroom arrangements. The videos discussed and linked to earlier in the chapter suggest that spaces conducive to tinkering are frequently decentralized, with instructors functioning more like facilitators than lecturers. What's more, the physical design of classrooms may need to be reimagined with shared boundary objects and hands-on experimentation in mind, perhaps using studio spaces in art or even labs in the sciences as models. To this end, spaces where students are contiguous and individuated (e.g., seated at individual desks or staring at personal computers) may need to be reshaped with more modularity and flexibility in mind (e.g., open spaces in the classroom or movable furniture). Testing various classroom formations and formally documenting what changes across them would no doubt be an informative study for practitioners of digital media in English studies.

Such reworkings of classroom spaces raise associated questions about what students and scholars of English studies now expect from the field. For instance, how is "writing" or "composing" to be understood and practiced? In which situations is collaborative writing or composition a best practice and why? How does (the study of) literature change across media, from print to electronic formats? How might students learn to articulate arguments across a spectrum of modalities (e.g., watching, listening, and reading)? But most importantly, when students of English enter today's higher education classroom, what do they want to learn, what do they need to learn, and to what effects? To reiterate a claim I made earlier, this question—which is ultimately about the relevance of English in a contemporary moment—need not imply that the English studies of yore is becoming wholly obsolete. It is to suggest that, with the increasing prevalence of digital media in higher education, English is in transition. And we cannot afford to address that transition individually.

REFERENCES

- Adorno, Theodor W. (2004). *Aesthetic theory* (Robert Hullot-Kentor, Trans.). London, England: Continuum. (Original work published 1970)
- Arola, Kristen L. (2010, March). The design of Web 2.0: The rise of the template, the fall of design. *Computers and Composition*, *27*(1), 4-14.
- Balsamo, Anne Marie. (1996). *Technologies of the gendered body: Reading cyborg women*. Durham, NC: Duke University Press.
- Balsamo, Anne. (2009, January 30). Videos and frameworks for "tinkering" in a digital age. *Spotlight on Digital Media and Learning*. Retrieved from http://spotlight.macfound.org/blog/entry/anne_balsamo_tinkering_videos/
- Bolter, Jay David & Grusin, Richard A. (1999). *Remediation: Understanding new media*. Cambridge, MA: MIT Press.
- Borgman, Christine L. (2009). The digital future is now: A call to action for the humanities. *Digital Humanities Quarterly*, *3*(4). Retrieved from <u>http://www.digitalhumanities.org/dhq/vol/3/4/000077/000077.html</u>
- Bowker, Geoffrey C., & Star, Susan Leigh. (1999). Sorting things out: Classification and *its consequences*. Cambridge, MA: MIT Press.
- Brogan, Martha L., & Rentfrow, Daphnée (2005). *A kaleidoscope of digital American literature*. Washington, DC: Council on Library and Information Resources. Retrieved from <u>http://www.clir.org/pubs/abstract/pub132abst.html</u>
- Brown, John Seely. (2008, November 7). The open architectural studio [Video file]. Retrieved from <u>http://vimeo.com/2183356</u>
- Clark, Allison. (2008, November 12). You can still be you and become a scientist [Video file]. Retrieved from <u>http://vimeo.com/2224949</u>
- Cortez, Jamie. (2008, November 12). Try it and fail [Video file]. Retrieved from http://vimeo.com/2225130

- Daniel, Sharon. (2007). The database: An aesthetics of dignity. In Victoria Vesna (Ed.), Database aesthetics: Art in the age of information overflow (pp. 142-182). Minneapolis, MN: University of Minnesota Press.
- Drucker, Johanna. (2009). SpecLab: Digital aesthetics and projects in speculative computing. Chicago, IL: University of Chicago Press.
- Duderstadt, James J., Wulf, William A., & Zemsky, Robert (2005). Envisioning a transformed university: Change is coming, and the biggest mistake could be underestimating how extensive it will be. *Issues in Science and Technology,* 22(1), 35-42.
- Galloway, Alexander R. (2004). *Protocol: How control exists after decentralization*. Cambridge, MA: MIT Press.
- Kelty, Christopher M. (2008). *Two bits: The cultural significance of free software*. Durham, NC: Duke University Press.
- Latour, Bruno. (1987). Science in action: How to follow scientists and engineers through society. Cambridge, MA: Harvard University Press.
- Moretti, Franco (2005). *Graphs, maps, trees: Abstract models for a literary history*. London, England: Verso.
- National Research Council (U.S.). (2002). Preparing for the revolution: Information technology and the future of the research university. Washington, DC: National Academies Press.
- Pickering, Andrew. (1995). *The mangle of practice: Time, agency, and science*. Chicago, IL: University of Chicago Press.
- Smith, Kathlin. (2005). American literature e-scholarship: A revolution in the making. *Council on Library and Information Resources Issues*, 46. Retrieved from <u>http://www.clir.org/pubs/issues/issues46.html</u>
- Smith, Sidonie. (2010, Summer). An agenda for the new dissertation. *Modern Language* Association Newsletter. Retrieved from <u>http://www.mla.org/blog&topic=134</u>

- Star, Susan Leigh, & Griesemer, James R. (1989). Institutional ecology, "translations" and boundary objects: Amateurs and professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39. Social Studies of Science, 19(3), 387-420.
- Tinkering as a mode of knowledge production in a digital age. *CarnegieViews: Insights* from Education Innovators. Retrieved from <u>http://www.carnegiefoundation.org/carnegieviews/tinkering-mode-knowledge-</u> production-digital-age
- Vee, Annette. (2010, May 21). Hacking & tinkering [Video file]. Retrieved from http://www.vimeo.com/11924480
- Williams, Raymond. (1976). *Keywords: A vocabulary of culture and society*. New York, NY: Oxford University Press.

APPENDIX A: COURSE DESCRIPTION

Digital Publication and Collaboration: Puget Sound DIY Cultures in the 1990s

This course is an introduction to collaboratively composing and curating digital content using multi-authored, Web-based platforms. As a class, we will collectively use the WordPress platform to publish what might be called an online "archive" of media assets (such as digital video, audio, images, and text files). Rather than writing individual essays or producing work independently, all of us will collaboratively design the archive from scratch. This collaboration will require students to determine their own roles and responsibilities as the project develops.

Such roles involve web design, content management, outreach, and media production. No previous experience in any of these domains will be assumed, and I will encourage students to develop competencies in areas (e.g., Web development, video composition, digitization, and interviewing) new to them.

Of course, the project necessitates both a context and some content. To that end, we will be in conversation with our partners in the Puget Sound region, specifically musicians, technologists, artists, and thinkers who were somehow involved in "do-it-yourself" (DIY) cultures during the 1990s, a decade when DIY was rich in the Puget Sound. At its core, a term like "DIY" is subject to debate. Why does DIY matter today, especially when so many things are composed digitally? What does it mean in the first place? What is made and how? How is it motivated? For whom? And to what effects on people's perceptions of local culture? We'll unpack these questions as a class and with our community partners, who will visit the class to present their differing perspectives and artifacts. Students will be expected to work with these partners to digitize existing materials (e.g., print texts and analog recordings) from the 1990s, conduct interviews, and research the region for assets that could be included in the archive. In so doing, we will learn more about the politics, aesthetics, and history of local DIY cultures and do our best to represent the complex and often contentious diversity of that spectrum on the Web.

There is no textbook for the course, and most of the course material will be provided by our community partners. I will supplement this material with some example digital archives that may serve as influences, as well as some texts that will provide us with some histories and theories related to DIY culture. By the quarter's end, students will be expected to:

- Develop competencies in Web-based and face-to-face collaboration and present collaboratively authored material to several audiences (e.g., academics, enthusiasts, and local artists),
- Demonstrate an awareness of how to compose with multiple media (e.g., video, audio, and text) that engage various modalities (e.g., watching, reading, and listening),
- Articulate how the design of Web-based content influences people's interpretations of and access to it, and
- Create a digital archive consisting of at least fifty media assets, publish it on the Web, and develop a post-quarter sustainability plan for it.

While everyone's final project will be the digital archive of Puget Sound DIY cultures we are collaboratively creating, students will be expected to assess (in writing) both their individual contributions and the contributions of their peers. The evaluation of student work will be based on the quality of the archive at the end of the quarter; the potential of that archive to grow, engage multiple audiences, and provide people with access to new assets and information; our community partners' commentary on the archive; participation both in and outside of class; and the critical awareness demonstrated in their writing about the archive and its development.

Class meetings will occur in a computer-integrated classroom, with learning modules on WordPress, Audacity, Final Cut Pro, HTML, and CSS. No previous experience in media production or Web development is assumed.

CONTRIBUTORS



Monica Bulger is a research fellow at the Oxford Internet Institute, University of Oxford where she studies scholarly use of digital resources. She is co-author of <i>Reinventing</i> <i>Research? Humanities Information Practices</i> and frequently blogs about digital literacy at <u>http://www.monicabulger.com</u> .
Amy Diehl is a Web content manager at Hampshire College. She also freelances as a Web designer and writer. Amy previously worked as a computer teacher for adult immigrants. Her research interests revolve around the rhetorical and pragmatic tensions of user-centered design and usability practices in the implementation of Web content management systems. She is also interested in issues of accessibility and infrastructural limitations in computer education for adults and non- native English speakers. Amy's writing has appeared in journals such as <i>Technical Communication Quarterly</i> and <i>IEEE Professional Communication Society Newsletter</i> . She has worked as a research assistant at the WIDE Research Center and the Usability and Accessibility Center at Michigan State University.
Jeff Grabill is a professor of rhetoric and professional writing and co-director of the Writing in Digital Environments (WIDE) Research Center at Michigan State University. He is interested in the knowledge work of citizens, users, workers, and students within organizational contexts. Grabill has published two books on community literacy and agency and articles in journals like <i>College Composition and Communication, Technical</i> <i>Communication Quarterly, Computers and Composition,</i> and <i>English Education</i> .



Magnus Gustafsson directs the Division for Language and Communication in the Department of Applied IT at Chalmers University of Technology in Göteborg, Sweden. His research and development work has focused on peer response practices including enhancing collaborative practices with online and cross-cultural activities, as reflected in such publications as "Writing, Literature, and Technology: Online Writing and Conversational Learning" (with Art Young and Donna Reiss), "Vintage WAC: Improving the Learning Impact of WAC" (with Neill Thew), and "Peer Reviewing Across the Atlantic Patterns and Trends in L1 and L2 Comments Made in an Asynchronous Online Collaborative Learning Exchange Between Technical Communication Students in Sweden and in the United States" (with Paul Anderson, Becky Bergman, Linda Bradley, and Aurora Matzke).



Elizabeth Lagresa earned her M.A. in Comparative Literature from the University of California, Santa Barbara, focusing on Spanish, English, and Italian early modern literature and culture. Currently she is pursuing a Ph.D. in Romance Languages and Literatures at Harvard University and has been awarded the Jacob K. Javits fellowship. Her research explores the interactions between early modern literature and gender studies, translation theories, film and visual studies, as well as digital humanities. Elizabeth's recent publications include "Monstruos de la naturaleza: violencia y feminidad en La varona castellana de Lope de Vega," (eHumanista: Journal of Iberian Studies, 2011), and an article (coauthored with Professor Antonio Cortijo Ocaña) focusing on the Spanish Black Legend and Bartolomé de las Casas (eHumanista: Journal of Iberian Studies, 2010). She is working on a translation of Bernat Metge's Lo Somni (forthcoming).



Kendall Leon is an assistant professor of English at Purdue University. Her research interests include research methodology, cultural rhetoric, new media, and community engagement. She has also served as the director of a women's center and has worked with several community-based organizations as a grant writer, crisis line advocate, and Web editor.



Alan Liu is chair and professor in the English Department at the University of California, Santa Barbara, and previously a faculty member in the English Department and British Studies Program at Yale University. Liu's publications include *Local Transcendence: Essays on Postmodern Historicism and the Database, The Laws of Cool: Knowledge Work and the Culture of Information,* and numerous essays in edited collections and journals. His current major project, which he started in 2005 as a University of California multi-campus, collaborative research group, is <u>Transliteracies</u>: Research in the Technological, Social, and Cultural Practices of Online Reading. Liu recently co-founded the <u>4Humanities</u> <u>initiative</u>, an advocacy platform for the humanities "powered by the digital humanities community."



Sean McCarthy is a doctoral student in Digital Literacies and Literatures in the Department of Rhetoric and Writing at the University of Texas, Austin. He is an assistant director of the Digital Writing and Research Lab where he works with a team of graduate students and professors who teach using new media and conduct research into emerging writing practices. McCarthy's research explores digital literacies, with a particular focus on collaborative strategies that can be employed across work in the classroom, interdisciplinary graduate training, and community engagement research projects. His research has been published in the *Texas Studies in Literature and Language*, and he is an active member of the Humanities, Arts, Sciences, and Technology Advanced Collaboratory (HASTAC).



Laura McGrath is an associate professor of English at Kennesaw State University, where she teaches a variety of rhetoric, composition, and professional writing courses. She is also the associate director of distance education for her college. Her scholarship reflects her interest in new media, online learning, computers and writing, and issues of faculty development and support. Publications include chapters in Adrienne Lamberti and Anne R. Richards's *Digital Practice, Digital Divergence: A Professional Communicator's Guide to New Media* and Cheryl Ball and Jim Kalmbach's *Reading and Writing New Media*.



Kevin Moberly is an assistant professor of rhetoric, new media, and game studies at Old Dominion University. He has published widely on gaming, new media, and mass culture in journals such as *Eludamos*, *Computers and Composition*, *Works and Days*, and *Kairos*. He has also co-authored several articles and book chapters with his brother, Brent Moberly, about the way that contemporary computer games repackage and commodify the medieval. He is currently working on a book-length project about the rhetorical relationship between computer games, mass culture, and the commodification of the real.



Jessica C. Murphy is an assistant professor of literary studies at The University of Texas at Dallas. Her research interests include English Renaissance literature, gender studies, early modern women's writing, and digital humanities. Currently she is working on a book project that studies representations of chastity, silence, and obedience in literary texts and early-modern conduct manuals for women.







Jim Ridolfo is an assistant professor of composition and rhetoric at the University of Cincinnati. His work has appeared in *Pedagogy, Kairos: A Journal of Rhetoric, Technology, and Pedagogy, JAC,* and the *Journal of Community Literacy Studies.* Jim is the winner of the 2008 *Kairos* Scholarship Award for Graduate Students and Adjuncts. His current book project with David Sheridan and Tony Michel, titled *The Available Means of Persuasion: Mapping a Theory and Pedagogy for Multimodal Public Rhetoric,* addresses issues of rhetorical practice in teaching new media.



Martine Courant Rife is a professor at Lansing Community College and also an attorney. She is currently working on three book projects: a monograph, *Mediating Heuristics: Examining Copyright as a Problem of Rhetorical Invention*, and two edited collections, one with Dànielle Nicole DeVoss and Shaun Slattery, *Copy(write): Intellectual Property in the Writing Classroom*, and the other with Kirk St. Amant, *Legal Issues in Global Contexts*. Her research examines intersections between law, rhetoric, and professional communication. Martine is the winner of the 2007 Frank R. Smith Outstanding Journal Article Award from the *Society for Technical Communication*. Her work has most recently appeared in *Technical Communication Quarterly, IEEE-IPCC Conference Proceedings*, and *IEEE-TPC*.



Jentery Sayers is an assistant professor of Digital Humanities and Literary Studies in English at the University of Victoria. His research and pedagogy focus on materialist approaches to media, technologies, and composition, and his work has appeared in *Kairos, The Information Society, ProfHacker, The Resource Center for Cyberculture Studies,* and *Writing and the Digital Generation.*





Carl Whithaus is an associate professor of writing at the University of California, Davis. He studies writing assessment, writing in the sciences and engineering, and the impact of information technologies on literacy practices. His publications include *Teaching and Evaluating Writing in the Age of Computers and High-Stakes Testing* and *Writing Across Distances and Disciplines: Research and Pedagogy in Distributed Learning* (with Joyce Neff). His current research projects include integrating emerging writing technologies into the language arts curriculum (K-12), examining the relationships among claims and evidence in the writing of professional biologists and environmental scientists, and exploring potential modifications to microblogs to leverage knowledge produced "swarming" content/users.



Art Young is Robert S. Campbell Chair and Professor of English Emeritus at Clemson University. He is the founder and coordinator (1990-2009) of Clemson's communication-across-the-curriculum program, a university-wide initiative to improve the communication abilities of all Clemson students. In 2002, Art received the Exemplar Award from the Conference on College Composition and Communication for outstanding achievement in teaching, research, and service. In December 2004, he received Clemson's Class of 1939 Award for Faculty Excellence. Art is the author of Teaching Writing Across the Curriculum (Prentice-Hall, 4th edition, 2006). He is co-editor of five books on writing across the curriculum: *Electronic Communication Across* the Curriculum, 1998; Programs and Practices: Writing Across the Secondary Curriculum, 1994; Programs That Work: Models and Methods for Writing Across the Curriculum, 1990; Writing Across the Disciplines: Research into Practice, 1986; Language Connections: Writing and Reading Across the Curriculum, 1982. Several of his books and articles can be found online at the WAC Clearinghouse. He has served as a consultant on communication across the curriculum to more than seventy colleges in the U.S. and abroad.